ISSN 0379-0991

EUROPEAN ECONOMY

EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS

REPORTS AND STUDIES

THE ECONOMICS OF COMMUNITY PUBLIC FINANCE

No 5 1993

European Economy appears twice a year. It contains important reports and communications from the Commission to the Council and the Parliament on the economic situation and developments. As a complement to *European Economy,* the series *Reports and studies* will be published on problems concerning economic policy.

Two supplements accompany the main periodical:

- Series A—'Economic trends' appears monthly except in August and describes with the aid of tables and graphs the most recent trends of industrial production, consumer prices, unemployment, the balance of trade, exchange rates, and other indicators. This supplement also presents the Commission staff's macroeconomic forecasts and Commission communications to the Council on economic policy.

- Series B—'Business and consumer survey results' gives the main results of opinion surveys of industrial chief executives (orders, stocks, production outlook, etc.) and of consumers (economic and financial situation and outlook, etc.) in the Community, and other business cycle indicators. It also appears monthly, with the exception of August.

Subscription terms are shown on the back and the addresses of the sales offices are shown on page 3 of the cover.

Unless otherwise indicated the texts are published under the responsibility of the Directorate-General for Economic and Financial Affairs of the Commission of the European Communities, rue de la Loi 200, B-1049 Brussels, to which enquiries other than those related to sales and subscriptions should be addressed.

Commission of the European Communities

EUROPEAN ECONOMY

Reports and studies

Directorate-General for Economic and Financial Affairs

1993

Number 5

The economics of Community public finance

Abbreviations and symbols used

Member States

B	Belgium
DK	Denmark
D	Germany
WD	West Germany
GR	Greece
E	Spain
F	France
IRL	Ireland
I	Italy
L	Luxembourg
NL	The Netherlands
P	Portugal
UK	United Kingdom
EUR 9	European Community excluding Greece, Spain and Portugal
EUR 10	European Community excluding Spain and Portugal
EUR 12	European Community, 12 Member States

Currencies

ECU	European currency unit
BFR	Belgian franc
DKR	Danish krone
DM	German mark (Deutschmark)
DR	Greek drachma
ESC	Portuguese escudo
FF	French franc
HFL	Dutch guilder
IRL	Irish pound (punt)
LFR	Luxembourg franc
LIT	Italian lira
PTA	Spanish peseta
UKL	Pound sterling
USD	US dollar
SFR	Swiss franc
YEN	Japanese yen
CAD	Canadian dollar
ÖS	Austrian schilling

Other abbreviations

ACP	African, Caribbean and Pacific countries having signed the Lomé Convention
ECSC	European Coal and Steel Community
EDF	European Development Fund
EIB	European Investment Bank
EMCF	European Monetary Cooperation Fund
EMS	European Monetary System
ERDF	European Regional Development Fund
Euratom	European Atomic Energy Community
Eurostat	Statistical Office of the European Communities
GDP (GNP)	Gross domestic (national) product
GFCF	Gross fixed capital formation
LDCs	Less-developed countries
Mio	Million
Mrd	1 000 million
NCI	New Community Instrument
OCTs	Overseas countries and territories
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
PPS	Purchasing power standard
SMEs	Small and medium-sized enterprises
SOEC	Statistical Office of the European Communities
toe	Tonne of oil equivalent
:	Not available

Contents

Synopsis

Synopsis: Fiscal federalism and its implications for the European Community

Cliff Walsh[1], Horst Reichenbach[2] and Roderick Meiklejohn[2]

The papers published in this volume of *European Economy* comprise surveys, country case-studies and analyses related to Community public finance. The opinions expressed in this volume remain the sole responsibility of the authors, and not of the Commission or its services. The papers in Part 1 seek to identify what the vast theoretical and empirical literature on fiscal federalism and the experiences of a number of existing federations (Australia, Canada, the USA, Germany, Switzerland and Belgium, the world's newest federation) might contribute to understanding the requirements for the successful operation of the emerging European economic and monetary union, and of the social and political aspects of union which also seem likely to be strengthened in the decades ahead.

Part 2 contains contributions which focus on specific issues likely to arise in making the transition to full EMU successful and sustainable. They range across allocative issues; questions of interpersonal and interregional redistribution; the reduction of economic disparities within the Community; how both Community-wide and country-specific shocks might be addressed; the financing of Community activities; and the management of the Community budget.

Part 1: Fiscal federalism in theory and practice

I — Federal theory and EC functions

The three papers offering surveys and discussion of theoretical and empirical analysis of federal (or multilevel government) fiscal arrangements by Cliff Walsh, Declan Costello and Bernd Spahn inevitably share common elements and, in a number of respects, come to some common conclusions about the lessons of the literature for the European Community — for example: the conceptual and practical limitations of the theory of tax assignment (and, to an extent, expenditure assignment) for federal systems in general, and the EC in particular (Walsh, Spahn); the need to shift emphasis in the design of grants systems from a focus on conditions attached to expenditures (inputs) to one focused on performance (outputs and outcomes), and to take particular care to design-in appropriate 'additionality' requirements, especially where 'third-party' interests exist (Walsh, Costello); the fact that mobility is limited, and the focus at this stage on cohesion rather than equity, in the EC make the emphasis on the role of central governments in income redistribution and fiscal equalisation in the traditional literature of questionable current relevance to the EC (Walsh, Costello, Spahn).

None the less, the papers cut through the relevant literature in different ways. Walsh particularly emphasizes the need for the development of a theory of evolution of federal-type arrangements. Costello's analysis draws attention to the need for richer modelling of political and bureaucratic behaviour in the presence of grants and to the need for the development of a stronger performance orientation in assessment of them. Spahn offers an analysis which focuses more strongly on constitutional and institutional design from a position influenced by German federal fiscal arrangements.

In the opening contribution to the volume, Cliff Walsh (with contributions by Jeff Petchey) provides a broad-ranging survey of the extensive international literature on fiscal federalism — particularly emphasizing developments since the publication of Wallace Oates's treatise on Fiscal federalism (1972) and the MacDougall Report and its background papers (1977) — with a view to drawing lessons for future developments in the Community associated with, and going beyond, EMU.

Walsh identifies valuable theoretical developments and empirical insights into fiscal federalism — ranging over issues of the allocation of spending, regulatory and taxation functions, the policy consequences of mobility, the design of grants, the implications of competitive and cooperative styles of federalism, and the impact of federal fiscal arrangements on public sector size. However, he strongly argues that the unique constitutional and political arrangements in the Community render much of the traditional federalism literature of limited direct application to the Community and that other features of European integration at this stage in its development also render many of the concerns of the literature of less immediate interest to the Community.

First, because it is targeted at decisions relevant to 'mature' federal unions, fully equipped with democratic institutions at all levels of government, application of the traditional literature in the context of the Community's specific institutions is decidedly problematic. For example, as the literature on the 'joint decision trap' associated with joint decision-making under more-or-less unanimity requirements points out, EC-style decision-making can make transferring functions to the central level unusually hazardous.

Second, though relatedly, Walsh points out that the existing literature has little to say about the dynamics of the evolution of new federal-type structures, although some recent contributions to the 'theory of federation' have the potential to

1 Federalism Research Centre, Australian National University, Canberra.
2 Directorate-General for Economic and Financial Affairs, Commission of the European Communities, Brussels.

offer valuable insights. This is an area of analysis, he suggests, that requires much greater attention from an EC perspective.

Third, while there are clear links between the discussion of the decentralization theorem in the fiscal federalism literature and the principle of subsidiarity emphasized within Europe, the literature offers little guidance on the practical problem of deciding when cross-border influences necessitate a substantial transfer of competence to a higher level jurisdiction. The work of Breton and Scott on the roles of administration and coordination costs on the one hand, and signalling and mobility costs on the other, perhaps offers the most promise in this regard, Walsh suggests.

Fourth, while the existing literature allows for heterogeneity, the degree of heterogeneity typically assumed is much less extreme than that involved in the Community as a result of political, cultural and linguistic differences, which are further reflected and reinforced through the peculiar decision-making mechanism involved in the Council. Walsh argues that differences in preferences may be sufficiently large in the EC to suggest that to transfer to the Community level many functions 'naturally' allocated to central governments in theory and in practice elsewhere (including defence, foreign policy, minimum standards of social security, health and housing, and fiscal equalization, for example) would impose excessive uniformity costs, notwithstanding the existence of possible joint efficiencies.

Finally, for related reasons, the very substantial literature involving questions about the effects of mobility on fiscal arrangements — including interpersonal and interregional transfers — may be of much less relevance to Europe, where labour market and residential mobility is likely to remain more limited for some time.

In short, Walsh suggests that while fiscal federal theory may offer insights into constructing the new European model, it does not offer anything like a blueprint, especially one that appropriately can guide the evolutionary process through which institutional arrangements and policies are being developed.

Discussion of the role of intergovernmental grants inevitably is a feature of all the contributions on the theory and practice of fiscal federalism. Declan Costello's paper, however, brings together general insights from the literature, and seeks to examine their relevance to the Community in its current phase of development into an economic and monetary union.

As Costello indicates, the theoretical literature on the effects on recipients of different forms of grants — conditional versus unconditional, and lump-sum versus matching, for example — has a number of defects. For one thing, it typically assumes recipient governments can be modelled 'as if' they were individuals receiving different forms of subsidies. The realities of the complex interactions between donor and recipient governments, including the possibility that there are implicit side-conditions (even for so-called unconditional grants), makes this a highly dubious basis for predicting the effects of grants.

For another thing, it is typically assumed that there is a one-to-one correspondence between recipient expenditures and their output of public services. The capacity of recipients to spend grant funds on increased inputs (per unit of output), and to reduce their own expenditures on designated functions, gives rise to the need (from the donor's viewpoint) to build a variety of monitoring devices into the grants system. This, in turn, suggests that an important design principle for conditional grants is to focus evaluation and monitoring on outputs or performance, not expenditure *per se*.

Finally, the typical assumption in the literature is that grants are funded from revenue sources external to the recipient's jurisdiction. Once it is acknowledged that grants are funded from revenues of higher level governments at least part of which are drawn from the recipient jurisdiction, the prediction of effects on recipient behaviour becomes more complex and can include, for example, 'fiscal illusions' about the tax costs of public services.

Not surprisingly, as Costello notes, there has proved to be substantial discordance between the theoretical predictions of the intergovernmental grants literature and the results of empirical tests of the effects of grants on recipient outlays — specifically suggesting that actual impacts are larger than theoretically predicted (the so-called 'fly-paper' effect). Attempts to reconcile theory and evidence draw attention to the need for richer, more complex modelling of government behaviour, and for full account to be taken, theoretically and empirically, of broader general equilibrium impacts, especially those which might be induced by the mobility of people, or of tax bases.

Turning to issues specific to the Community, Costello notes that the role for intergovernmental grants in the Community depends critically on decisions about the appropriate assignment of functions to the Community level. Five purposes for intergovernmental grants are commonly cited in the literature — to correct for interjurisdictional spillovers; to promote interregional redistribution for equity, cohesion or economic development purposes; to compensate for welfare losses resulting from central government initiatives; to correct vertical fiscal imbalances; and to promote interpersonal equity. Of these, Costello argues, only the first three are relevant to the Community, given its current stage of integration (i.e. up to, and including, EMU). Moreover, in the case of interregional redistribution, it is cohesion and economic convergence, rather than broader notions of horizontal fiscal equity, that warrant and support EC grants to lagging regions.

In all these cases, Costello observes, the required Community grants are of the conditional variety. But much more attention is required to grant design, in particular, to overcome problems of fungibility (i.e. the capacity of recipient regions — or national governments — in Member States to reduce own-source spending on prescribed activities). Indeed, Costello points out that grant design to ensure genuine 'additionality' is particularly difficult for the Community, given information asymmetries between the EC and national and regional governments, the small size of EC grants relative to national outlays and the complexities introduced by the presence of 'third parties' (i.e. national governments making similar grants to regional/local authorities). A multifaceted approach is required, he suggests, which especially includes greater emphasis on broad output or performance measures, rather than attempting to monitor in detail expenditure commitments by recipient authorities.

Bernd Spahn's paper (the first of two by him in this volume) critically evaluates the literature on principles for assigning taxes and on the design of grant systems in multilevel government arrangements; and he briefly examines federal financial arrangements in Australia and Germany to try to discern lessons for the development of financial relations in the Community. While partially covering ground similar to Walsh and Costello, his analysis is strongly influenced by German-style federal fiscal arrangements. This leads him, among other things, to be highly critical of the 'layer-cake' vision of federal fiscal arrangements (i.e. with strong, neat, vertical separation of expenditure and regulatory functions according to the degree of their regional incidence), which dominates the economic literature on federal theory.

In thinking about both tax assignment issues and the design of grants, Spahn observes, even in 'simple' models of multilevel government, considerations of mobility, political stability (or cohesion) and fairness, among others, introduce not only the need for (horizontal) coordination at subnational level, but also often a strong requirement of vertical interaction, implying a less neat and tidy allocation of functions. And within this framework, the assignment of taxes and design of grants is a more complex undertaking.

Spahn examines the implications of a variety of arguments relating to vertical tax assignment, including the benefit taxing approach, the instrumental approach, the role of tax competition, the problem of regional arbitrariness and economies of scale in tax collection. He particularly analyses the case for (formal) tax sharing, and largely comes out in favour of it — rejecting the argument that it can lead to Leviathan-like central government (or collusive centre-State) exploitation of taxpayers in favour of the view that tax-sharing is more likely to avoid competitive over-exploitation of tax bases. He notes, however, that the success of tax sharing requires a strong political consensus among all governments concerned, and an institutional setting for revising the distribution formula, which may not make it easily applied where, for example, there is a particularly strong commitment to subnational autonomy (e.g. Switzerland, USA).

Turning to examine intergovernmental grants, Spahn particularly emphasizes their use for correcting both vertical and horizontal fiscal imbalances. He notes that, unlike in most mature federations, interest in the issue of vertical fiscal imbalance in the EC currently derives from reliance of the Community level on contributions from Member States. So far as horizontal fiscal imbalance and the need for equalizing grants is concerned, while he extensively discusses the German model and those of other federations, Spahn observes — in common with other contributors to his volume — that there is probably little prospect in the foreseeable future of the Community adopting anything like fiscal equalization. The promotion of 'cohesion' can be achieved with conditional grants or, possibly, some forms of tax sharing with implicit redistribution formulae.

Spahn completes his contribution with a discussion of fiscal and financial arrangements in two quite different federations — Australia and Germany — in search of possible lessons for EC financial arrangements under EMU.

Australia, with a high degree of revenue centralization and equally high discretionary power by the federal government over this revenue, he concludes, is unlikely to guide future development of the Community. However, he suggests that evaluation and recommendations about regional grants might benefit from use of the Australian model of an independent 'grants commission'.

Some aspects of German federalism, Spahn acknowledges, also have little direct application to the Community, especially its uniformity-of-living-standards philosophy. However, he sees influences of the German model already in the European Council (and it might be added in the rules and structures to underpin monetary union), and believes that German-style tax sharing, and coordinative federalism (as in Germany's responsibility sharing and joint tasks) to be likely models for the Community, not only in relation to fiscal and economic issues, but also defence and foreign policy.

II — Lessons from existing federations

A second group of papers examines in greater detail the experiences of a number of federal countries, with a particular eye to identifying lessons — positive and negative — for future developments in the Community. Tom Courchene provides a lively discussion of Canada's fiscal experience; Wim Moesen provides valuable insights into Belgium's very young — and highly bipolar — federal arrangements; and Friedrich Schneider draws on both German and Swiss political and fiscal structures to develop a public choice perspective on EC institutions. Hansjörg Blöchliger and René L. Frey give a historical overview of the evolution of Swiss federalism and point out similarities between Switzerland and possible developments in the Community. The section also includes a collection of statistical tables comparing and contrasting expenditure and revenue patterns and levels in both federal and unitary countries.

In various ways, although with different degrees of formality, all the case-studies in this section draw on 'public choice' perspectives to explain patterns of behaviour in federations and to point to risks and opportunities facing the Community as it evolves through EMU and beyond. The general message is that the right incentive structures need to be designed into EC decision-making and that, while the flexibility the Community has shown in its recent evolution has been one of its strengths, if integration gathers momentum, there may be a risk that design issues will be given less attention than they deserve.

The authors do not have interests and conclusions totally in common. But there is some degree of agreement. For example, Courchene and Moesen, from Canadian and Belgian perspectives respectively, both point to the need for fiscal policy coordination under EMU in addition to deficit and debt rules. Moreover, Moesen's empirical analysis of the fiscal consequences of centralization gives a more general public choice twist to Courchene's repeated emphasis on how excessive redistributive transfers can distort federal decision-making. Moesen, Schneider and Frey all use empirical evidence to support the view that federal (decentralized) systems tend to limit the size of the public sector, although Schneider goes on particularly to emphasize how even within federations, details of institutional design can affect how severely they constrain expenditure growth. Moreover, Courchene and Schneider both identify the risk of the emergence of either an expansionist bureaucratic dynamic (Courchene) or political dynamic (Schneider), fed by interest group pressures (such as a pan-European economic network, Courchene suggests).

Tom Courchene's contribution provides a thought-provoking account both of lessons from Canadian experience and of problematic trends that he perceives in Europe looked at through Canadian eyes. Canada is a good case-study of a (non-European) mature federation, Courchene argues, because it combines an established monetary union with a European-style social contract replete with interregional transfers — and it has been grappling with a threat of exit by one of its constituent 'member States' (Quebec). Pre-federal Europe, principally guided at this stage by an economic, rather than political, blueprint, he suggests, has the chance to avoid problems Canada has accumulated.

The first, and principal of the problems, Courchene believes, is that very generous levels of federal-provincial welfare support and interprovincial equalization transfers have created in Canada a version of 'transfer dependency'. Among other things, this has erected implicit barriers to mobility which negate natural economic adjustments. The core of the problem, he suggests, is that place prosperity has been favoured over people prosperity, including in the design of unemployment insurance eligibility rules . The danger that Europe will repeat this mistake as it moves into social and political union is lessened by more severe fiscal restraints than existed when Canada designed its social policy framework, and by a paradigm shift in thinking about the role of the State — but nonetheless it will require vigilance.

Second, Courchene suggests that Canada's fiscal policy experience indicates that the price stability objective is not sufficiently promoted or protected by EMU-type deficit and debt limits. The problem, he says, is not with the economically weaker provinces, which are too small to affect monetary policy and are constrained by ratings agency assessments, anyway. Rather, the economically powerful provinces can engage in strong, and inflationary, fiscal expansion in boom times even while meeting debt and deficit guidelines such as those being proposed for EC members under EMU, as Ontario did in the 1980s. To control aberrant fiscal policy behaviour by the economically powerful EC Member States, especially during booms, requires deficit rules to be supplemented by fiscal policy coordination.

Third, Courchene argues that aspects of the discussion and debate surrounding the possible exit of Quebec from political union with the rest of Canada clearly indicate that it is very difficult to withdraw from a currency union. Accordingly, he suggests that the emphasis in EC discussion on the possible need for more extensive interregional (redistributive) transfers to protect against exit from EMU may be misplaced. The bigger problem, rather, may be ensuring successful entry, especially of the high deficit/high debt Member States — and to address this, the Maastricht guidelines may need to be supplemented by incentive-compatible assistance schemes (an observation made also in the second of Spahn's papers).

The balance of Courchene's paper turns to examine a number of emerging issues in Europe viewed from a Canadian vantage point. In particular, while observing that limits on the EC budget and a general sentiment resistant to its enlargement suggest that the Community is not likely to fall into the transfer dependency trap in a big way, he points to a number of trends which could threaten this conclusion.

For one thing, Courchene suggests that only weak support is given to decentralization of competences by the subsidiarity principle as currently articulated (virtually everything, in reality, has cross-jurisdictional effects): together with the possible emergence of pan-European networks of economic power cross-cutting and competing with the political power of Member States, this could support an expansionist bureaucratic dynamic at Community level. Moreover, this possibility could be intensified if the growing presumption that the mobility of tax bases (especially capital) and other considerations (e.g. environmental policy) make the Community level the optimal locus for much tax legislation also leads (inappropriately) to it being regarded as the optimal locus for greater spending.

For another thing, it is virtually inevitable, Courchene believes, that Europe '92 and EMU will lead on to pressure for a 'social Europe' with common and unified public policy, common citizenship and a reduced democracy deficit. With this will come pressure for larger redistributive transfers and (relatedly) wage demonstration effects, and the risk of the Canadian 'transfer dependency' disease. However, Europe can still steer around the worst outcomes, Courchene claims, by avoiding inappropriate incentives — e.g. by designing stabilization schemes which are discretionary and conditional; and focusing redistributive programmes on people (or human capital) prosperity, not place prosperity. Indeed, he ends on a hopeful note, saluting the architects of EMU for the fact that they have retained future flexibility by embracing institutional, economic and political arrangements without preconceived (or preordained) policies about how they will evolve.

Wim Moesen's discussion of the recent experience of Belgium (re)forming itself into a federal union in the 1980s provides an illustration of the strengths and weaknesses of the design principles to be found in the traditional fiscal federalism literature, points to a possible model of some of the forms of fiscal constraints that high debt/high deficit EC Member States may need to consider to meet EMU entry requirements, and possibly suggests an example of some aspects of the design of an EMU regime itself.

Of course, the parallels with Europe as a whole cannot be too strongly drawn: Belgium is devolving autonomy to an intermediate level of government from a previously powerful (if often politically unstable and fiscally undisciplined) central government, and may have been driven by both custom and political inertia to retain greater power at the centre than is strictly 'essential' (or even desirable). But, on Moesen's account, the design was shaped not only by a need to accommodate cultural, linguistic and regional economic differences but also in large part by a belief that a genuine ('constitutional') decentralization of much decision-making would produce much greater fiscal discipline.

In outline, Moesen reports that the 1980 reforms resulted in the establishment of autonomous intermediate levels of government in Belgium consisting of communities and regions with their own legislative assemblies and executives, with legislative powers equivalent to those of the national legislature for their own designated areas of competence, and with a Court of Arbitration to resolve jurisdictional disputes. Reflecting modern circumstances, the competences of the intermediate level are written in finer detail than would be found in the constitutions of the much older federations in North America and Australia. Again, while acknowledging that devolution was the Belgian intent, this raises interesting questions about how an EC constitution would be framed to allow greater political autonomy at the Community level.

In the division of allocative functions, the demand for cultural autonomy by Belgium's communities has been combined with attention to fiscal federalism principles, Moesen indicates, to give the communities, principal competence for education and scientific research, cultural matters, health policy and welfare assistance to individuals, while the regions have competences covering infrastructure and economic development and local government. However, the centre retains the capacity to intervene through specific purpose grants, and it has regulatory powers including, importantly, oversight of a 'rule of non-distortion' which restricts regions from using their economic autonomy to limit freedom of movement of goods and services and labour and capital. This is a power typically not explicitly or unambiguously given to the central level in older federations, and its presence in the Belgian 'contribution' reflects modern economic necessity in addressing issues in relation to which Europe has led the way.

Tax financing of intermediate level outlays in Belgium is dominated by shared taxes — particularly income taxes and the VAT: indeed, exclusive autonomous taxes provide less than 4% of intermediate level revenues. Moesen explains that this reflects a desire to avoid tax competition and over-exploitation of tax bases. Despite the blurring of responsibility for revenue raising involved in shared taxes, fiscal discipline is maintained at intermediate level, he points out, through tax limits and borrowing controls.

In line with traditional fiscal federalism conceptions, stabilization policy has been left at the central level. However, Moesen indicates that there has also been added an unusual, if not unique, mechanism for formal coordination of fiscal policy. A consolidated budget of the central and intermediate levels is evaluated against the macroeconomic environment by the Committee for the Financing Needs of the Nation, which then issues guidelines for the size of the global budget deficit and its breakdown between governmental units. The central government, moreover, has the legal power to reduce the borrowing facilities (for two years) of a community or region which ignores the recommendations. Belgium certainly has recognized the need, to which Tom Courchene draws attention, for formal deficit rules to be supplemented with coordination of fiscal policy: indeed, it has done so with a vengeance!

Cohesion and solidarity, Moesen explains, have been promoted in Belgium by, on the one hand, retaining central control over social security and the progressive income tax and, on the other, providing for equalization payments with respect to differences in per capita income tax yields between regions. There has been some debate, Moesen says, about whether at least partial decentralization of redistribution policy might be possible.

There is no suggestion in Moesen's account that Belgium suffers seriously from transfer dependency, but he reports results of empirical work he has undertaken which indirectly supports Courchene's emphasis on the Community avoiding heavy involvement in redistributional transfers. Given that Belgium adopted a federal structure at least in part to help increase fiscal restraint, Moesen is keen to test the link between decentralization and public sector size. His hypothesis is that deficit spending capacity gives central governments a softer budget constraint than subcentral governments, and that politicians exploit slack resources to respond to interest group pressures. Modifying and improving an empirical test earlier developed by Saunders, he indeed finds that greater centralization (whether measured by revenues or outlays) is associated with higher public sector size and that increased transfers and subsidies explain virtually all of the increased size. The messages for Europe are clear.

Friedrich Schneider's analysis of possible constitutional and institutional structures for Europe, while linked to EMU, largely concerns developments associated with and beyond economic integration, rather than strictly required for its completion. Based on the explicit development of perspectives drawn from public choice theory and comparative institutional analysis, and backed by reference to myriad empirical studies, Schneider's central claim is that the benefits of the internal market, greater competition and monetary union can be lost to rent-seeking behaviour by pressure groups if the Community fails to build an appropriate institutional and constitutional structure.

Schneider's approach is to compare and contrast two federal models — one based on direct democracy and the other on representative democracy — for clues as to appropriate design features for a possible European federal union. Switzerland and Germany virtually select themselves. As well as providing an exposition of the principal features of Swiss federal fiscal arrangements, Schneider attempts to assess the relative powers of the three major spheres ('levels') of government in Germany and Switzerland. The details of fiscal and political arrangements involve many subtleties which make strong conclusions impossible. However, one thing that does stand out, Schneider claims, is that at each governmental level in Switzerland, revenue-raising and collective decision-making are more independent (autonomous) and more closely related to citizen preferences than in Germany.

Moreover, an examination of trends in expenditures, revenues, intergovernmental grants and public sector debt indicates that Switzerland has outperformed Germany over the period since the 1950s in terms of overall fiscal restraint and in terms of avoiding, or minimizing, centralization of fiscal power. Indeed, overall, Switzerland has had the lowest public sector growth among all OECD countries in the post-war period, Schneider observes.

Against the background of these facts and assessments, Schneider examines public choice type theories of political entrepreneurship and rent seeking and related analyses of how institutional arrangements affect public sector outcomes, and draws on a large empirical literature much of which focuses directly on Germany and Switzerland, to establish a strong case for believing that direct democracy results in fewer opportunities for political decision-making to be captured and driven by interest group pressures.

Like Moesen, Schneider notes that there is clear evidence that federal arrangements in themselves tend to restrain public sector size. But he also provides analytical arguments and empirical evidence, both from comparisons between

Germany and Switzerland and from comparisons of different democratic arrangements within Switzerland, that adding elements of direct democracy (i.e. referendums and the like) acts as a further check on the distortion of decision-making.

Empirical work (especially, but not exclusively, by Kirchgässner, Pommerehne and Schneider) has suggested, for example, that Switzerland's fiscal decision-making is essentially demand (i.e. voter) driven, while Germany's shows distinct elements of supply-side influences (interest group pressure, political entrepreneurship, etc.). Moreover, out-of-sample-period predictions of future public sector size drawn from empirical work on Swiss cantons with strong direct democracy indicate that those cantons with only representative democracy have much higher growth rates of expenditure. On this substantial basis, Schneider argues strongly that the institutional structure matters, and that the Community needs to recognize this in its future design of more federal political and institutional arrangements.

At the most general level, he suggests that Switzerland, which incorporates diverse cultures, may offer the best model for the design of EC institutions. Building on existing institutions, the Council might be converted into a second chamber, the approval of which would be required for legislation to pass into law; and the Community level could be given a limited number of 'exclusive' tax revenue sources (two in the Swiss case), all others remaining with the Member States. But to counterbalance the danger of the growth of interest group pressures, the constitution would also need to include specific measures to limit the growth of the centre. Schneider's (preliminary) suggestions are that these should include: a clear statement of the (limited) competences of the Community level, to be subsequently extended only if there is a consensus among the Member States; a provision for Member States to secede from the union (and an 'in principle' right for regions bordering other Member States to secede from nation-States), though with clear and lengthy transition arrangements; and the institution of a requirement for popular referendums for major policy changes (e.g. changes to tax rates) as well as for changes to the European constitution, and of optional referendums where a specified number of citizens request them.

Some of these proposals may be contentious, but Schneider clearly gives Europe's potential constitution-makers food for thought.

Hansjörg Blöchliger and René L. Frey provide a detailed description of the historical evolution of Swiss federalism. They cover a period of nearly 150 years of integration beginning with the establishment of the Confederation in 1848, reviewing the total constitutional revision of 1874 and concluding with the present situation.

Blöchliger and Frey then explain the federal structure of the Swiss economic policies. Each of the three levels of government, i.e. federal, cantonal and communal, levies its own taxes, and a very high degree of independence is guaranteed for the lower levels. Indirect taxes accrue to the federal government whereas direct taxes are collected autonomously by the cantons. Competition through the tax system, Blöchliger and Frey argue, gives an incentive to the respective authorities to adapt to the preferences of citizens or enterprises and provide the desired public goods more efficiently. On the other hand, the Swiss experience suggests that differences in the tax burden between cantons do not give rise to major migratory movements.

As far as the distribution of tasks is concerned, the cantons are autonomously responsible for important functions. The central government can only take on tasks which are explicitly allocated to it in the constitution. The cantons dispose independently of their own budgets, but some transfer mechanisms exist to support the weaker cantons and communes. Blöchliger and Frey observe, however, that despite fiscal equalization, regional disparities have hardly narrowed. He also argues that there is no need for a single social security system in the Community as the Swiss example shows that differences in that respect do not lead to a high degree of migration.

Blöchliger and Frey conclude on the basis of Swiss experience that in the Community competition between Member States can and should become more important than harmonization. Furthermore, constitutional rules are needed to guarantee that political powers will remain decentralized. The subsidiarity principle should be taken as a benchmark for the assignment of competences and minorities should be protected in the constitution. The lesson to be drawn from the history of the Swiss Confederation is that the creation of an internal market does not need to be accompanied by political centralization but that, on the contrary, decentralization can increase social welfare.

The final contribution to Part 1 consists of a very interesting and useful set of statistical tables on public finances (i.e. expenditure, grants and revenues at central and subcentral levels) in federations and unitary States, prepared by Declan Costello from IMF and OECD data sources. The most striking feature of both federal and unitary systems revealed in these tables is the lack of consistency within and between them in the functional roles of different levels of government, in the extent and pattern of intergovernmental grants, and in the sources and degree of centralization of revenue-raising.

Part 2: Implications for the European Community

As noted earlier, the 17 papers in Part 2 of this special issue focus on drawing out the practical implications of theoretical and empirical insights for the functions of the Community level necessary to ensure that EMU is workable and sustainable. They cover the whole gamut of governmental functions — allocation, redistribution and stabilization — as well as financing and managing the EC budget. The subject matter is so broad and varied that a simple summary overview is not possible — save for noting the recurring thcmc that the necessary underpinnings for EMU do not involve large additional budgetary outlays at Community level, even when a role is included for a macroeconomic stabilization mechanism to address country-specific shocks.

III — The EC role in allocation and external affairs

The first group of three papers deals with EC interventions for allocative, regulatory, defence and external relations purposes. Declan Costello is concerned with EC interventions required to capture further efficiency gains under full economic integration. Manfred Teutemann, on the other hand, is concerned with somewhat more vexed questions of the Community's role in defence, external affairs and international assistance (aid) policy which are not intrinsically linked to the completion of EMU, but unquestionably are receiving more attention as the Community heads towards completion of its economic blueprint. Finally, Knud Munk considers the even more vexed question of sectoral policies, and specifically the Community's Common Agricultural Policy (CAP); again reform of the CAP may not be strictly necessary for the successful completion of EMU, but it has a significant bearing on the EC budget in the transition to EMU and beyond, and an equally significant bearing on how the Community's economic, as well as political, relations with the rest of the world evolve.

Costello's analysis of EC interventions to promote greater market efficiency in the approach to full economic integration focuses in substantial part on the conventional arguments about circumstances where market failure is likely to exist (i.e. where there are spillovers, or public goods, or scale economies) — issues discussed in more detail by both Walsh and Munk. However, he also emphasizes that, in practice, the choice of policies is based on incomplete information and they are not costlessly implemented; and that allocative and redistributional aspects of policy cannot be entirely separated because correcting adverse distributional consequences of efficient policies is costly (arguments which Munk later elaborates extensively). The design of public intervention, accordingly, is extremely complex, Costello notes, and especially so given the wide divergences in social and cultural factors in the Community. Feasible best (or even just satisfactory), rather than optimal, solutions are the appropriate target, he suggests.

In surveying the principal areas of allocation policies, the rationale for Community-level intervention and the implications for the EC budget, Costello observes that, as measured by expenditure on economic affairs and services, EC spending on allocation policies already is significant — equivalent to 20% of Member States' expenditure. Much of this, of course, reflects expenditure on agriculture: nonetheless, it is only the tip of the iceberg as far as allocative interventions are concerned, because, as Costello repeatedly emphasizes, the Community's actual and potential regulatory role is its most powerful allocative tool, with Member States bearing the burden of implementation and direct expenditures.

In the field of research and development (R&D), the principal rationale for EC involvement stems from the spillover benefits of research results across frontiers, which will be reinforced as economic integration deepens, Costello suggests. In addition, there are grounds for supporting R&D in lagging regions as a means to promote real convergence. The case for EC financial support is strongest with respect to basic research, and also for R&D in support of Community public policy objectives. Existing EC expenditures on R&D represent only 0,035% of Community GDP, equivalent to some 4% of what Member States spend. However, this figure rises to 31% for energy research and 11% for R&D on industrial production and technology. A relatively modest increase in Community R&D spending should prove adequate in meeting future expenditure requirements, Costello argues.

The grounds for EC involvement in environmental policy, on the other hand, rest on the interjurisdictional spillover effects of ambient pollution, the need to protect the integrity of the internal market and the benefits of enhanced negotiation power in international forums, Costello points out. Expenditure on environmental protection does not fully measure the degree of public intervention, and there are good reasons for separating regulatory and expenditure functions among different tiers of government. Although data on environmental expenditure are sketchy, Community expenditure relating to the environment appears to be substantial, mostly operating through the Structural Funds and R&D transfers. However, direct EC expenditure on environmental protection is much more limited, and small in relation to Member States' spending, and there is a significant potential for future increases. Moreover, additional support may have to be provided to some Member States if they are to meet binding environmental standards established in Community legislation. Nonetheless, given the limited scale of EC spending to date, Costello argues that a substantial upgrading of Community actions can be undertaken with a modest amount of additional resources.

Turning to infrastructure provision, Costello indicates that the influence of purely national perspectives has led to insufficient cross-border links being provided, inefficient network design, unnecessary duplication of infrastructure in border regions and technical incompatibilities which segment national infrastructure facilities. Community involvement to rectify these deficiencies, however, is largely a matter of playing a coordination and planning role. Limited finance is available through the trans-European networks initiative, and may need to be increased to ensure that adequate networks are developed to cope with increased cross-border traffic as a result of the single market. The bulk of finance, nonetheless, will continue to come from national sources and through user charges, Costello believes.

The Community also provides financial support through the Structural Funds for infrastructure provision in lagging regions as a means of promoting economic convergence. Costello argues that current levels of support will not close the existing infrastructure endowment gap between core and peripheral regions in the short or medium term. Even so, the existing levels of transfers represent a very high share of Member States' spending and can be upgraded substantially with a limited additional volume of resources.

Overall, Costello suggests that there appears to be no overwhelming case for other than modest increases in Community expenditure, say 0,1% — 0,2% of GDP. Justifications for a larger enhancement of the Community role are likely to be predominantly equity- and cohesion-based, rather than on grounds of improving allocative efficiency.

In discussing defence, external affairs and international aid, Manfred Teutemann is concerned with functions which are among the core (and usually essentially exclusive) activities of central governments in both mature federations and unitary States. At this stage, however, they have comparatively little significance in Community-level activities and in the EC budget. Moreover, with the possible exception of aid to Eastern Europe to forestall destabilizing migration to the West, there is little direct connection between Community expenditure on these functions and the conditions necessary to establish successfully and sustain EMU. Nonetheless, as economic integration proceeds towards completion, attention to these issues of political union is increasing, and it can be expected that they will have some impact on the EC budget as EMU is established and beyond.

Like other papers dealing with specific policy issues relevant to the EC budget in the approach to EMU, Teutemann identifies conceptual arguments based on public finance and public choice theories. However, he especially emphasizes important institutional aspects in the sphere of defence and external policy. In particular, he notes that in any prospective transfer of competences to the Community level, the EC is in 'competition' not only with the national administrations of Member States, but also with other international organizations — notably NATO in the case of defence, and parts of the UN, the World Bank and the IMF, for example, in relation to external policy, broadly interpreted. He also notes that there may be a quite different degree of homogeneity (or heterogeneity, to be more precise) in relation to defence, and possibly external policies, than there is for policies directed at addressing economic integration among EC Member States, or those relating to environmental issues. Accordingly, the appropriate 'unions' for defence and external policy may differ from those appropriate for economic or social policy.

In the case of defence, Teutemann offers two key observations. First economies of scale (or, more precisely, minimum threshold size) considerations in providing defence and considerations concerning the credibility of defence arrangements, militate strongly in favour of international alliances. Second, in the past — in the 1950s and 1960s in particular — the existence of an alliance with the USA through NATO, and the high profile of defence and external relations in national policymaking, resulted in the failure of proposals for a European Defence Community. Since then, East-West *détente*, and a general decline in the attractiveness of NATO to European members, has led to increased interest in, for example, reactivating the Western European Union.

The most promising EC defence initiative, Teutemann suggests, may accordingly be one which involves 'filling the vacuum' between the roles of national administrations and those of international organizations — in particular, through the establishment of a European Rapid Deployment Force. The cost to the EC budget, he claims, should not exceed 0,2% of Community GDP (compared with current Member State expenditure averaging 2,5% of national GDPs). If, as part of a more general restructuring of European involvement in NATO, national contributions to NATO were replaced with a single European contribution, this would amount to 0,05% of Community GDP.

External affairs considerations, Teutemann notes, include classical (political) foreign policy and external trade policy.

So far as foreign representation through embassy services is concerned, there may be scope for greater economies in replacing Member State embassies with an EC embassy in smaller countries and/or for smaller EC countries. However, budgetary costs involved are small (apparently 0,01 to 0,02% of GDP for external affairs ministries, including contributions to international organizations and embassy networks).

Likewise in relation to negotiation of international treaties, codes and rules, there may be limited savings in outlays from a coordinated EC approach. However, as Teutemann observes, there may be considerable 'economies of negotiating power' in relation to international or global treaties from developing and presenting a 'European position', provided there is sufficient homogeneity of preferences and interest among EC Members States to make the position credible.

In the field of development aid, Teutemann argues that most is at the moment concentrated in the area of stabilization — for example, to avoid negative spillovers from country-specific economic problems on international capital markets. Other types of transfers, he suggests, appear to be more in the form of subsidies designed largely to promote the donor country's domestic industry than redistributional transfers *per se*. However, efficiency considerations may lead to the establishment of an international redistributive mechanism to coordinate or replace national efforts to support the East European countries, not least to forestall undesirable large-scale migration to the West.

While Teutemann makes clear that global institutions exist, and usually will be the appropriate coordinating agents, in some cases subglobal cooperation may be more flexible, and more capable of 'filling gaps'. In the case of the European Community, this could include transfers to preserve global collective goods (e.g. tropical rain forests) and particularly higher levels of assistance to Eastern Europe. In general terms, Teutemann suggests that overall EC aid expenditure for third countries (though not necessarily all or always through the EC budget) might be in the range 0,4 to 0,7% of GDP, reflecting current average actual outlays and international target commitment levels, respectively. For Eastern Europe, however, they might need to amount to 1 to 2% of Community GDP over the next decade or so.

The principal purpose of Knud Munk's valuable contribution is to provide an analysis of the EC's common agricultural policy, and of the potential for its reform, against the background of an examination of the implications of second-best welfare analysis for an understanding of sectoral policies in nation-States and in the Community. A central observation of second-best analysis, Munk reminds us, is that it is impossible to approach policy problems as if the most efficient solution could be chosen irrespective of distributional consequences, because taxes and transfers required to correct adverse distributional effects involve both administrative costs and distortion costs.

This, Munk suggests, provides at least one explanation as to why governments chose apparently inefficient means of securing access to social services for low income people ('free' health, education) and of addressing problems of declining industries (through price support, or subsidies, rather than direct income support) — because the distortion costs of raising the necessary government revenue, and the costs of administration, associated with achieving income support in more direct fashion are too high.

For the Community, even assuming that responsibility for distributional policies rests with the Member States (i.e. there is insufficient cohesion to support explicit Community-level redistribution), the requirement that EC policies do not reduce the welfare of Member States implies that the fiscal and distributional consequences within Member States will enter the EC decision-making calculus. This could even result in the Community becoming involved in specifying or subsidizing minimum standards of health, education, housing and social insurance where mobility results in 'fiscal spillovers' when Member States pursue different distributional objectives.

So far as the CAP is concerned, Munk suggests that it was introduced as a direct consequence of the creation of the customs union among the original six, to harmonize agricultural support pricing policies (arguably adopted by them as a rational second-best policy at that time) in all original Member States, and transfer the tariff revenue and export subsidies involved in trade in agricultural products to the EC budget. The similarity of their pre-CAP policies, and the relatively small differences among them in the ratio between agricultural production and consumption, resulted in the CAP being less controversial (i.e. less redistributive) than it is now.

Enlargement of the Community has resulted in greater diversity, and hence more significant redistributional effects from the CAP — reflected particularly in the rebate granted to the United Kingdom against its EC budget contribution. Increasing use of intermediate inputs and capital also made price support a less efficient instrument to increase farmers' incomes and has caused increasing environmental damage. Moreover, the transformation of the Community from a net importer to a net exporter as a result of strong productivity gains has put the EC budget, and EC relations with other exporters of agricultural products, under intolerable strain.

Reform of the CAP is clearly on the agenda, even if the direction of reform remains contentious.

Comparing the 'Mac Sharry proposals' (concentrated on reducing grain prices and encouraging 'set-asides' of land) with the alternative of (decoupled) direct income support for farmers, Munk argues that a switch to a direct income support scheme funded predominantly by Member States could be feasible (as well as desirable from the viewpoint of the preference function of each Member State) if it was implemented gradually, if it provided for temporary compensation from the EC budget to the countries which would be losers (i.e. the net agricultural exporters such as Denmark, Ireland, France and the Netherlands), and if the EC also met part of the administrative costs of providing direct income support, which are likely to be particularly high in less-developed Member States.

IV — Interregional redistribution

In order to form an opinion about the future role of the Community budget in relation to interregional redistribution, answers need to be given to the following questions.

First, is redistribution a legitimate objective of Community policy and, if so, should the Community's role extend to interpersonal redistribution, or should it concentrate rather on reducing regional disparities?

Second, will the advent of EMU intensify the need for Community action in this field?

Third, how effective are the present budgetary mechanisms for interregional transfers?

Fourth, what forms should Community interventions take in the future EMU?

In his wide-ranging contribution, Rémy Prud'homme addresses all these questions. Pedro Santos concentrates on the second question, while Declan Costello sheds light on the adequacy of the present Community budgetary arrangements by comparing them with the mechanisms operating in the Federal Republic of Germany before unification. Finally, Manfred Teutemann discusses the relative merits of interregional and interpersonal transfers from a point of view which differs radically from that of Prud'homme.

In dealing with the justification for Community action in this field, Prud'homme asks first whether there is, in a free market, an automatic mechanism by which regional disparities are evened out. If such a 'hidden hand' exists, then there is no need for redistributive measures, either at the Community level or at the national level, except perhaps if the automatic mechanism is deemed to work too slowly.

Prud'homme contrasts two main schools of thought on regional development. The first of these is the classical and neoclassical approach. Assuming perfect mobility of capital and labour, it is argued that labour will tend to migrate from low- to high-wage areas, exerting a downward pressure on wages in the latter, while capital will move in the opposite direction, leading to a rise in productivity and wages in the poorer areas. Hence, regional disparities are seen as self-correcting. A variant on this theme is the Heckscher-Ohlin model, which demonstrates that the same conclusion can be reached without assuming perfect mobility of factors of production: it is sufficient to assume unrestricted trade.

The second approach discussed by Prud'homme, exemplified by Myrdal, Kaldor and Krugman, places emphasis on factors such as economies of scale, external economies and access to technological know-how, and leads to the conclusion that regional disparities tend to be self-perpetuating, and possibly self-reinforcing, in the absence of intervention.

On examining the available data, Prud'homme notes that regional disparities in the Community seem to have diminished in the 1960s and early 1970s but that this trend was halted in the later 1970s and reversed in the subsequent decade. He concludes that, though the earlier data offer some support for the convergence theory, the subsequent evolution suggests that the divergence theorists are right in downgrading the influence of wage differentials and stressing factors which tend to reinforce disparities. He argues that the new economic realities which have established themselves over the last 20 years make it reasonable to expect that the trend towards regional divergence will continue. He goes on to suggest that EMU could accentuate this trend, since the more prosperous countries and regions will be in a better position to undertake the restructuring necessitated by the single market and since poorer countries are likely to suffer more from the absence of the exchange-rate instrument for adjusting to asymmetric shocks.

Having argued that regional disparities are not self-correcting, at least in the Europe of today, and suggested that these disparities could well increase markedly, Prud'homme notes that there is a strong political demand for policies to counteract this trend and asks what part the Community, as opposed to the national governments, should play. As far as disparities between Member States are concerned, he sees a clear justification for Community involvement. Inequalities between regions of the same Member

State present a more difficult problem, but Prud'homme argues that they also are a legitimate target of Community policy.

In discussing the policy instruments needed by the Community to reduce interregional disparities, Prud'homme covers not only budgetary expenditure but also taxation. He rejects the idea that transfers to low-income households can be a substitute for specifically regional redistribution, although acknowledging that such transfers may be necessary for regions with very low incomes. Ideally, he argues, the expenditure instruments of regional policy should have both a strong equalizing impact and strong growth-promoting effects. In addition, the principle of subsidiarity should be applied so that the instruments used at the Community level are those which cannot operate more efficiently at the national or subnational level. This seems to rule out, *inter alia,* Community-wide interpersonal redistribution as well as the direct provision of public services by the centre. He concludes that the main expenditure instruments of Community regional policy should be block grants to subnational levels of government together with some specific grants to both national and subnational authorities. In a brief discussion of taxation, Prud'homme notes that the present system for financing the Community budget seems to be slightly regressive, since it is largely based on VAT. A Community energy tax, he finds, might be slightly progressive but for the achievement of redistributional goals it would be preferable to base the Community's finances on an explicitly progressive tax, such as personal income or corporation taxes.

Like Prud'homme, Pedro Santos starts with a discussion of the 'convergence' and 'divergence' schools of thought on regional development. He also brings to bear the concepts of regional economic potential and peripherality, noting the clear relationship between economic backwardness and peripherality. He goes on to observe that, while the inception of an economic union can be expected to yield greater benefits to the central regions, the enlargement of an existing union to include a new peripheral region will increase the latter's economic potential more than that of the centre. However, to the extent that the completion of the single market constitutes a simultaneous and uniform abolition of barriers throughout the Community, the situation of the peripheral regions is much as it would be in the case of a newly formed union. Hence, there is a danger that regional disparities could increase, even though, in absolute terms, all regions could benefit from the single market.

Developing the analysis further, however, Santos shows that the impact of economic integration on the relative position of the peripheral regions is by no means easy to predict: it will vary from industry to industry and could be crucially dependent on the precise size of the cost reductions achieved through the removal of market barriers. Prediction is further complicated when we consider that the Community does not consist of a single centre and a single periphery but of a hierarchy of centres and peripheries extending from the Community level, through the national level to progressively lower levels.

Turning to the empirical evidence, Santos disagrees with Prud'homme's judgment that the current trend is one of divergence, noting a reduction in per capita GDP disparities between Member States since 1986. He suggests that the divergence observed in the decade before that may have been due to differences in the impact of the world recession. Given a general improvement in growth rates, boosted perhaps by EMU, Santos sees reasons for expecting further reductions in regional disparities.

So far as the impact of monetary union is concerned, Santos argues that there is no reason to expect that the less prosperous Member States as a group will face special problems as a result of the loss of the exchange-rate instrument, but acknowledges that the position of Greece and Portugal may be particularly difficult. However, in the less prosperous Member States, monetary union will subject public finance to new constraints which could conflict with the objective of closing the gap between those Member States and the more advanced parts of the Community. Even without EMU, though, no country can hope to pursue an inflationary fiscal policy indefinitely. Furthermore, Santos points to the possibility that EMU could make a positive contribution to the development of the poorer Member States by stimulating the inward flow of foreign direct investment and improvements in the efficiency of local financial markets.

Declan Costello introduces his analysis of the redistributive impact of interregional transfers through the Community budget by observing that the public finance systems of mature federations achieve very substantial interregional income redistributions. His comparison with the Federal Republic of Germany is, therefore, particularly interesting, since the latter is the only example of a mature federation within the Community. Before entering into the details of the analysis, Costello reminds us of some of the findings of the MacDougall Report of 1977. This report showed that there is generally a smaller degree of interregional redistribution in federations than in unitary States and that Germany was below the average for federations. Hence, Germany does not represent an exceptionally demanding yardstick against which to measure the Community's performance.

For the purposes of this comparison, Costello considers only the transfers effected through the Community's Structural

Funds, which have a strong explicit redistributive purpose, and similarly explicit interregional transfer mechanisms in Germany. He does not take into account the effects of central provision of public services, personal taxation and direct transfers to households and individuals.

Costello measures the 'redistributive effect' of transfers for a single 'region' (a *Land* in the case of Germany, a Member State in the case of the Community) as the percentage change achieved, as a result of the transfers, in the deviation of regional per capita income from the national or Community average. To assess the aggregate degree of redistribution, he uses two measures: the percentage change in Gini coefficients resulting from the transfer; and 'redistributive power', which is a weighted average of the 'redistributive effects' for each region.

Costello's results show that, for individual regions, the redistributive effects of interregional transfers are much more pronounced in Germany than in the Community. However, he notes 'negative redistributive effects' in the cases of two German *Länder*: Bremen is a net recipient although its per capita income is well above the national average and North Rhine-Westphalia is a net contributor although it has a below-average per capita income. In the Community he finds no such negative effects.

In aggregate, the redistributive impact of the Community's system is about half that of Germany: a change in the Gini coefficient of 2,5% compared to 5,2% and a redistributive power of 2,5 to 3% as against 6,2%. The greater impact of German interregional transfers is explained by two factors: the much greater resources available in Germany and the fact that the disparities between German *Länder* are much smaller than those between EC Member States. However, Costello stresses that his analysis provides only a partial picture because only explicit interregional transfers are considered and because the German results are biased by the influence of two outliers (Bremen and Hamburg), which tend to lower the aggregate results for Germany. Furthermore, he suspects that the effects of the common agricultural policy and the Community's revenue sources are regressive and that, therefore, the total redistributive impact of the Community's public finance system is probably less than that of the Structural Funds alone.

Nevertheless, given the limited resources available, the degree of redistribution achieved by the funds is quite striking. In the three least prosperous Member States (Greece, Ireland and Portugal), net transfers from the funds amount to well over 2% of GDP. Indeed, in Greece and Portugal the figure is close to 3%. Further growth in the Structural Funds and the addition of the Cohesion Fund agreed at the Maastricht Summit should significantly enhance the redistributive power of the EC budget in the future.

Manfred Teutemann's discussion of the relative merits of interpersonal and interregional systems of redistribution approaches the question from a new angle, markedly different from that of Prud'homme. For Teutemann, the main objectives of redistribution are: charity, the avoidance of social unrest, the avoidance of large population migrations, insurance against a decline in income or wealth (intertemporal redistribution inevitably resulting in interpersonal redistribution).

He argues that interpersonal systems are a much more direct and, in principle, more effective means of achieving these aims than interjurisdictional arrangements. His analysis concentrates mainly on the insurance motive and views the subject from a standpoint similar to that of the Rawlsian philosophy of social contract.

From this point of view, existing systems of redistribution, whether interpersonal or interjurisdictional, tend to share the important defect that they were devised without the benefit of the 'veil of ignorance'. In other words, the policy-makers who conceived the schemes were already able to identify the groups which were potential beneficiaries and those which were potential donors. As policy-makers normally belong to the latter group or are politically beholden to it, the result is often a severe limitation of the scale of the redistributive effort. This problem is particularly acute at the international level, where it is compounded by the serious 'free rider' problem which exists because of the absence of a coercive mechanism at that level.

Turning to the question of the appropriate level of government for operating a redistributive mechanism, Teutemann argues strongly against the view that redistribution should be a purely local concern. He points out that, in practice, the main redistribution measures are usually carried out at the national level. The broader base of a national system helps to protect it from economic shocks which could cause the collapse of more localized systems. Nationally operated schemes also constitute the best means of avoiding migration between subnational jurisdictions motivated solely by differences in systems of redistribution (perverse Tiebout migration). Furthermore, disparities between localized systems result not only from differences in local preferences but also from variations in the local tax base. As Teutemann points out, these arguments can be extended to provide a strong justification for the supranational organization of redistribution, although the problem of fiscally induced migration is considerably reduced at this level by the existence of immigration restrictions.

For Teutemann, interjurisdictional transfers introduce further complications by involving more public authorities, each of which will try to impose its own preferences. Interjurisdictional systems also are subject to substantial 'leakages', since the transfers may also benefit the rich inhabitants of recipient regions, while the poor inhabitants of donor regions may have to contribute to the transfers. Nevertheless, Teutemann recognizes that the interjurisdictional approach is much more attractive to policy-makers and consequently often has to be accepted as the only politically feasible means of achieving a significant redistributive effort.

In his discussion of the prospects for redistribution policy at the Community level, Teutemann concludes that, although the progressive removal of barriers to migration strengthens the case for a European social insurance system, such a scheme is unlikely to be instituted in the near future. An alternative approach would be a system of unconditional fiscal equalization grants to the less-prosperous regions, and even this would encounter serious political obstacles. The most likely outcome, therefore is, the solution of a reinforcement of the existing system of specific purpose grants through the Structural Funds and the recently agreed Cohesion Fund.

V — Macro-stabilization and shock absorption

In this section, three main subjects are addressed. First, the possible role of the Community in helping Member States to cope with asymmetric shocks is given consideration. In the perspective of EMU this is a core issue since the disappearance of the exchange rate as a national adjustment mechanism, combined with the loss of monetary policy and the growing openness of Member States' economies, raises difficult problems for the stabilization of fluctuations in economic activity caused by asymmetric disturbances at the regional or national level.

This issue is dealt with in the papers by Charles Goodhart and Stephen Smith, Alberto Majocchi and Mario Rey, Theodoros Papaspyrou, and Alexander Italianer and Marc Vanheukelen, most of whom are definitely in favour of Community assistance to Member States for stabilization purposes, and look at possible assistance mechanisms from different angles. The principal conclusion is that inexpensive and effective stabilization support schemes could be operated at EC level, but the Maastricht Treaty on European Union does not provide an appropriate legal base for such schemes.

Secondly, empirical results are provided on the extent to which central public finance assists regions to absorb specific shocks in existing federations and unitary States. Whereas the MacDougall Report focused on the redistributive effect of central public finances, the analysis offered here puts a greater emphasis on the 'pure' stabilization effect. The papers by Goodhart and Smith and by Jean Pisani-Ferry, Alexander Italianer and Roland Lescure review the existing literature; attempt to reconcile apparent inconsistencies in approaches and results; and provide new empirical findings based on their own original methods of estimation.

Thirdly, the question is examined as to how the Community might best respond to symmetric shocks, i.e. those facing the Community as a whole. Compared to existing unions, the Community, of course, will be unique, with a centralized monetary policy and almost completely decentralized fiscal policies. This question is briefly discussed in the papers by Goodhart and Smith and Majocchi and Rey which agree that the main instruments for Community-wide stabilization will have to be a single monetary policy and the coordination of national budget policies. Both papers also point to the limits of coordination even if they evoke different reasons and different possible ways for overcoming them.

Concerning the first issue, i.e. the Community's role in helping Member States to cope with asymmetric shocks, the paper by Goodhart and Smith first clarifies the distinction between stabilization and redistribution. 'Differences in the level of fiscal variables that are functions of the level of economic activity are essentially redistributive whilst differences in fiscal variables that are a function of the rate of change of economic activity constitute stabilization'. After this clarification, they establish the need for stabilization by way of the purported failure or sluggishness of markets to clear, whether by means of wage flexibility or by migration. Moreover, they argue that a combination of externalities and the wish for insurance, among risk-averse agents, implies that the Community should help Member States to absorb asymmetric shocks once national monetary/exchange-rate policies have been given up. With similar arguments, Majocchi and Rey also come to the more general conclusion that there is a strong rationale for a Community role in stabilization policy.

The paper by Papaspyrou looks into the scope which the Maastricht Treaty on European Union provides for granting Community financial assistance to Member States. According to Article 103a, the Community can assist Member States in difficulties or seriously threatened with severe difficulties caused by exceptional occurrences beyond their control. Even compared to the present Article 108, providing for mutual assistance to Member States facing balance-of-payments difficulties, the new provisions cannot be considered as a major step towards a genuine Community stabilization mechanism. There are the following main reasons for this:

the mechanism is discretionary, with a unanimity requirement (except for cases of natural disasters), which is likely to cause very long decision lags; the financial aspects, in particular its funding and the form (loans or grants or a combination), are unspecified, will further contribute to the decision lag and might also give rise to substantial implementation lags; and, most fundamentally, the limitation of the mechanism to 'exceptional occurrences' beyond the Member States' control makes it probably inoperational for most asymmetric shocks of an economic nature.

An alternative, more similar to what was proposed by the Commission in the run-up to Maastricht (i.e. a special financial support scheme), is taken up by Majocchi and Rey.[1] Their paper discusses different possibilities for the design of such a mechanism and comes to the following broad conclusions. The mechanism should be activated in a discretionary form if the shock is not due to policy failures of the applicant Member State. The assistance should consist of grants and loans of up to 1% of the GDP of the recipient Member State or up to ECU 5 billion. A first tranche equal to 25% of the maximum aid should be activated automatically thus at least partly avoiding the decision time-lag. The assistance should be conditional, and the established conditions should be fulfilled by the receiving country in order to promote convergence of economic performance.

Goodhart and Smith assess such a special financial support scheme and come to the conclusion that it would be 'of a relatively limited value, as a pure stabilization mechanism, whatever its other economic and political values may be'. Their judgement is based on the restrictive nature, the structure and, above all, the long inherent lags in the proposed mechanism.

Goodhart and Smith therefore argue in favour of alternatives which would be based on the following principles. According to them, a stabilization mechanism must act fast, preferably automatically, to be effective, since downturns have a relatively short duration. Measurement errors are seen as the main problem in devising such a scheme: there is thus a need for a rapid, verifiable and relatively accurate measure of fluctuations in real income. A further requirement is that the Community assistance to the Member State needs to be capable of being passed on rapidly in order to achieve a calculable effect on individual incomes.

The question of interregional stabilization in existing federations and unitary States is dealt with in the papers by Goodhart and Smith and by Pisani-Ferry, Italianer and Lescure. Both contributions take as a point of departure the apparently divergent results with regard to the stabilization properties of federal tax and transfer systems in the USA, as estimated by Sachs and Sala-i-Martin on the one hand and von Hagen on the other. Goodhart and Smith point to the weaknesses in the regression approach: the errors in variables problem, the specific issue of simultaneity in the relationship between fiscal variables and income, the nature of income data, which is often derived from tax statistics, and the absence of plausible dynamics in the estimated models of the changes in income and fiscal variables. Consequently, they put forward an alternative estimation possibility and exemplify this by using the Institute for Fiscal Studies tax and benefit model. The average offset to a 1% increase in income resulting from changes to tax payments and social security entitlements is estimated at 34% for the United Kingdom.

The paper by Pisani-Ferry, Italianer and Lescure demonstrates that the origin of diverging regression results may be due to confusion of redistribution and stabilization properties of tax and transfer systems. Again an alternative to the regression approach is put forward: the paper uses a two-sector simulation model for a federal and regional government, which is calibrated to simulate stabilization properties in the USA, Germany and France. With this approach, the degree of stabilization found in France is 37%, i.e. of the same order of magnitude as the Goodhart and Smith estimate of 34% for the United Kingdom. The weakest degree of stabilization is found for the USA with 17%; in Germany the degree of stabilization varies between 34 and 42%, depending on the working of the 'Finanzausgleich'.

From their analysis, Pisani-Ferry, Italianer and Lescure draw the conclusion that monetary unions can be viable with lower degrees of stabilization provided by central finances than often is assumed. Moreover, stabilization in EMU at the Community level is less necessary than in existing federations, due to the greater autonomy of Member States regarding spending and taxation decisions.

Based on the principles put forward by Goodhart and Smith, and the results on interregional stabilization in existing federations, the paper by Alexander Italianer and Marc Vanheukelen discusses concrete proposals for two types of stabilization mechanisms, one which would operate automatically for asymmetric shocks of all sizes, and a second which would be activated, either automatically or in a discretionary fashion, only in the case of severe asymmetric shocks beyond a certain threshold. The mechanisms are based on indicators

[1] In addition, they discuss and evaluate positively some of the policy ideas of the MacDougall Report, such as cyclical grants to local and regional governments and a conjunctural convergence facility. Moreover, they advocate reform of the European fiscal system through introducing new revenue sources with higher automatic flexibility.

of unemployment rates. According to Okun's law the changes in the unemployment rate are related to deviations of GDP from trend growth; an estimation for all 12 Community countries using annual time-series data for the period 1981 – 90 gives a highly significant coefficient estimate for this relationship. On the basis of this, simulations are carried out to illustrate how the mechanisms would have worked over the past decade.

On the basis of these simulations, the paper arrives at the following conclusions. With an estimated annual cost of about 0,2% of Community GDP, a full stabilization mechanism could be set up which, on average, would provide approximately the same degree of stabilization as in the USA. Such an inexpensive and effective stabilization scheme is possible since it is explicitly designed for this purpose rather than being the automatic, implicit, consequence of much larger budgetary flows serving mainly other purposes, as is the case in existing unions. Similarly, a limited stabilization scheme can be devised at equal or lower cost to provide a reasonable degree of stabilization in the case of shocks above a certain threshold. The overall degree of stabilization will depend mainly on three factors: the threshold above which Community assistance is operated, and the size and ceiling level of assistance per Member State. If the Community were to go along this road for stabilization, which would probably require a future change in the Maastricht Treaty, these variables would have to be decided upon politically.

The question of how the Community might best respond to symmetric shocks is briefly addressed in the papers by Majocchi and Rey and Goodhart and Smith. Majocchi and Rey recall that in all existing federations the task of macroeconomic stabilization in the event of symmetric shocks is attributed to the federal level, and rightly so from the fiscal federalism point of view.

Both papers underline the unique feature of the Community fiscal system, compared to existing federations, that budgetary policy remains almost entirely decentralized, with a 'central' EC budget of just above 1% of GDP. They also agree that, therefore, the Community's role in responding to symmetric shocks will have to reside primarily in the coordination of national budgetary policies rather than direct fiscal action and that coordination is a necessary, but certainly not a sufficient, condition for the effectiveness of Community stabilization. In any case, the inherent time-lags in the process of coordination would imply that the response will have to concentrate on the medium rather than short-term conjunctural changes.

Even so, Goodhart and Smith point to the basic technical problem of common statistical definitions and data and the more political issue of differing models and appreciations of the world which will make it difficult to convince Member States that their policy is not optimal and that it needs to be changed. In addition to peer pressure, they also suggest the possibility of sanctions.

Majocchi and Rey doubt whether spillovers of national budgetary policies will be properly taken into account in the coordination process and postulate that in a political framework that is evolving towards a true federation, direct Community stabilization action should be envisaged as operating through three channels: a bigger budget, the capacity to run deficits and surpluses, and automatic stabilization characteristics of the EC own-resources system.

VI — Financing the Community — Revenue sources, borrowing and lending

Three papers address the issue of financing Community activities under EMU and beyond. The paper by Bernd Spahn deals mainly with revenue sources for covering Community expenditure but also briefly discusses access to capital markets and deficit financing. Joost Kuhlmann's contribution focuses on internal borrowing and lending, whereas that of Vassili Lelakis deals with the Community's medium-term loans to third countries, which have recently been developed in a significant way.

Spahn examines which taxes should be allocated to the Community as 'own resources'. This examination is based on economic, administrative and equity considerations and against the background presumption that there is a strong case for tax diversity. As a 'powerful decision rule', a potential candidate is discarded if either the tax is unlikely to become an exclusive (or joint) tax for the Community budget or it is not conducive to tax-base harmonization.

The discussion by Spahn of VAT is linked closely to present and future harmonization efforts. As there is a political agreement to move, in the future, to the origin principle for VAT collection (with some exemptions) but no willingness to accept the distribution of tax receipts between Member States on this basis, a clearing fund will have to be operated, implying an increased role for the Community. Spahn considers it to be likely that this would lead, in the longer run, to a 'fully-fledged tax-sharing scheme with horizontal perequation (i.e. equalization) effects'.

With regard to excises, Spahn considers the Community role as likely to remain more modest, despite the fact that they tend to be centralized in several major federations. For alcohol and tobacco taxation, the principle of subsidiarity supports national autonomy, mainly for health-care reasons. For energy taxation, the major obstacle is seen to be the loss of national tax revenue.

Spahn argues that personal income tax is inappropriate as a Community own resource[1] as it is the core of Member States' taxing autonomy, and it has important policy functions such as interpersonal redistribution with which the Community should not interfere. Spahn also rejects Biehl's proposal of a progressive surcharge on national income taxes, for a number of reasons, in particular the subsidiarity principle for vertical fiscal relations. Nevertheless, he sees a potential for EC surcharges if tax bases are harmonized and regional inequities are avoided.

Spahn discusses the present profit-based corporate tax, as well as an origin-based corporate cashflow alternative, in considerable depth. Great advantages are seen for the latter to be introduced and to become a Community own resource. The case for the present corporate tax to become a Community revenue source is found to be complex. On the one hand, locational non-neutrality and apportionment difficulties call for a stronger EC involvement. On the other hand, the integration with the personal income tax implies that Member States' autonomy will have to be respected. The radical solution of a uniform Community tax is unlikely to be politically viable.

Ecotaxes (in particular, a carbon tax) and central bank profits are seen by Spahn as the most promising new own-resource candidates for the Community budget. A carbon tax is suitable for fiscal federalism reasons (in particular the presence of spillover effects) and because it might lead to competitive distortions if left in the hands of Member States; it is also attractive on political grounds. A potential vertical imbalance could be overcome by tax-sharing or general revenue grants from the Community to Member States; in both cases, likely incidence inequalities between Member States could simultaneously be rectified.

The case for allocating central bank profits to the EC budget is considered by Spahn to be 'extremely strong', in particular on the basis of the regional arbitrariness criterion, i.e. the same grounds as for customs duties which are already genuine Community own resources. Even if there is political resistance in the early EMU years, as witnessed by the provisions in the Maastricht Treaty on European Union, the economic rationale is likely to gain ground in the longer term, as indicated by the historical experience of most existing federations.

[1] The same judgment is passed on net wealth taxes for equity, efficiency and administrative reasons. Also, a larger scale extension of user charges to the Community level is not recommended.

Finally, under the heading of access to capital markets and deficit financing, Spahn comes out in favour of the Community having the power to finance Community level capital outlays by loans, as long as there is also the economic constraint of 'limiting EC loan finance for an investment project to the regular cashflows earmarked for the servicing of the debt'.

At present, the EC budget has to be balanced, thus excluding the possibility of borrowing for Community expenditure, be it current or capital. Nevertheless, the Community is active in investment financing through its loan and loan-related instruments which are the subject of Kuhlmann's paper. Its theoretical part tackles the rationale for loan financing and the conditions for the optimal use of loan instruments. In the case of market failures, i.e. when externalities are present or financial markets are incomplete, public loan instruments are seen to be potentially useful for allocation policy but great care needs to be taken in their design and operation in order to ensure effectiveness and efficiency and to minimize potential intergenerational inequity.

Moreover, Kuhlmann addresses the question: 'What is the role for loan instruments at Community level?'. The existence of cross-border and Community-wide externalities is seen as an economic justification for Community interference with resource allocation. This would point, in particular, towards a strong EC involvement in the provision of European-wide infrastructure networks. In EMU, the case for Community lending activities will on balance be weakened because financial markets will become more complete.

In the applied part of the paper, Kuhlmann describes and assesses the existing Community instruments and provides options for their reorganization. Clear advantages are seen in entrusting all Community loan instruments for internal investment to the European Investment Bank, as long as the Commission and the Council have sufficient influence to ensure that Community policy objectives are fully attained.

The short contribution of Lelakis on 'Community medium-term loans to third countries' recalls their origin and the recent dynamic developments, describes their functioning, and suggests the need for a new legal framework decision. 'This would clearly be an opportunity to rationalize and circumscribe the use of that forceful instrument of the Community's external financial policy'.

VII — The budgetary process and managerial aspects

In their paper on 'Decision-making, discipline and flexibility', Jean-Pierre Baché and Charles Groutage note that the Interinstitutional Agreement of 1988 has been quite successful in achieving the objectives of budgetary discipline, forward planning and a reorientation of spending priorities away from agriculture towards other Community policies. Moreover, the Maastricht Treaty should further improve budgetary decision-making by involving Parliament more deeply in the legislative decisions which give rise to expenditure requirements.

However, Baché and Groutage see a need for substantial further reform. For the sake of better cooperation between the two arms of the budgetary authority (the European Parliament and the Council) and more effective discipline, they argue for the elimination of the distinctions between the areas of budgetary responsibility of the two institutions, notably by abolishing the distinction between compulsory and non-compulsory spending and by giving Parliament powers in relation to the raising of revenue. To ensure that the budget is coherent and respects legal commitments and the limits imposed by budgetary discipline, Baché and Groutage also see a need to allow the Commission to intervene in the course of the budget negotiations in order to amend its initial proposal in the light of agreements reached by the budgetary authority. The continuation of medium-term planning, on the lines of the financial framework implemented in the period 1988-92, is essential for improving the budgetary procedure while ensuring an orderly development of expenditure. Nevertheless, a greater margin of manoeuvre should be introduced for the unforeseen, for instance, the establishment of a contingency reserve to deal with exceptional events (such as the Gulf War) and the incorporation of a reserve to cover risks arising from the Community's loan guarantees.

On the other hand, Baché and Groutage support the continued application of the requirement to balance the Community budget. They see the prohibition of deficit budgeting as a key factor in ensuring budgetary discipline which should not be abandoned since the Community would in any case lack the macroeconomic policy instruments and spending power necessary to conduct an effective counter-cyclical policy.

Charles Groutage's paper on 'Cost-effective decentralized management and accountability aspects' addresses the question of control of the management of Community expenditure in relation to the subsidiarity principle. The special difficulties of financial control in the Community context arise from the fact that the Commission has to share responsibility with public authorities in the Member States; in some cases the chain of delegation may be extremely long. However, the principle of subsidiarity requires more delegation of spending powers and the avoidance of excessive controls which could put at risk the consequent efficiency gains.

The Commission is therefore faced with the difficult problem of balancing the need for control of the legal regularity and the efficiency of expenditure against the costs in terms of both resources employed in the control function and efficiency gains forgone. Groutage's proposals for improvements in the existing system of control operated by the Commission include the following: the Commission should pay more attention to the assessment of the general performance of national administrations in executing Community policies; moreover, the Commission's own audit activities should be the subject of an annual report: and the formal regularity audit, as applied to the clearance of agricultural accounts should be extended to cover all budgetary expenditure made through agencies in the Member States.

Finally, Groutage recommends that efforts should be made to extend the subsidiarity principle to the audit activity itself, perhaps by delegating the audit of Community spending in each Member State to a special unit set up within the national audit office.

Part 1

Fiscal federalism in theory and practice

I — Federal theory and EC functions

Fiscal federalism: An overview of issues and a discussion of their relevance to the European Community

Cliff Walsh (with contributions by Jeff Petchey)

Contents

Summary

The international literature on fiscal federalism is surveyed in a broad-ranging way in this paper, with particular emphasis on developments since the publication of Wallace Oates' (1972) treatise. The literature provides valuable theoretical and empirical insights into the nature and significance of federal fiscal structures. In particular, it addresses the following issues: the allocation of spending, regulatory, and taxation functions; the policy consequences of mobility; the design of grants; the implications of competitive and cooperative styles of federalism; and the impact of federal fiscal arrangements on public sector size.

The literature certainly has argued that fiscal structure matters: i.e. the degree of fiscal centralization or decentralization is claimed to affect the way the public sector operates, and to affect the package of public sector services that are likely to be offered, the way that they will be provided, and the way that they will be financed. However, while there unquestionably are important lessons for the European Community to draw from federal theory and practice, the unique constitutional and political arrangements in the Community render much of the traditional federalism literature of limited direct application to the Community. Other features of European integration, at this stage in its development, also render many of the concerns of the literature of less-immediate interest to the Community.

For one thing, because it is targeted at decisions relevant to mature federal unions, fully equipped with democratic institutions at all levels of government, application of the traditional literature in the context of the Community's unique institutions is problematic. For example, literature on joint decision-making under more-or-less unanimity requirements — for in-period as well as constitutional decisions — points out that Community-style decision-making can make transferring functions to the central level more than usually hazardous.

In addition, the existing literature has little to say about the dynamics of the evolution of new federal-type structures, although some recent contributions to the theory of federation, such as those of Breton and Scott (1978), have the potential to offer valuable insights. This is an area of analysis that requires much greater attention from an EC perspective, with its evolutionary approach to extending and deepening European union.

Moreover, while there are clear links between the discussion of the decentralization theorem in the fiscal federalism literature and the principle of subsidiarity emphasized within Europe, the literature offers little guidance on the practical problem of deciding when cross-border influences necessitate a substantial transfer of competences to a higher level jurisdiction. The work of Breton and Scott on the roles of administration and coordination costs on the one hand, and signalling and mobility costs on the other, offers some promise in this regard, but the issue remains to be fully explored, including consideration of the role of cooperation and coordination in fiscal decision-making.

It also needs to be recognized that, while the existing literature allows for heterogeneity, the degree of heterogeneity typically assumed is much less extreme than that involved in the Community as a result of political, cultural and linguistic differences, which are further reflected and reinforced through the peculiar decision-making mechanism involved in the Council. Differences in preferences may be sufficiently large in the Community to suggest that to transfer to the Community level many of the functions naturally allocated to central governments in theory and in practice elsewhere (including defence, foreign policy, minimum standards of social security, health and housing, and fiscal equalization, for example) would impose excessive uniformity costs, notwithstanding the existence of possible 'jointness' efficiencies.

Finally, for related reasons, the very substantial literature involving questions about the effects of mobility on fiscal arrangements — including interpersonal and interregional transfers — may be of much less relevance to Europe, where labour market and residential mobility is likely to remain more limited for some time, relative to that which naturally occurs within existing mature federal nations.

Overall, although the existing fiscal federalism literature and federal experiences may offer insights into constructing the new European model, they do not offer anything like a blueprint — especially one that can guide the dynamic, evolutionary process through which institutional arrangements and policies are being developed in the Community.

1. Introduction

Although federal forms of government have existed in a significant number of countries for a long period of time, in recent years there has been a resurgence of interest worldwide in what might loosely be called 'federal forms of government'. In some cases, this emerging interest has arisen principally from tensions within existing federations: Canada, the former Yugoslavia and (in a class of its own) the former Soviet Union provide obvious examples. In other cases, interest arises because of the emergence of new federal or federal-type forms of government: this applies, for example, in Belgium (most dramatically in the European Community), and (again, in a class of its own) recently in the former Soviet Union.

Even where structures of government are reasonably well established, new experiments are being attempted. For example, new levels of government have emerged to address new demands made on public sector decision-making, such as has occurred, for example, with the creation of metropolitan levels of government in Canada, the United States of America and the United Kingdom. And, in otherwise largely unitary countries in Latin America and Europe, and in China, greater emphasis is being placed on the possible advantages of fiscal decentralization as a means of creating better, more efficient and more responsive government.

Moreover, in mature federations where basic structures seemed settled, there has been a substantial reopening of debate. In Canada, problems arising from cultural and linguistic differences between Quebec and the rest of Canada have brought forth a flurry of recommendations about whether, and if so how, constitutional structures might be changed to accommodate the notion of Quebec as a distinct society. In Germany, both unification with East Germany and tensions associated with a perceived *de facto* loss of sovereignty by subnational jurisdictions as a result of EC decision-making procedures have created a desire for a rethinking of the role of government.

Even in Australia, far away from tensions in the rest of the world, and with a relatively homogeneous population and a well-integrated set of regional economies, questions about the federal structure have been raised as part of an ongoing debate about the need for national economic restructuring to produce better economic performance and a better quality and delivery of government services.

What the literature on fiscal federalism can contribute to an understanding or evaluation of these issues, or what advice might be derived from it that would be helpful to addressing the problems and issues, is an open question. The literature certainly has argued that the fiscal structure matters: i.e. the degree of fiscal centralization or decentralization is claimed to affect the way the public sector operates, and to affect the package of public sector services that are likely to be offered, the way that they will be provided, and the way that they will be financed. While there unquestionably are important lessons for the European Community, and other emerging unions, to draw from the traditional public finance/fiscal federalism literature, it needs to be carefully assessed what is, and what is not, immediately relevant in the literature.

In effect, much of the traditional literature either assumes the existence of a federal or multilevel structure of government and attempts to offer a rationale for the fiscal structure associated with the political structure, or more generally assumes the existence of a government and a fisc and asks, why decentralize? The assumption that the comparison is between a multilevel government structure, including a well-defined central government on the one hand, and a unitary government structure on the other, obviously limits the applicability of the traditional literature to the problems that are faced by emerging unions, particularly in the European context (and, to a large extent, also in the former Soviet Union). The contrast with the current distinctive (but, in a sense, limited) European Community fisc and related political institutions is self-evident.

Moreover, little of the existing fiscal federalism literature has much to say, directly or indirectly, about the dynamics of the evolution of unions of States. If it has anything to say about the process of formation of unions (as opposed to the redesign of existing fiscal systems), its insights are more immediately targeted at decisions relevant to the establishment of more-or-less fully-fledged federal unions, to be fully equipped with traditional (parliamentary or congressional) democratic political institutions at all levels of government.

In this paper, in the context of an overview of the fiscal federalism literature and recent developments in it, a distinction is drawn, where possible, between the lessons that can and those that cannot appropriately be applied in the context of emerging new unions, with reference to the European Community in particular. It will be clear, however, that in many respects the paper suggests a need for the development of an alternative approach to thinking about the fiscal issues involved in the formation of new unions where the structures of mature federations cannot be assumed already to be in place or likely to be adopted in their entirety even as a result of evolutionary processes.

The paper proceeds as follows. In Section 2, the question 'why federal-type fiscal structures?' is posed and different answers offered. Section 3 provides an analysis of the distribution of allocative (and, to an extent, regulatory) functions within federal-type systems, and in Section 4 the question of the allocation of taxing powers is briefly addressed. Section 5 briefly examines issues relating to mobility in federal-type fiscal systems, including how mobility affects redistributional policy in federal systems. Section 6 discusses the roles of intergovernmental grants and considers principles of fiscal accountability in order to examine further some of the traditional assumptions about the roles and functions of governments in federal systems, especially in relation to fiscal equalization and macroeconomic management. Section 7 offers a brief discussion of the (often simplistic) models of political processes contained in the fiscal federalism literature, and of recent work assessing the connection between fiscal decentralization and public sector size and performance. Section 8 offers concluding remarks built around distinctive features of the Community.

2. Why federal-type fiscal structures?

In the traditional fiscal federalism literature, the question of why there should be a federal-type fiscal structure, or multilevel government more generally, has typically been posed as a question about why decentralization should occur. Typically, the analysis starts from an implicit assumption that there exists a central or federal government and that the question at issue is why a subfederal government structure with independent fiscal responsibilities should be developed. That this is a framework of limited direct relevance to the European case will be self-evident. None the less, the analysis contains insights that are useful to the EC situation and will be briefly sketched before turning to ask the converse question — why would a system of sovereign States wish to form an economic and (ultimately) political union?

It is also typically assumed or asserted in the discussion on the decentralization of fiscal powers, or more generally the choice between centralization and decentralization, that the principal question revolves around allocative functions of government. It is assumed that distributional and macroeconomic management functions are assigned to the central or federal government. There are good reasons for wanting to question this traditional presumption (and, indeed, the theorems upon which it is based), but these will be discussed later (Sections 5 and 8 respectively). For the moment the focus will be essentially on the question of the allocative functions of government.

2.1. Correspondence and decentralization

The classic statement of the case for decentralization is contained in Wallace Oates' (1972) treatise on fiscal federalism, in which he draws together ideas articulated less formally in earlier works (for example, Stigler, 1957; Musgrave, 1959) in the form of the dual notions of perfect correspondence and the decentralization theorem.

If there exists a variety of public goods (i.e. goods, in their purest form, for which units, once produced, can be fully and equally shared by groups of individuals: see Samuelson, 1954, 1955; Burns and Walsh, 1981) which have different spatial benefit boundaries, or for which different subsets of the population constitute an optimal consumption group — i.e. we can distinguish between, for example, global public goods, regional public goods and local public goods — Oates' perfect correspondence notion suggests there should, in principle, exist a level of government to supply each of these separate public goods. If we disregard preference revelation problems and assume that each level of government is able to impose benefit taxes on the members of its jurisdiction, then with different governments responsible for different public goods, exclusively available to its jurisdictional citizen/voter/taxpayer/service beneficiaries, optimal outputs would be produced in each region. Of course, in practice such a government structure is entirely unlikely, but at least as a bench-mark for the development of a second-best structure, the perfect correspondence theorem provides a picture of why a public sector structure with a variety of subfederal government as well as a federal or central government might a priori be appropriate. (Olson's (1969) equivalence principle conveys a similar message matching benefit areas/groups with political, or fiscal, accountability groups.)

What has never been entirely obvious, however, is why a system of lower level government is strictly required by considerations of the spatial dimensions of public goods (or, more generally, of consumption clubs). If a central government could identify the differing demands for local public goods in different regions and provide quantities, then it could, in principle, also achieve an efficient outcome. To make a convincing case for federalism, something more than perfect correspondence (or any practically feasible approximate correspondence) is needed.

This is provided by Oates (and many others) by the introduction of a uniformity constraint on government provision of public goods and services. If governments are constrained to supply more-or-less uniform quantities of any service they provide, and preferences differ systematically between regions for quantities of public goods, then a central government will be unable to meet the different requirements of different regions for local public goods. Oates' decentralization theorem then follows more or less immediately. It will always be more efficient (or at least as efficient) for local governments to provide the preferred levels of output for their respective jurisdictions than for the central government to provide any specified and uniform level of output across all the jurisdictions.

Clearly, Oates establishes his case for decentralization essentially by imposing an assumed constraint on the capacity of higher level government to respond to differences in local preferences. In principle it would be preferable for the uniformity constraint itself to be deduced from some aspects of political decision-making that require governments to behave in this way. However, the standardization of services provided by governments does seem to be observed in practice, and might well be explained as a result of political decision-making processes (such as would be implied by application of the median voter rule).

None the less, the decentralization theorem, strictly speaking, only holds when comparing a first-best decentralized solution with a second-best centralized solution. We know there are likely to be market failures associated with decentralization itself. The most important and well documented of these are benefit or cost spillovers between jurisdictions (because correspondence cannot be made perfect), which may not be internalized in federal systems. If there are significant externalities associated with the decentralized provision, then Oates' decentralization theorem provides a less-than-full justification for a decentralized fiscal decision-making structure.

Oates' treatment of the question 'why decentralize?' has been embellished in a number of ways by a number of authors. For example, the development of the theory of club goods (see, for example, Cornes and Sandler, 1986) has provided a much more rigorous analytical treatment of the notion of the correspondence principle and the related decentralization theorem. In a somewhat different direction, the idea that decentralized decision-making brings 'government closer to the people' has been given a formal treatment within the literature. In Tresch (1981) it is suggested that not only might governments be imperfectly informed about the preferences of citizens but that governments which are more distant from citizens may be subject to greater uncertainty about information. In this event, the expectation would be that governments closer to the people would be likely to produce outputs of local public goods and services closer to those required by their preferences, even if higher levels of government were not subject to the uniformity constraints suggested by Oates. Of course, as Tresch himself notes, while uncertainty may be a more compelling argument for fiscal federalism, it is in the end merely another variant of the inherently second-best nature of the decentralization theorem.

Another important line of argument which is supportive of decentralization and which more fully accepts the difficulties which governments face in obtaining the revelation of preferences for public goods in fact predates Oates' work. This is the argument contained in Charles Tiebout's (1956) seminal article, in which he hypothesizes the existence of a significant number of local governments offering different menus of service levels and taxes, and suggests that if people move between local jurisdictions to that which best matches their preferences for public services then, in effect, preferences for local public goods will be revealed and an efficient sorting of individuals between jurisdictions will occur. Subsequent literature has identified the number of provisos that need to be made to Tiebout's analysis, including recognizing the fact that decisions by individuals to move can create 'fiscal externalities'. None the less, within a framework considering the decentralization of fiscal functions, his emphasis on mobility and implicit forms of competition between jurisdictions contains valuable insights.

In a more recent analysis which departs completely from the standard assumptions of the fiscal federalism literature, Brennan and Buchanan (1980) provide an alternative rationale for federal structures. In order to test the worst possible outcomes against which political and fiscal constitutions need to protect citizens from potentially coercive governments, they model governments as revenue maximizing leviathans. One effective constraint on the taxing powers of a leviathan central government, they suggest, would be to disperse at least part of its powers to a number of competing subnational jurisdictions. Interjurisdictional competition — in particular, tax competition — constrains the use of taxing powers by competing governments relative to the revenue that might be raised by a monopoly central government. Although a number of challenges have been made to the Brennan and Buchanan hypothesis (especially empirically: see Section 7), it certainly is highly suggestive and, of course, strongly redolent of the arguments of the founders of the American Constitution in their consideration of the design of good government.

It is in these and other related ways that the existing fiscal federalism literature has tackled the question 'why federal-type fiscal structures?' As will be clear in later sections, the approaches to the question of fiscal structures which have flowed from decentralization theorems do offer some useful insights, even where the question 'why decentralize?' is not directly a relevant question. None the less, it does seem important and useful to recognize that the question to be posed for Europe and, to an extent, for the former Soviet Union, is largely the opposite — why 'federate', or why centralize functions?

2.2. Towards a theory of federation

To an extent, the answer to the above question can be derived simply by turning the traditional analysis on its head and observing that there are advantages in having public goods which provide benefits across a number of jurisdictions, jointly provided in some cooperative or central arrangement, rather than separately in individual jurisdictions; or that leaving public sector decisions entirely to independent autonomous political limits can result in a failure to take into account interjurisdictional (cross-border) spillovers. However, it seems useful to attempt to formalize this notion somewhat and put it into a broader perspective concerning the advantages of creating unions of States, whether federal or confederal (or even unitary, but multilevel) in nature.

Indeed, many federations have been created essentially from the bottom up — from autonomous political and economic jurisdictions making an explicit decision to create a union — and therefore can be thought of as voluntary coalitions of semi-autonomous entities. Setting aside a wide variety of purely political and cultural aspects, federations, confederations or unions generally are more typically born to take advantage simultaneously of a number of economic and social benefits that can flow from unions. These include the benefits of internal free trade and a common external tariff associated with customs unions, the wider benefits that can be reaped by the establishment of an economic union with a 'single market' and single currency, and the benefits to be reaped, ultimately, from providing some public sector goods and services in common for all constituent units of the union.

A recent analysis of the costs and benefits of federation (which can be thought of as a parable for all of these potential sources of benefit) is provided by Petchey and Shapiro (1991). They examine the trade-off between the benefits of federation in the form of 'jointness' economies, providing supranational public goods and associated tax price benefits, and the costs of federation arising from the uniformity of centralized provision of the public good post-federation, which arise from the assumption that the level of public goods output is determined by reference to the median federal preference.

Uniformity of centralized provision of public services, implied by use of the median voter rule to determine their output, imposes costs on regions that are distant from the median in their preferences. The less dissimilar regions are in terms of preference regarding public goods, the smaller the uniformity cost of federation is that needs to be set against the potential jointness efficiencies in the provision of the public good. Over some ranges of preferences, the tax price benefit outweighs the uniformity cost and all regions can gain directly from federating.

However, if there is sufficient diversity in preferences, some regions may be net losers from federation, despite there being a federal surplus (or excess of benefits over the sum of what regions can obtain outside the coalition), or some may obtain shares in the benefits of federation which are regarded as too small, and can only be enticed into, or retained in, the coalition through compensating transfers from other participants in federation. Petchey and Shapiro thus argue not only that federation is a result of voluntary choice through the generation of a federal surplus, but also that transfers between members of the union may be important and necessary for the cohesion of the federal system, and the more so the more diverse the set of federating regions in terms of preference or other dimensions.

Although based on an examination of the benefits of the federal provision of public goods, the Petchey and Shapiro analysis evidently could be reformulated to apply to other potential sources of benefit from the formation of unions, whether from the formation of customs unions or economic unions more generally. Indeed, the modelling of unions explicitly as a cooperative arrangement between potential constituent members may offer powerful insights into not only incentives to form unions but also into the 'constitutional rules' or logical steps required to carry union from one stage to another.

For example, it might be possible to explain such phenomena as the constitutional requirements typically imposed on federal governments, i.e.: they apply their tax powers on a non-discriminatory basis across the constituent States, notwithstanding the fact that differential taxation is a way in which asymmetries in the benefits of union could be corrected, in terms of a desire to minimize the capacity of the central government to discriminate between taxpayers in different jurisdictions as a way of increasing the size of its revenue — i.e. to avoid exploitation. On the other hand, giving to the central government a power to make grants to other jurisdictions which itself can be used in a discriminating way between jurisdictions might be necessary in order to ensure that interjurisdictional transfers for securing the stability of the union are capable of being implemented, and acceptable because, compared to discriminatory taxation, discriminatory grant-making involves a high degree of openness and, hence, accountability.

Similarly, 'constitutional' rules governing access by different levels of jurisdiction to different tax bases, or requiring harmonization of bases or revenue-sharing, might be modelled in terms of trade-offs between the efficiency gains from the coordination or centralization of tax instruments, the need to facilitate equitable shares in the benefits of forming an economic and/or political union, and the need to constrain potentially exploitative behaviour by the central jurisdiction or coalitions of jurisdictions. These decisions, moreover, cannot be separated from those concerning the allocation of spending and regulatory functions, which can also be made more or less exclusive or concurrent.

Such considerations would also provide a theoretical basis for considering issues of disunion or secession. Indeed, as James Buchanan has emphasized in recent times, a power to opt out, or to veto arrangements, may be the only way of ensuring that the central authority within federal-type arrangements is ultimately capable of being restrained.

It is to be particularly emphasized here (and will be relevant to other considerations later) that the nature of political decision-making arrangements associated with the unions being analysed have an important role. One of the weaknesses of the extant fiscal federalism literature is that the political model underlying analysis is left implicit and frequently has no discernible real-world counterpart. What is reasonably clear, however, is that (based on dominant historical patterns in Western societies, at least) it is typically presumed that some form of representative democratic government (parliamentary or congressional) exists at all levels of decision-making. Consideration of other decision-making processes (for example confederal with veto and/or qualified majority voting, with varying degrees of involvement for representative assemblies as in the EC case) may considerably alter the analysis of appropriate divisions of power between jurisdictional spheres.

3. Allocative functions in federal systems

Whichever way one approaches the issue of the benefits of federal systems, there is broad general agreement that the reasons for federal or multilevel government fiscal arrangements derive from the fact that there are net ('jointness') efficiency benefits potentially to be had from distributing functions across governments with more, or less, inclusive jurisdictions over voters/taxpayers.

As noted earlier, discussions on the distribution of functions within a federal system have largely focused on allocative functions of government. Distributional and stabilization functions of government have not been ignored entirely, and in recent times the debate about the appropriate location of responsibilities or competences for distribution and stabilization has been reopened. For the time being, however, the focus remains largely on allocative functions of government. This is not to imply that issues of allocation, distribution and stabilization can be completely separated, but as far as possible the focus will be on issues that arise in the context of attempting to decide how allocative expenditure (and, to a lesser extent, regulatory) activities are appropriately divided between governments with interrelated distributional issues discussed only where necessary.

3.1. The allocation of expenditure functions

It is well known that the basis on which the allocation of expenditure functions between spheres of government has been discussed and prescribed within the fiscal federalism literature is to be found in consideration of the extent to which public goods benefits extend across the borders of constituent unit States; of the extent to which externalities generated by public sector activities or by other economic agents in one constituent State create cross-border spillovers; and the extent to which increasing returns to scale in the provision of public services suggests that provision by each jurisdiction separately would be inefficient.

Taking public goods provision as the paradigmatic case, it is suggested that where provision of the public good provides benefits that are national (or, in the European Community's case, supranational) in scope, then provision by a central authority would be appropriate provided preferences with regard to the provision of the public good are not too widely dispersed. (Defence and foreign relations are the usually cited examples, although minimum standards of social security provision are also sometimes presented as providing national or federal 'stability and cohesion' benefits.)

On the other hand, where public goods provide more localized or regionalized benefits, the standard presumption is that they are more appropriately provided at local or regional level (usually, at least in part, on the grounds that preferences will be better revealed when decisions are made closer to the people). This remains true even where the benefits may, to an extent, spill out to other jurisdictions as, for example, would be the case for the provision of regional roads that would be used by members of other jurisdictions or the provision of education where the recipients of education funded by one jurisdiction might move to work (using the public-sector-funded human capital invested in them) in another jurisdiction.

Basically the presumption here is that the degree of coordination required to secure efficient decisions by jurisdictions — coordination that would be secured, for example, by the provision of subsidies from a central fisc, or directly by negotiation between jurisdictions, where underprovision is otherwise likely — would not warrant a transfer of the function to a higher level of government. In other words, the costs of coordination are presumed to be smaller than would be the efficiency losses from having a higher level of government provide the service uniformly across all jurisdictions.

Much the same can be said for the other categories of decision-making failure likely to arise in federal systems — i.e. the more general case of externalities or spillover effects between jurisdictions and the case of increasing returns to scale. Indeed, the increasing-returns or economies-to-scale argument brings into particularly sharp focus the fact that it is not strictly the case that problems of coordination require the intervention of a higher, more inclusive, level government. There is no reason, in principle, why public services subject to substantial increasing returns to scale should not be organized cooperatively between a number of jurisdictions in order to reap whatever available economies exist between them, and there is indeed evidence of this happening voluntarily (especially among local governments). As in other bargaining contexts where 'free-rider' strategies may be potentially beneficial to individual participants, the number of relevant jurisdictions will be a crucial variable in relation to the efficiency of the outcome of such negotiations.

The concept coordination costs evidently must play a significant role in these decisions. It is a concept which in the traditional fiscal federalism literature has received less emphasis than it perhaps deserves, and certainly less emphasis than it already appears to receive in discussions within the European Community.

Indeed, the concept of subsidiarity now widely used in the Community — which can broadly be taken to imply that no government intervention at the central level is justified if activities undertaken at constituent State level involved no significant cross-border spillover effects — requires that considerations of coordination costs, as well as the costs of imposition of uniformity associated with centralization and the increasing difficulties for citizens of individual jurisdictions to effectively signal their preferences, are also taken into account in order that the principle of subsidiarity can be given real operational content where cross-border effects are present.

The only analysis in which coordination costs among others are given serious consideration in attempting to analyse the appropriate organization (and reorganization) of functions within federal systems is that by Breton and Scott (1978). They consider how a constituent assembly (under different assumptions about their motives) would make decisions about the distribution of functions between spheres of government, taking into account, on the one hand, the costs to citizens/voters of signalling and mobility associated with different public sector structures and, on the other hand, both internal administration costs and interjurisdictional coordination costs with those same alternative structures.

As with the more conventional fiscal federalism literature, which largely ignores coordination costs, Breton and Scott's analysis does not offer a simple recipe for deciding which expenditure functions within the allocative branch belong to which level of government independently of a careful analysis of circumstances on a case-by-case basis. None the less, it does warn against simple prescriptions readily applicable to all countries in all circumstances.

In the early stages of the formation of a federal-type arrangement, it may well be that some functions, which in more mature federations have been transferred to the central fisc, appropriately remain at the level of constituent State decision-making. For example, even in the case of defence and foreign relations, preferences of constituent member States may be sufficiently diverse that attempts to centralize and provide uniform levels of service may impose excessively high costs on members notwithstanding the substantial tax-price or other benefits that might conceivably arise.

The same situation arises with social security functions, which in mature federations typically tend to involve a substantial role for the central fisc. Provided minimum standards of social security provision are met, sufficient to secure social stability and cohesion within constituent States, the relative lack of homogeneity of redistributional preferences and relatively limited mobility may suggest that, in terms of both the costs of uniformity and the costs of coordination, the case for centralization initially is weak. Over time, community preferences may converge or the perverse consequences of mobile populations where there are substantial differences in redistributive policies between jurisdictions might ultimately dictate that there be some central coordinating or harmonizing role in relation to at least some aspects of social security, even if the entire function is not transferred to a central authority.

On the other hand, considerations relevant both to economic union, and to broader consideration of cross-border economic and social spillovers seem likely to dictate that a higher level of coordination be secured at an early stage in the formation of unions of States in relation to some expenditure (and regulatory) functions where principal responsibility will (and arguably should) remain with subfederal jurisdictions. Particularly obvious cases include integration and harmonization of transport networks (road and rail) and communications, and energy production and transmission networks, where both interjurisdictional spillovers and scale economy considerations apply. Even here, however, the necessary extent of the involvement of the federal or central decision-making level in negotiating agreements and/or providing specific purpose subsidy inducements is an open question: the potential benefits to the (subfederal) constituent States suggest coordination costs may not be excessively high for voluntary integration or harmonization.

It might also be the case that problems of limited appropriation by subfederal jurisdictions of the benefits of public sector support for research and development and/or probable economies of scale in, or the coordination of, research and development activities suggest similar needs for federal involvement in facilitating interjurisdictional agreements, and possibly in subsidizing coordination efforts. Likewise, and arguably more strongly, interjurisdictional (and ultimately global) aspects of environmental management and protection strategies strongly suggest a role in intergovernmental coordination arrangements for the federal level. More speculatively (but the more so the greater the desire for social and/or political aspects of union), aspects of education policy — especially at higher education level — including both spillover effects in the usual sense (for example from research) and a desire to break down cultural barriers might also appropriately be harmonized and subsidized through the central decision-making mechanisms and central fisc.

In a general sense, the underlying thrust of the discussion in the fiscal federalism literature on the distribution of allocative functions between levels of government is to emphasize the need to balance, on the one hand, advantages from centralization of some functions in the interest of obtaining 'jointness' efficiencies and/or reduced coordination costs, with, on the other, allowing for as full an expression as possible of regional diversity in preferences, experimentation in policy approaches and, indeed, competition between constituent States.

As was noted earlier, the notion of competition as providing a rationale for decentralization was initially assessed in an important paper by Charles Tiebout (1956). The concept of competition he had in mind involved the capacity of individuals to 'vote with their feet' — to choose jurisdictions which best met their preferences — as they might, for example, in considering alternative locations for themselves among local government districts proximate to their employment. Competition and mobility in this Tiebout sense has constituted the basis for an extensive literature on local public economies and their efficiency implications which is briefly discussed later.

However, in more recent work, Albert Breton (1987) has introduced another concept of competition in federal systems which has even more general applicability. In Breton's work, competition refers not to the choice by individuals between subfederal jurisdictions, nor to the static concept of price and output competition used in much economic theory, but rather to the more Schumpeterian concept of entrepreneurial competition. He has in mind competition between political jurisdictions, including at different spheres or levels of government, in the development of policies to satisfy the preferences of their citizens/voters.

The full ramifications of competition in this sense have yet to be worked out. However, one feature of federal-type arrangements and of the traditional fiscal federalism literature to which it particularly draws attention is the question of the extent to which functions are divided neatly and separately between spheres of government as opposed to concurrently between jurisdictions. The traditional federalism literature clearly paints a picture of a relatively neat and tidy allocation of functions between different levels or spheres of government; for example, defence at one level, education at another, the provision of local roads at another, etc. Both in practice and in principle there seems no reason for supposing that a neat and tidy allocation of non-overlapping functions is either likely or indeed desirable. Conceptually, for example, there is no reason why citizens/voters should not have the choice between sending their children to schools provided by either regional governments or national governments any more than there is any reason to preclude them from choosing between a government-funded education on the one hand and privately provided education on the other.

Federal-type systems make individuals into citizens/voters of several overlapping jurisdictions simultaneously. They will attempt to persuade any or all of these jurisdictions to meet what they perceive to be their needs, and we can expect competition between spheres of government for political support to result in their wanting to satisfy the needs of at least the decisive groups of voters irrespective of notional or constitutional allocations of responsibilities.

Notwithstanding the apparent preferences or expectations of economists and public administration specialists, the *de facto* allocation of expenditure functions and more generally of policy-making within multilevel government systems will not obey simple rules that ensure neatness, tidiness and smoothness. Nor, indeed, do appropriately interpreted political principles suggest that neat and tidy separations of functions are desirable. Appropriately conceived, federal principles suggest sharing as well as the division of functions between governments, as a means of strengthening political checks and balances through interjurisdictional competition.

The word 'competition', which in standard economic analysis has substantial connotations of virtue, has often been taken in the analysis of federal fiscal arrangements to imply waste and inefficiency, overlap and duplication, and, ultimately, attempts by governments to steal a march on one another in inefficient and inappropriate ways. This is particularly often the case when discussing the regulatory functions of subnational governments, and a brief discussion of some recent literature on regulatory functions and competition may be appropriate to dispel some of these suppositions.

3.2. The allocation of regulatory functions in multilevel government systems

It is beyond the scope of this paper to discuss the general issue of where regulatory approaches to public policy are appropriate. Moreover, the question of the distribution of regulatory functions within federal systems has not been extensively discussed in the literature despite the increasing incidence and importance of regulation. However, recent papers dealing with environmental regulation in federal systems offer some insights which may be valuable to discussion of regulation more generally. In any event, given the efforts of the European Community to harmonize environmental policies, the relevance of the discussion will be partly self-evident.

It seems reasonably clear that, as in other contexts, where there are substantial interjurisdictional spillovers associated with pollution, or environmental damage in other forms, some coordination or harmonization of policies is appropriate and desirable. However, for a number of problems the benefits and costs of environmental control are likely to be regional or even quite localized and, in principle, it would appear likely that the efficient level of environmental control would vary between jurisdictions. None the less, it has often been argued that local or regional jurisdictions would be likely to adopt inappropriately lax standards and controls in an effort to attract investments, jobs and incomes (Cumberland, 1981).

Oates and Schwab (1988, 1989) have recently produced two papers in which they explore the likely outcomes of interjurisdictional competition in the setting of environmental standards. In the first of these papers they examine the implications of local decision-making designed to maximize the welfare of current local residents, and conclude that local fiscal and regulatory decisions need not be a source of distortion in resource allocation, notwithstanding the potential for competition between jurisdictions.

In the second paper they include consideration of the well-being of future generations. Again, however, they suggest that local decision-makers make efficient decisions that take the welfare of future generations into account. This is the result of the fact that present generations have an incentive to take into account the interests of future generations because the present value of land takes into account prospective environmental quality. Oates and Schwab concede that their results are capable of being undermined in some circumstances. For example, budget-maximizing bureaucrats or politicians may set local tax rates too high, and establish environmental standards that are too low in order to attract more business investments and expand the local tax base. Moreover, contests between groups in the community with varying interests or values attached to economic development and environmental quality can result in inefficient outcomes, although there is an equal chance that the outcomes would involve too much environmental control, as well as too little.

However, the mechanism which generates efficiency in Oates and Schwab's basic model, namely the fact that prospective land values have an impact on local decision-making, is clearly a phenomenon applicable to local decision-makers, but not those at central decision-making levels. Accordingly, in their models the presumption that future generations are taken into account is one that is to an extent enforced by market-type mechanisms; the presumption that central decision-makers are more likely to take future generations into account does not have such an obvious and equivalent self-enforcing mechanism.

While Oates and Schwab's analysis is only suggestive rather than definitive, and restricted to environmental policy considerations, it clearly provides the potential basis for a much more general application of the principle of fiscal federalism to regulatory issues. And, as in the more general exploration of tax competition in the literature (see, for example, Zodrow and Mieszkowski, 1986; Mintz and Tulkens, 1987), it suggests a much less pessimistic view of the outcomes of interjurisdictional competition than has been expressed on the basis of casual analysis.

4. The assignment of taxing powers

In parallel with, and clearly related to, the question of the appropriate division of expenditure and regulatory functions in a federal system are questions about the appropriate assignment of taxing powers to varying spheres of government. This issue is more fully the subject of a companion paper (Spahn, this volume) and is considered here only briefly for the insights relevant to a more general analysis of functions in federal systems.

An attempt to use casual observations of current practices in federal systems as the basis for deducing something about the appropriate principles of tax assignment would be confounded by the fact that virtually every sort of tax is used somewhere by each sphere of government. There are, none the less, some regularities (over and above the fact that customs duties are allocated to the centre). For example, the more progressive elements of tax systems tend to reside predominantly at central or federal level; and at local government level, property taxation and user charges are the most common form of revenue-raising. On the other hand, in some countries (for example, Germany) revenue-sharing is a distinctive feature of tax assignment; in others, very clear separation of access to tax bases occurs (for example in Australia, where income tax is exclusively the province of the central government); and in yet others, extensive tax-base sharing is prevalent, with two or more spheres of government having either independent (for example, the United States) or harmonized (for example, Canada) access to one or more of the major tax bases.

Constitutional provisions, judicial interpretation of those provisions and political deals all intersect to explain the different ways in which access to tax bases is arranged or shared in various federal countries. Clearly, no one set of principles would be capable of capturing all of the relevant influences.

The fiscal federalism literature, none the less, has established a broad set of principles for the appropriate assignment of taxing powers in multilevel government systems. Two factors which feature substantially in the discussion of the allocation of taxing powers in this literature are the mobility of taxpayers or tax bases, on the one hand, and, on the other, especially in more recent literature, the possibility of tax-exporting by jurisdictions.

As far as mobility is concerned, the principal issues revolve around the consequences for location of individuals when jurisdictions use the tax structure to achieve redistributional purposes (see Section 5), or for the location of businesses where jurisdictions tax income from capital. As a general principle, the taxation of highly mobile tax bases and the use of relatively progressive taxes should reside with higher rather than lower levels of government in order to avoid distortions of locational decisions. Tax-exporting, on the other hand, occurs when, due to its market power in relation to the production and pricing of particular commodities, a jurisdiction can raise a substantial part of the revenue for expenditure on local goods and services from taxes which are effectively paid by residents of other jurisdictions. Recent literature (for example Mieszkowski and Toder, 1983; Wildasin, 1984; Gerking and Mutti, 1981) suggests that even where tax-exporting is possible, it may be less a source of distortion than traditionally assumed, either because it affects only average tax prices or has offsetting general equilibrium ramifications.

Both of these problems, mobility and tax-exporting, could be avoided if governments were able and willing to rely predominantly on benefit taxes and user charges. Indeed, throughout the public finance literature, the preferred tax arrangement is one in which benefit taxes or user charges are applied as extensively as possible. Because of preference revelation problems, however, the use of benefit taxation other than in proxy form is unlikely to be applicable to those goods which have characteristics of being, broadly speaking, national public goods. On the other hand, neither tax exporting nor mobility is likely to be such a significant problem the higher the level of government at which taxes are applied: the greater capacity of lower levels of government to rely more on user charges turns out to correspond to the principles of tax assignment in federal systems.

A useful summary of the principles established in the traditional literature underlying tax assignment in multilevel government systems is provided by Richard Musgrave (1983). Broadly speaking, they imply the following.

1. Because of the incentives they potentially create for migration among jurisdictions by the poor and by the relatively rich, highly progressive taxes are best allocated to higher levels of government.

2. Because of their capacity to distort the location of economic activity, highly mobile tax bases, such as taxes on company incomes, should generally also be allocated to higher rather than lower levels of government.

3. Lower levels of government most appropriately should use taxes on relatively immobile bases (for example, land) and user taxes and fees because they create, in principle, no distorting incentives.

4. Tax bases that are distributed across jurisdictions in highly unequal fashion (for example, on natural resources) in principle should be centralized to avoid both inequities and allocative distortions that arise from local or regional taxation.

Clearly, not all of these principles have always been applied in the development of tax systems. Nor would one expect that newly forming unions would be totally enamoured of the full application of these principles, in particular, perhaps, those which suggest that unequally distributed bases and progressive taxes should be handed over to a central authority. On the other hand, the harmonization of tax bases between constituent units and agreements, where necessary, on the equalization of tax shares in the funding of central activities can act as alternatives to assignment on Musgravian principles. Further, higher subfederal levels of government would have a relatively high freedom of choice of tax bases under strict application of the principles.

Other considerations, moreover, suggest alternative assignment principles. Competition between jurisdictions for access to tax bases, in particular, can have a useful effect in constraining the potential exercise of exploitative power (Brennan and Buchanan, 1980; McLure, 1986); and harmonization of tax bases is not an unambiguously good thing in all circumstances: the other side of harmonization is, in effect, the formation of a revenue-raising cartel that can help to minimize the political costs to its members of raising revenues.

Ultimately, of course, the question to be posed is, how large are the welfare losses which might arise from an inappropriate allocation of tax bases?; how large are tax-induced distortions? Empirical studies of this issue are as yet limited in availability. An important study by Mieszkowski and Toder (1983) of the distortions which arise from decentralized taxation of energy resources in the United States suggests that the efficiency losses amount to about 4% of energy revenue. Although their analysis and the estimates contained in it are surrounded with provisos, they do not suggest distortions of particularly great significance.

In a more recent analysis, Goodspeed (1987) has examined the use of redistributive taxes at the local level in the context of a general equilibrium model of a metropolitan region. Comparing the efficiency and redistributive consequences of local income taxation with the alternative of local head taxes, he suggests that local governments can employ progressive income taxes with relatively small efficiency costs, suggesting that the constraint on local use of progressive taxation implied by the traditional Musgravian-type principles of tax assignment may be somewhat overstated.

Overall, without discounting entirely the value of the discussion on tax assignment principles that has occurred in the traditional public finance literature, it would have to be said that the practical guidance offered to newly emerging unions, or to the reform of tax assignment principles in established federal or multilevel government systems, is relatively slight. From an efficiency perspective, it may be relatively more important that the bases which governments use, however they are assigned between them, be as broad-based as possible, rather than assigned according to traditional fiscal federalism principles. Even this conclusion, however, would be subject to challenge by those who consider governments to be actually or potentially revenue-maximizing leviathans: for them, tax bases as full as possible of loopholes and subject to erosion through mobility would be more appropriate in constraining the capacity of government to coercively extract revenue from the system.

One conclusion which would be common both to optimal taxation models and to revenue-maximizing models would be that, to the greatest extent possible, earmarked taxes based on benefit principles would be most likely to induce efficient decision-making by taxpayers and governments about the appropriate levels of public service provision.

5. Mobility, locational and labour market choice, and redistributional policy

A substantial amount of the literature which has emerged in the period since the publication of Oates' (1972) now classic study of fiscal federalism has focused on the implications of free mobility for the efficiency and equity of public sector decisions with decentralized decision-making. Even for mature systems of multilevel government with few geographically concentrated linguistic or cultural divisions, the empirical significance of this literature is unclear: its most potent application appears likely to be in a metropolitan setting with a significant number of local governments possessing substantial expenditure functions. For emerging unions such as the European Community, the relevance of the mobility of individuals (but not of capital) between constituent States for residential and/or labour market purposes may be relatively limited (for example, to upper and lower work-skill categories) for the foreseeable future, in part because of language and cultural differences. None the less, there already is evidence of some significant labour market mobility, and the emergence of a single currency would increase the ease with which wage and living standard comparisons are made throughout the Community. Accordingly, while only a brief overview of some central aspects of this literature will be presented here (Rubinfeld, 1987, offers a survey of the economics of the local public sector, and an overview of some of the main elements of the relevant literature are included in the appendix to this paper), mobility issues seem likely to be of increasing relevance to public finance arrangements in the Community over time.

Much of the literature dealing with this aspect of local public economics stems from the seminal work of Tiebout (1956).

He conjectured that in a federation with a large number of regions, each choosing a mix of local public goods and taxes, and with free mobility, the level of provision of local public goods in each region would be optimal with residents efficiently located between regions (an optimal population distribution). However, Tiebout's work was not highly rigorous and he made a number of questionable assumptions. In particular, he assumed that: (i) residents had full information about all alternatives; (ii) the number of regions was sufficiently large that residents had a wide spectrum of regions from which to choose; and (iii) residents' primary incomes were independent of locational choice. The nature of local taxation arrangements also was left largely implicit in his analysis.

Tiebout's conjecture was clearly stimulated by Samuelson's (1954, 1955) claim that people have no incentive to reveal their true preferences for public goods and indeed face an incentive to misrepresent them if the taxes they pay depend upon revealed preferences. Tiebout's analysis suggested a mechanism for securing (implicit) truthful revelations of preferences, at least for local (or regional) public goods, deriving from the incentive for individuals to 'shop around' for the region offering the tax and public good mix closest to their true preferences.

In equilibrium, therefore, at least where mobility costs are low, residents living in a particular region might be expected to have similar preferences, people having sorted themselves by 'type' into various regions. In this way, not only did the problem of preference revelation appear to be solved for local public goods, but also optimal levels of provision, it seemed, would be achieved.

An extensive amount of literature has subsequently emerged on Tiebout's conjecture (see appendix). For present purposes, one of the most significant parts of that literature concerns the question of whether Tiebout-style mobility results in efficient locational choices.

This has been examined in a variety of ways and settings by, for example, Buchanan and Goetz (1972), Flatters, Henderson and Mieszkowski (1974), Wildasin (1980), Boadway and Flatters (1982), and Wildasin (1985). While a number of results have emerged, varying with different modelling assumptions, the ones which have taken the most pervasive grip in the literature are outlined below.

1. Free migration can result in non-optimal location decisions where jurisdictions rely primarily on residence-based taxes, because movers create fiscal externalities which they have no incentive to take into account (i.e. they lower the per-person tax price of public goods for all existing residents in the location they enter, and raise it in the location they leave).
2. The inefficiencies of free-migration decisions can be ameliorated by a system of unconditional transfers, either directly between jurisdictions or through the agency of a central government.

In other words, mobility can result in inefficiency in location decisions, and a corresponding case arises on efficiency grounds for unconditional interjurisdictional transfers.

In more recent times, the somewhat interrelated question of the role of mobility in shaping or constraining the use of redistributional policies by subfederal jurisdictions has been subject to renewed analysis. The traditional view in the literature (see Stigler, 1957; Musgrave, 1971; Oates, 1972) has been that interpersonal redistributive policies should be centralized, because subfederal attempts to employ redistributive policies are likely to be counterproductive and create inefficient location decisions through a form of adverse selection: the rich (taxpayers) will leave, and the poor (beneficiaries) will be attracted to jurisdictions employing relatively high redistributive tax and expenditure policies. Indeed, if average incomes differ between jurisdictions, even the same redistributional policy employed by all jurisdictions at subfederal level has the potential to induce migration from low to high average income jurisdictions: only distributionally neutral subfederal budgets would be migration neutral in this sense.

Notwithstanding the apparent force of this argument, in most federal systems subfederal governments do play some (and, as in the USA and Canada, sometimes quite substantial) role in redistributional policies. Moreover, there are often persistent differences in the nature of target groups, or levels of benefits offered, suggesting that preferences for redistribution vary significantly between subfederal jurisdictions, and that giving expression to these differing preferences is not rendered totally counterproductive by mobility. As Brown and Oates (1987) point out in a study which provides evidence of some transfer-induced mobility, any degree of mobility gives rise to a standard presumption of underprovision.

As Pauly (1973) and Tresch (1981) have suggested, there are reasons for expecting altruistic preferences for redistribution to be stronger within local or regional communities than between them, giving rise not only to a case for subfederal redistribution, but also strong support for it. The arguments for decentralized redistribution are stronger the more dissimilar the tastes and the less mobile individuals in response to redistributional policy differentials.

The balance of arguments within well-integrated federal or multilevel systems probably lies with the view that a case can be made for a shared role in relation to redistribution — such as that suggested by King (1984) of having a basic federal or national redistribution policy with subfederal jurisdictions able to alter the degree of redistribution within limits.

Particularly relevant to the Community's case, perhaps, is the recent analysis by Wildasin (1990; forthcoming) where previous analysis is extended by assuming that some households are mobile within a common labour market in which incomes are endogenously determined. Assuming that poor households are mobile and rich immobile, and that different jurisdictions have different redistributional policies set by the (partially altruistic) preferences of the immobile households, Wildasin shows that fiscal externalities are generated with the subsidy burden reduced in jurisdictions the households leave and increased in those they join. The correction of this externality situation requires intergovernmental grants which harmonize redistributional outcomes across all jurisdictions: i.e., other things being equal, larger grants should go to jurisdictions with weaker preferences for redistribution. (The analysis can simply be reversed for the case of rich mobile households which are taxed, rather than subsidized, by poor immobile households.)

The case for intergovernmental subsidies, or more generally harmonization of redistributive policies, is likely to increase as EC labour markets become increasingly integrated; but even modest mobility creates inefficiencies in the presence of different policies. The choice of a decentralized but effectively harmonized redistributional policy in preference to an essentially equivalent centralized system, Wildasin suggests, might be made on the grounds that decentralization might lead to a better revelation of information necessary for optimal policy choice. It also might be preferred (see McLure, 1986) on the grounds that it minimizes opportunities for governments to use their inherently coercive redistributional powers to reward rent-seeking behaviour.

Even with mobility allowed for, therefore, decentralized decision-making regarding redistributional policies may have stronger support than conventionally argued — but within a context where harmonization is also achieved by means of variable intergovernmental grants.

6. Intergovernmental grants, fiscal equalization and macroeconomic management

6.1. Conceptual underpinnings

In various ways, and for a variety of reasons, federal and multilevel fiscal systems typically exhibit a degree of vertical fiscal imbalance — broadly speaking, this implies that federal or central governments have access to revenue sources larger than is required for their own purposes, and make interjurisdictional transfers to subfederal spheres of government to assist them to fund their activities. For example, in 1987 in Australia, federal government transfers to the State/local sector represented nearly 45% of State/local revenues; in Canada, the USA and Germany, the equivalent transfers represented, respectively, about 14%, 12% and 20% of State/local revenues.

The extreme dependence of the State/local sector in Australia on federal grants stems from a combination of constitutional and political decisions which have centralized control over both incomes and sales of goods as tax bases (see Walsh, 1990, for an explanation). Elsewhere the (lesser) degree of vertical imbalance reflects political and constitutional arrangements which better align taxing powers with spending responsibilities, while allowing for the fact that interjurisdictional transfers can help secure other objectives in federal systems.

Notwithstanding increasing evidence that, in practice, grant systems are often used for political purposes or induce spending effects other than those predicted by the underlying theory, the traditional literature (see, for example, Oates, 1972, Chapter 3; King, 1984, Chapters 3 to 5) identifies three broad purposes for intergovernmental grants in federal systems:

(i) to subsidize specific categories of subnational expenditure where there are spillover benefits to those outside the jurisdiction (i.e. where there is 'imperfect correspondence' between the spatial distribution of benefits of subnational programmes and the jurisdictional boundaries, such as would apply with the effects of many environmental management programmes, interjurisdictional road systems, and/or spending on education and training). This gives rise to a case for specific-purpose, open-ended, matching grants, designed to encourage an expansion of output by the recipient jurisdictions to take into account the spillover benefits;

(ii) to equalize fiscal capacity between subnational jurisdictions, where otherwise differences in taxable capacity and/or in the costs of providing public services would preclude jurisdictions from providing similar levels of (basic) public services while applying broadly similar levels of tax effort. This gives rise to a case for lump-sum unconditional grants, directed (by formula) to fiscally disadvantaged areas;

(iii) to reap the advantages of having the collection of some major tax revenues centralized and harmonized, due to savings in centralized revenue collection, or advantages to efficiency and equity in the tax system, or benefits in the form of improved macroeconomic management capacity. In this case, one (or more) government acts, in effect, as a collection agent for others, and the required transfers are unconditional 'tax reimbursement' grants (revenue-sharing is sometimes utilized instead).

Not altogether unsurprisingly, a number of studies have found that, even in the case of fiscal equalization transfers, economic principles and even stated programme objectives provide a less satisfactory explanation of the structure of grant programmes, and the distribution of grants, than do political variables (see, for example, Inman, 1988; Grossman, 1990). It is not difficult to see that the willingness of central governments to bear the political pain of raising tax revenues greater than those required to fund their own-purpose spending programmes in large measure is likely to be directly related to the political advantages — political support — they can obtain from the way in which they disburse those funds in grants to subfederal jurisdictions.

Equally significantly, the effects of grants on recipients apparently differs from the predictions that flow from basic conceptual models. In principle, an unconditional grant to a jurisdiction should increase public sector spending by an amount equivalent to the increase in spending that would occur if there had been an equal increase in the incomes of the jurisdiction's residents. In fact (see Gramlich, 1977), the evidence from a number of studies suggests that the impact of grants is to cause a much higher than predicted stimulus to spending (of the order of 40 to 50 cents in the US dollar) — a phenomenon referred to as a 'flypaper effect' ('money sticks where it hits').

Attempts to resolve this apparent empirical contradiction of the theory of grants have involved suggestions that:

(i) 'fiscal illusions' are present in connection with grants, because of the complex conduit through which taxes are taken from residents and returned to jurisdictions as grants;

(ii) bureaucratic power (especially over information) enables them to overexpand programme expenditure, and especially powerfully so out of grants;

(iii) the relatively high excess burdens of State and local taxation predispose subnational jurisdictions to spend relatively heavily from grants; and

(iv) when full general equilibrium effects of grants (for example, on local tax bases) are allowed for, the evidence is not inconsistent with fully articulated theory (see King, 1984, for a general discussion).

Once again, however, political studies cannot be ignored. As Brennan and Pincus (1991) suggest, observations on the form of grants (for example, whether ostensibly matching or non-matching specific purpose, or unconditional general purpose) do not provide complete or reliable information about their conditionality. Implicit agreements between donors and recipients, especially where the number of recipients is manageably small (for example, 8 in Australia, 10 in Canada, 12 in Europe), may make general purpose lump-sum grants effectively as conditional as matching grants.

Clearly, there is much yet to be sorted out about the impact of intergovernmental grants which requires a more adequate modelling of donor and recipient motivations. There is, moreover, an equally important task to be undertaken which focuses more sharply on the effects of grants on the efficiency of public sector decision-making. A brief sketch of these efficiency effects is outlined below as a prelude to a more thorough re-examination of fiscal accountability, the appropriate roles of government in federal systems, and the necessary scope for grants.

6.2. The grants system and public sector decision-making efficiency

Even those who have argued that intergovernmental grants are a reasonable substitute for fully independent subfederal financing — because they strengthen the federal government's control over macroeconomic and redistribution policy, while permitting decentralization of decisions about spending patterns and priorities — have indicated that their judgments reflect the net balance between these benefits and some associated costs. Those costs have been identified as including the loss of decision-making independence by the subfederal governments and the blurring of responsibility for the levels and quality of State services and associated inefficiencies in decision-making. The growth of the significance of specific-purpose grant programmes has also raised concerns about paternalistic and/or pork-barrelling intervention by the higher level governments.

In the analysis which follows, an attempt is made to give these claims (concerning the costs and benefits of the grants system) more specific analytical content, and to re-evaluate their relative significance. The focus is principally on the consequences for efficiency in decision-making in the public sector. From an EC perspective, potential interest in these issues runs two ways. The Community's budget is, in effect, substantially derived from grants from constituent Member States, and a large part of its expenditure is in the form of grants to Member States.

6.2.1. Grants, tax prices and inefficiency

For a recipient government, the most obvious effect of grants is to lower the average tax cost to them of funding any given level of outlay. Whether this translates into an effect on decisions about service levels depends, however, on the impact of grants on the perceived marginal tax price (and hence political cost) of public service provision; and this, in turn, can be substantially affected by the form of the grants themselves.

Consider, first, the case of specific-purpose (tied) grants with matching requirements. These, in principle, are intended to assist in the expansion of services where cross-border spillouts from subfederal expenditure may cause underspending (for example, when people educated by a jurisdiction migrate elsewhere; or when highways receive underfunding because the benefits to other jurisdictions are ignored). In principle, matching requirements are appropriate to reflect the value of spillouts, and the consequent effects on recipient decisions are a planned/desired result of such grants.

However, at least two sorts of practical problems arise. First, matching requirements typically are arbitrarily determined and often set at very high levels (frequently as high as 50/50 sharing). This may encourage excessive additional spending on the function and arbitrary distortion of State spending patterns; and it may precipitate the equally arbitrary imposition of caps on the total matching contribution by donor governments (Gramlich, 1985).

Second, whether or not the matching rates are appropriate, the lowering of the tax price of service provision not only induces (desired) expansion of service (i.e. output) levels but also facilitates reduced efficiency and increased costs: i.e. all spending, whether on additional outputs or additional inputs, is subsidized by the donor government, and the incentives of recipient governments to monitor these effects is diminished relative to the case where only own-source revenues are spent. Increased monitoring by the donor government may help to minimize these costs but they cannot (efficiently) eliminate them: monitoring costs plus inefficiency costs will be positive. Clearly, matching ratios are an important decision variable. Reduced costs of productive inefficiency and allocative distortions, as well as a reduced need to monitor, can be secured by a more careful assessment of the required matching rate — and would be a more appropriate device for limiting donor outlays than arbitrary changes to other programme design features or equally arbitrary expenditure caps. Where possible, moreover, output performance, rather than expenditure, should be the matching basis.

There is a further problem with specific-purpose grants — perhaps particularly pertinent to the Community and its Regional Development Fund and Social Fund grants — where federal grants are directed at local or regional programmes which also receive funding support from an intermediate level of government. Using models of public goods provision by multiple agents (see Boadway, Pestieau and Wildasin, 1989a), it can be predicted that grants from the federal level, whether lump sum or matching, to support regional level government programmes will induce reductions in intermediate level government financial support for the programme and/or for closely complementary programmes (see Wildasin, 1990). The assessment of EC regional grants cannot proceed, in short, on the traditional donor/recipient basis, treating other (for example national) funding levels as exogenously determined.

The effects of general revenue grants on efficiency in decision-making are both more complex and more subtle: in particular, they greatly depend on voter/taxpayer perceptions. (This category includes the effects of specific-purpose block (non-matching) grants, except where these grants would lead to a larger increase in recipient outlays than equivalent general revenue grants.) In principle, general revenue grants lower the average, but not the marginal, tax price of the recipient government's outlays: once the level of the grants is determined (by formula or otherwise), an extra dollar of outlays by recipients must be funded entirely from an extra dollar of own-source revenues.

Indeed, more generally, the lowering of the average tax price is also largely an illusion, since the revenues to fund the general revenue grants come from tax payments made by residents in the recipient jurisdictions. However, the fact that the tax payments are made directly to one government, and the corresponding grant payments made through an intergovernmental conduit, enables the emergence of a form of fiscal illusion. It is possible, for instance, for voters in a recipient jurisdiction to see at least part of the cost of grant-funded expenditure being borne elsewhere. Voters in a jurisdiction which receives, say, 20% of federal grants might see an extra USD 5,00 of grants as costing them only USD 1,00. Even when grants are fixed, the fact that they may fund a significant proportion of jurisdictional outlays (20% on average for the States in Australia, for example) can be used by subfederal politicians to persuade voters/taxpayers to believe that the marginal cost of an extra USD 1,00 of spending in their jurisdiction is less than

USD 1,00 — conceivably to a point where the average own-source cost of spending is mistaken for the marginal cost.

A direct empirical test of the fiscal illusion hypothesis underlying these observations has been undertaken for Canadian provinces by Winer (1983), indicating that grants did reduce perceived tax prices and raise provincial expenditure. The effects diminished over time but did not disappear entirely. At the same time, though less directly, the literature on the impact of non-matching grants on State/local expenditure (see, for example, Gramlich's review (1977) and Spahn's work on Australia) indicates that increased grant-funding feeds largely into increased State expenditure and very little into reduced State taxation effort (despite the extra federal taxes that must be imposed), and more so than would an equal increase in the incomes of State residents.

6.2.2. Grants and fiscal cartels

Federal systems, it can be argued, should be seen not merely as allowing diversity but, potentially, as providing a framework within which competition between governments is encouraged. In part, this competition can take the form of restraining the coercive use of taxation and other powers (as emphasized by Brennan and Buchanan, 1980) and, in part, it can take the form of encouraging and facilitating innovative policy-making (as emphasized by Breton, 1987).

Revenue-sharing and other bases for substantial general revenue grants might, in this connection, be seen as a reflection of the existence of a largely implicit revenue-raising cartel, which makes life easier for all governments by minimizing the degree of competition over tax bases, blurring the attribution of responsibility for fiscal decisions and reducing the pressure for genuine creativity in policy-making. As a consequence, competition may be more heavily concentrated than otherwise into considerably less-productive forms, such as subfederal shares of federal own-purpose spending (for example, on big defence contracts), shares of federal grants, and subsidies to attract or retain major industries.

An interesting partial and indirect test of this perspective has been provided by Grossman (1989, 1990). Following the arguments of Brennan and Buchanan (1980), he hypothesizes that public sector size (measured by total public sector outlays relative to GDP) will be negatively correlated with decentralization (proxied by the share of State/local outlays in total public sector outlays) and positively with (at least implicit) collusion (very indirectly proxied by the share of intergovernmental grants in total State/local revenues). For the USA he reports that both hypotheses were supported. For Australia only the collusion hypothesis is supported — a result which might be explained as implying that the degree of collusion through the grants system overwhelms any potential benefits of the decentralization of outlay responsibilities to the States.

Whether or not Grossman's analysis is seen as an adequate test of the presence and effects of a fiscal club, the fact that he finds a larger share of grants in State funding to be positively associated with increased total public sector size offers support to the general line of argument that the grants system has important consequences for public sector behaviour.

It is to be emphasized, however, that the principal issue is not so much whether the grants system is associated with bigger government, but rather the extent to which it influences the quality of public sector decision-making. On this, the theoretical arguments and empirical evidence point to a strong affirmative answer — stronger than might be deduced from the traditional literature's reference to loss of independence, blurring of responsibility, etc.

The relatively modest size at present of the EC fisc, and the correspondingly limited role of the Community in functions commonly found at the central level in other fiscal systems, may imply a correspondingly lower current level of concern about the impact of grants on decision-making than would be the case for mature federations or multilevel government systems. None the less, as economic union and social union proceed, the central fisc will increase in relative size and as it does the concerns expressed here will be of increasing importance.

The following sections, again with the focus largely on existing federal systems, explore the appropriate limits to the role of intergovernmental grants, using the principle of fiscal accountability as the key requirement. The requirements of fiscal equalization, and of macroeconomic management, receive particular emphasis.

6.3. Principles of fiscal accountability and the case of vertical fiscal imbalance

A fundamental tenet of democratic political systems is contained in the adage that there should be 'no taxation without representation'. The power to tax is an inherently coercive power — one which we concede that governments (and governments alone) must possess if they are to overcome the problems associated with ensuring appropriate legal and regulatory structures to guide and constrain private sector interactions, to provide adequate supplies of public goods and services, an equitable distribution of income and/or of opportunity, and reasonable macroeconomic stability. To minimize the risk of the exploitative use of this coercive power, however, we construct elaborate systems of 'checks and balances', of which the requirements that governments be popularly elected and subject themselves to regular elections are a vitally important part.

Federal systems of government have the capacity to strengthen the system of checks and balances — especially those contained in parliamentary democratic systems — among other things, by both dividing and sharing political decision-making power. In the process, they give citizens/voters multiple access to government, increase the capacity and incentives for diversity and experimentation in policy responses, and allow the possibility of people 'voting with their feet', as well as through the ballot-box.

At the same time, however, federal systems raise important questions of principle about the link between taxation and representation. It would seem logical *a priori* to suppose that where responsibility and representation are both divided and shared, there should also be a commensurate division and sharing of the power to tax. More specifically, on a par with the principle that representation should be a prerequisite for taxation, it can be argued that it is a fundamental principle of accountable and responsive government that, as far as possible, governments which are responsible for expenditure decisions should be responsible for raising the revenue to fund them and should have control over, and responsibility for, revenue sources adequate to enable them to do so. (In a previous paper (Walsh, 1991), I suggested that this might, somewhat loosely, be characterized as the principle that there should be 'no representation without taxation' — the reverse of the old familiar adage.)

The significant issue arising from application of this principle to federal financial arrangements lies not in its acceptability as a basic principle of fiscal accountability but rather in the question of what exceptions or modifications to it are required by other principles or practical considerations in the context of federal finances. Four exceptions are commonly asserted, and will form the basis of subsequent discussion:

(i) intergovernmental redistribution and/or fiscal equalization;

(ii) shared responsibilities and specific-purpose grants;

(iii) responsibility for income redistribution;

(iv) responsibility for macroeconomic management.

6.4. Intergovernmental redistribution and fiscal equalization

It is generally agreed that workable, cohesive federations require some form of transfer of resources between constituent units. These might arise from a variety of sources.

For one thing, a successful and stable economic union requires a degree of convergence of economic performance between its constituent elements. In full, mature federations, where federal governments have access to major revenue bases and substantial responsibilities for social security and welfare services, interregional differences in economic performance (reflected in per capita output and income) generate substantial implicit interregional transfers through the federal fisc: high incomes are associated with relatively high federal tax liabilities and low incomes with relatively high receipts of federal transfer payments and/or welfare services. However, even in mature federations, in the absence of corrective measures (and given that member States give up their individual ability to control trade, exchange rates, monetary policy and, to some extent, fiscal policy), the underlying causes of the output and income differences — such as unequal natural resource endowments, different levels of investment in human and physical capital, differences in accessibility, and different degrees of dependence on growing or declining products and industries in national and world markets — can be sustained or reinforced.

In pure or pre-federal economic unions, lacking the central fiscal processes by which primary income transfers occur automatically in most federations, the need for transfers to secure minimal convergence of economic performance will be particularly great (MacDougall Report, 1977). Economic union itself may not create greater divergence: in fact it might reduce it to some extent. None the less, variable specific-purpose transfers targeted on variables linked to economic performance (for example, tied to physical and/or human capital development, especially perhaps education and training) in particular jurisdictions or regions may be required. (As noted earlier, the design of the payment arrangements from the central authority requires careful attention because of their capacity simply to displace contributions by intermediate level governments.)

In addition, while the process of federation or of increasing union might produce net benefits to the constituent States in aggregate (a federal or union surplus), it may result in a distribution of those benefits which is perceived to be inequitable. This is associated both with the economic aspects of union discussed above, and with the social and political aspects involving the transfer of spending functions and taxing powers (and regulatory functions) to the federal government, with regard to which regional preferences may differ substantially. Both during federation and subsequently, the case for an equitable distribution of benefits may give rise to the need for compensatory interjurisdictional transfers as part of the 'glue' which holds the federation together. In this more general case, unconditional grants to the relevant jurisdictions are appropriate.

These considerations are especially relevant to newly emerging economic, social and political unions — particularly in the case of the European Community, but also in rethinking and reshaping the former Soviet Union. None the less, they find continuing reflection even in long-established mature federations. Notwithstanding arguments that fiscal equalization (or fiscal adjustment) transfers to governments may give rise to sustained grants dependency and/or the inappropriate location of people and activity relative to that which would maximize federal output (see, for example, Courchene, this volume), they exist and persist everywhere and frequently with the explicit support of the jurisdictions which are net losers. This is to be explained by the fact that such transfers are seen as essential to continuing federal cohesion, notwithstanding potential efficiency costs associated with them, and that this cohesion role might be put at risk by schemes to make these transfers conditional on performance indicators. Breton (1987), in his analysis of competitive federalism, also emphasizes that continuing mutual support for horizontal equalization by the 'haves' as well as the 'have nots' reflects their role in facilitating and monitoring horizontal intergovernmental competition.

Owing in part to its focus on the consequences for efficiency and equity of arrangements within established federations, in the traditional fiscal federalism literature and to an extent in the practice of mature federations, the emphasis has shifted (understandably, although perhaps unfortunately) to other efficiency and equity issues.

One strand of this literature focuses on the consequences for efficiency of free migration in a federal system. As noted earlier (in Section 5), the potential efficiency-improving characteristics of mobility in federal systems are limited by a form of 'fiscal externality' (see, for example, Buchanan and Goetz, 1972; Boadway and Flatters, 1982; Wildasin, 1986). Where jurisdictions provide local or regional public goods, taxpayers moving from one jurisdiction to another lower the per-person tax price of public goods provision funded from residence-based taxes in the jurisdiction they join and raise it in the one they leave, but have no incentive to take these external effects of their decisions into account. A system of cross-compensating lump-sum interjurisdictional transfers would be required to offset the potential distortions.

Another strand of literature (see Buchanan, 1950, 1952; Scott, 1950; Musgrave, 1961) focuses instead on issues of 'horizontal' equity in federal systems. The different political (taxation and expenditure) decisions and different cost structures in different jurisdictions in a federal system can result, from a national perspective, in individuals in similar economic circumstances (having, for example, the same gross incomes) receiving entirely different net fiscal benefits. Strictly speaking, the implication of this perspective is that a system of interpersonal transfers would be required to secure (national) horizontal equity. However, interjurisdictional transfers might act as a second-best approach. This line of argument, which clearly comes closest to providing a rationale for fiscal equalization grants of the type found in most mature federations, is not without its critics. For example, it is claimed that making national horizontal equity comparisons is fundamentally inconsistent with (and their correction would be destructive of) the achievement of diversity that is a virtue of federal systems.

Whatever may be the origins of, and the basis of intellectual support for, equalization payments in federal systems, in modern parlance they have come to be articulated in a language which emphasizes interjurisdictional equity as a component of national or federal citizenship. It may well be that, as another aspect of cohesion, and as unions mature and integration increases, a preference emerges for ensuring that the fiscal capacities of constituent units do not diverge greatly. But at another level, this emphasis on homogeneity and/or common citizenship may detract attention from more fundamental underpinnings — providing intergovernmental federal cohesion and/or establishing and monitoring interjurisdictional competition: the more integrated unions seek to become in social and political terms, the more significant these bases for interjurisdictional redistribution.

Finally, it should be noted that, strictly speaking, none of the arguments for equalization payments requires that the transfers be achieved 'vertically' — i.e. by having the federal level act as the conduit through which excess revenues are collected from some jurisdictions and transferred to others; horizontal transfers between jurisdictions in line with an agreed formula would suffice, and in Germany part of fiscal equalization between *Länder* (States) is, in fact, achieved in this way.

6.5. Shared responsibilities and specific-purpose payments

As already noted, the fiscal federalism literature has long argued that, even with the best feasible design of jurisdictional boundaries, interjurisdictional spillovers of benefits or costs of regional public sector activities would be likely to occur. In the absence of corrective measures — generally in the form of appropriately calibrated matching grants — suboptimal decisions are likely to be made by subnational service providers.

This obviously provides a rationale for specific-purpose grants as a further exception to application of the principle that a one-to-one relationship should exist between spending and revenue-raising decisions by all jurisdictions — although, again, the required interjurisdictional transfers do not logically necessitate the intervention of a higher level of government as both judge and implementer of the required grants. Fully articulated, moreover, the spillovers perspective also provides a possible basis for a critique and rationalization of current practices (see my earlier discussion).

However, notwithstanding the apparent elegant simplicity of the spillover argument, it is based upon a very narrow perspective of the optimal design of federal systems — one which presumes a neatness and tidiness in the distribution of responsibilities between levels of government that is difficult to reconcile with the claimed political virtues of federal systems in helping to constrain the potential coercive power of governments, and in providing a more responsive government to citizens/voters through the multiple access created by their membership of a series of overlapping political jurisdictions.

Once it is accepted that federal systems serve these wider political purposes, a much richer set of intergovernmental interactions must not only be expected, but also accepted as legitimate. If this were not the case, it would be difficult to explain why the constitutions often make some responsibilities explicitly concurrent between spheres of government and give the federal level virtually open-ended power to make grants to the subfederal levels. The explicit overlapping of political jurisdictions is arguably a deliberate design feature of the federal system, not a design flaw, and, in any event, political competition will often create concurrency in a practical sense when, legally or constitutionally it does not exist.

Examination of the full ramifications of this for the roles and responsibilities of governments and the design of intergovernmental grants would take me beyond the scope of this paper (see, however, Fletcher and Walsh, 1991). It would certainly lead, for example, to an expanded notion of federal objectives in what are otherwise regarded as predominantly subfederal responsibilities, and to greater emphasis on examining principal-agent problems in the design of intergovernmental arrangements. Moreover, whatever the form of and rationale for intergovernmental interactions and arrangements, and associated justification for tied grants as an exception to the principle of directly linking tax-raising with spending powers, there are important questions about mechanisms to secure appropriate political (for example, parliamentary) accountability for agreements often reached principally between executives.

Mechanisms to secure the accountability of executives to parliaments for intergovernmental arrangements and intergovernmental institutions are an important requirement, but one often persistently ignored in practice. They provide a particularly important back-up procedure where full, direct accountability to taxpayers for spending plans is not possible, but they should go beyond this, given the wide scope of action that might be approved between executives without reference to their respective parliaments.

Precisely what the appropriate scope for intergovernmental transfers is that is justified by all these arguments is difficult to specify *a priori:* political as much as technical spillover factors shape the answer. One thing that can be said, however, is that the presumption that there is necessarily a one-to-one link between the purposes of grants and their form is erroneous. As Brennan and Pincus (1991) point out, extensive implicit conditions might attach to what appear to be general purpose grants: the extent of federal involvement in subfederal decision-making may be substantially greater than appears on the surface.

6.6. Responsibility for macroeconomic management

At least since the publication of Wallace Oates' (1972) now classic treatise on fiscal federalism, which strongly argued the case for the centralization of macroeconomic stability functions, there has been a comparative neglect of the issue of federalism and macroeconomic management within the federalism literature itself, and certainly little attention has been paid to the question of whether the conditions which supported his case have changed. Equally strangely, there appears to be virtually no discussion, even in Oates' treatment, of what precise implications for revenue-raising powers the centralization of macroeconomic management might have.

The standard theorem in the relevant federalism literature — that macroeconomic management is appropriately and virtually exclusively a function of central government — was originally constructed on the basis of at least four propositions.

First, it was observed that if monetary policy were allowed to be a local function, this would potentially lead to the excessive monetization of debt and there would be serious potential inflation problems: consequently, a central control of money supply is necessary.

Second, it was observed that local attempts at fiscal stabilization policies (i.e. traditional demand management-type policies) are likely to be weak as stabilizers because regional economies are much more 'open' than national economies: any attempt by a local economy to reflate itself is likely to result largely in a spillout of expenditure over its borders.

Third, it was claimed that debt-financing at a local level is likely to result in liabilities which are largely external to the locality, but national debt less so because national capital markets are better integrated than international capital markets. As a result, local debt will have a larger impact on future real incomes associated with repayments and it would be best to minimize it.

Fourth, it was argued that local economies are likely to have highly correlated economic activity levels because they are highly interdependent, so that cyclical movements in economic activity can be expected to be largely national in scope and appropriately tackled by nationwide strategies.

From all of this, Oates concludes that the federal government should take full responsibility for stabilization policy, and indeed asserts that in this respect a unitary system of government is distinctly superior. Musgrave (1959) in his earlier treatise on public finance had been somewhat less strident, acknowledging the possibility of fiscal policy coordination, but none the less clearly asserting the need for primary responsibility at the central level. These arguments have been accepted, more or less without question, since.

Even if we take the four propositions as originally stated (and I do not argue that one should in their entirety), it is not at all clear what they imply about the desirable size of the central fisc, about the role of intergovernmental grants, or about the allocation of specific tax bases between levels of government.

It certainly would seem to be the case that if a decision is made that the use of local debt for counter-cyclical purposes is inappropriate, the central government will, of necessity, be the principal stabilizing authority. Along with this there is a presumption that the federal government ought to have automatic stabilizers under its control. In terms of the tax system, this principally implies that the progressive component income tax system, which generates disproportionately large revenues in a boom, and vice versa in a slump, ought to be in the hands of the federal government. This can be done, however, without denying subfederal governments some share of the income tax base on some agreed basis (there may be a risk of the subfederals stepping in if the federal government were to cut tax rates for macro purposes, but it seems to me that this is best avoided largely by negotiation and consultation). There is substantial evidence, indeed, that in federal systems the stabilizers in the federal fisc play a significant role in offsetting primary income shocks in regional economies (see MacDougall, 1977; Sachs and Sala-i-Martin, 1989; Eichengreen, 1990).

Beyond the existence and availability of automatic stabilizers, the critical requirement for macroeconomic management in federal systems (and economic unions) would seem to be appropriate mechanisms for securing appropriate harmonization of fiscal policy and possibly appropriate sanctions for use where States pursuing independent fiscal policies impose excessive spillover costs on other regions.

Contrary to the traditional glib assertions in the fiscal federalism literature, the presumption that macroeconomic management should be essentially and virtually exclusively a central government function neither corresponds to the full working reality of existing federations, nor is strictly required. The coordinated development of agreements about broad basic fiscal rules (for example, relating to debt to GDP ratios) and the establishment of intergovernmental mechanisms for regular discussion and harmonization of budgetary strategies, combined with the existence of stabilizers (and corresponding deficit-financing capacity) within the central fiscal structure, may provide the most effective framework for macroeconomic management in most federal systems.

The dominance of the relevant literature by US analysts, and the apparent difficulties of coordinating fiscal policies across the large number of autonomous US States (not to mention local governments with significant fiscal and borrowing powers), may explain the strength of the usual claim that macroeconomic management should be centralized. In the context of the lesser number of fiscally autonomous regions in most other federations, and in Europe under EMU, the central level is more appropriately seen as one major player in an explicit or implicit central fiscal policy council.

For the European Community, in a distinctly pre-federal stage, the fact that the central budget is small, that it effectively has no capacity for deficit-financing, and that it lacks stabilizer-type revenue and social security functions, opens questions about whether an explicit stabilization fund, and an associated stabilization policy strategy, may be required as part of fiscal harmonization arrangements. This is the subject of other expert papers in this volume (especially Goodhart and Smith; Majocchi and Rey) and will not be considered here.

Concerning this point, I have taken the underlying presumptions of the traditional theorem about macroeconomic management in federal systems as given. There are, however, some reasons for questioning at least some aspects of them.

For one thing, it is clear that the four propositions set out earlier stem from an essentially Keynesian view of the world, with demand management presumed to be feasible and desirable — essentially because labour markets fail to clear as a result of wage rigidities and/or barriers to mobility. Notwithstanding the attack from the new neoclassical economists, the presumption of sticky or sluggish labour markets largely still prevails, and in particular would appear to be an appropriate basis for analysing macroeconomic management within the Community context under EMU, notwithstanding the suggestion of increasing labour market mobility.

It should also be said that at least two of the four propositions set out earlier (relating to whether local debt is more, or less, external than national debt, and to the degree of correlation between regional activity levels) must be considered dubious. As Gramlich (1987) has argued, the case against regional stabilization strategies, accordingly, may be weakened.

In particular, Gramlich contends that the different regional economic effects of internationalization, and the more common incidence of 'shocks' being transmitted through changes to relative asset prices (for example, energy prices) increase the likelihood of regionally differentiated macroeconomic shocks. In this context he contends that even in mature federal systems, regional stabilization initiatives (including via 'rainy day' stabilization funds made possible under constraints on the stock of debt at subfederal level, rather than on annual deficits) can make a more effective contribution than central government initiatives alone based on broader instruments.

Of course, what Gramlich has to say potentially falls foul of the objections made to discretionary fiscal policy adjustment following Friedman's cogent analysis of lags. There may be reason for believing that in this respect subfederal governments have a comparative informational advantage over federal governments in recognizing local shocks, but equally a risk that they cannot adequately distinguish between regional and national causes of macroeconomic perturbations.

7. Political models, decentralization, public sector size, and public sector performance

As noted earlier, the question of what political model would produce the outcomes claimed by fiscal federalism analysts in support of their hypotheses about the appropriate division of functions in federal systems has rarely been explicitly posed. It does seem to be universally implicitly assumed that fully representative democratic decision-making systems are in place. At the same time, however, it also seems to be typically assumed (again, implicitly) that benevolence drives public sector decisions.

Explicit public choice models of decision-making in federal-type systems have not been fully articulated, allowing for the incentives of politicians to seek to exploit the benefits to themselves of shaping policies to benefit politically powerful groups which can deliver votes or political resources more generally.

Two things that do seem clear, *a priori*, are that:

(a) a more limited (and usually more competitive) access to tax bases, often accompanied by greater limits on access to deficit-financing for subfederal rather than for federal levels of decision-making, implies a tighter budget constrained environment, *ceteris paribus*, for subfederal levels; but

(b) the role of intergovernmental grants, and related phenomena such as revenue-sharing, may slacken the efficiency-promoting effects of budget constraints on subfederal decision-making, and their distribution seems likely to be shaped as much by the political gains to donors as by requirements for efficiency and equity.

Within public choice theories primarily directed at single-level government analysis, some suggestions about the likely consequences of decentralization of decision-making have been offered.

Olson (1969), for example, suggests that only a few public goods can be considered national in the sense that they benefit all citizens: most public goods are local, conferring benefits to only a subsector of the society. Major taxes, however, especially in a highly centralized fiscal structure, are levied across all taxpayers. Given this, he suggests, an excessively limited level of public goods provision is likely in a system of majority voting. This is because the benefits of particular government programmes are limited to a few while the costs are widely spread over all the population.

According to this view, decentralization of expenditure and taxation would lead to greater (and more efficient) outputs of public services.

Other authors also suggest that individuals often make voting decisions on the basis of incomplete information. They assume that in most cases individuals are unable to fully appreciate or know the benefits of public programmes, while they are likely to be aware of the tax liability that these entail. This asymmetry of information causes a systematic bias towards underprovision of public goods — a bias which tends to be stronger the more centralized and complex the government structure. Again, the consequence is that decentralization will lead to increased, and more nearly optimally efficient, public sector outputs.

Buchanan and Tullock (1962) also review decentralized structures as producing more efficient outputs, but in their case because they constrain a tendency under majority voting to overexpand output. They argue that in a voting system where decisions are made on the basis of majority rather than unanimity, there will be a general tendency for overprovision of public goods because the minority groups which stand to benefit from the different public programmes can trade votes or enter into an alliance in order to become a majority and have their desired programmes implemented. There will be a strong motivation for this type of log-rolling activity — since most taxes are levied on the whole taxpaying population, the beneficiaries actually shoulder only part of the costs of these programmes. Moreover, many taxes are indirect and almost all tax decisions are made independently of any particular spending decision. As the government structure becomes highly centralized, the relevant benefits and costs of public expenditure become increasingly distorted. More complicated and indirect taxes are introduced and more projects of local interest get financed from nationwide taxes. These factors tend to create fiscal illusions that systematically underestimate costs and overvalue benefits of public expenditure to voter-beneficiaries, fuelling more log-rolling activities. As each beneficiary coalition works for the passage of programmes up to the point where their marginal benefits equal their marginal costs, without considering the costs borne by other taxpayers outside the coalition, an inefficiently high level of public goods and services tends to be provided. This results in an overextended public sector, and the more so the more centralized the decision-making.

In an entirely different approach, based on considerations of constitutional design rather than on a specific analysis of political systems in action, Brennan and Buchanan (1980) argue that decentralization of decision-making is a desirable design feature for fiscal systems. They model governments as revenue-maximizing leviathans, not as a depiction of current reality but as a model of worst-likely outcomes when electoral constraints and other checks and balances fail to be adequately constraining. A fiscal constitution in which political decision-making is decentralized and governments are forced to compete within and between levels will act to break the potential exercise of monopolistic power by governments that sometimes can occur despite other (for example, electoral) checks and balances. They also warn, however, that revenue-sharing arrangements, and systems of intergovernmental grants more generally, can act as conclusive/anti-competitive devices, enabling participating governments to diminish the joint political costs of revenue-raising.

The Brennan and Buchanan analysis has stimulated a substantial response, especially at the empirical level, based on the fact that the logic of their position would appear to imply that, other things being equal, we should expect to find that public sector size varies inversely with the degree of fiscal decentralization.

Oates' (1985) initial empirical study of the Brennan and Buchanan hypothesis has spawned something of an avalanche of studies. Unfortunately, the use of differing databases, and the varying measures of public sector size and decentralization, leave the state of play somewhat confused.

Oates himself, using two cross-sectional samples (one of 43 countries, the other of State/local sectors in the USA) found no evidence of the hypothesized negative relationship between fiscal decentralization and public sector size. A number of subsequent studies, however, have suggested more supportive results — especially when using US data, and when using the number of 'general purpose' local governments as an indicator of fragmentation (see, for example, Eberts and Gronberg, 1988; Zax, 1989).

Moreover, as noted earlier, Grossman (1989, 1990) has tested the dual hypothesis that while decentralization of expenditure decision-making should be associated with smaller public sector size, the presence of substantial intergovernmental grants (i.e. lack of commensurate decentralization of revenue-raising responsibility) might be expected to produce the reverse effect, with governments colluding to avoid the effects of interjurisdictional competition. For US data he finds support for both hypotheses; for Australian data he finds support for the collusion hypothesis but not for the expenditure decentralization hypothesis.

At this stage, in the absence of a comprehensive empirical study carefully including all relevant factors likely to influence public sector size, it would have to be said that the jury is still out on the Brennan and Buchanan decentralization hypothesis. In any event, it is not entirely clear what conclusions for institutional design we would want to draw if it were found to be supported. What we seek, presumably, is not smaller government *per se*, but, rather, better government. In this connection, the literature offers strong *a priori* support for decentralization — for reasons which have only partially to do with constraints on aggregate spending and, even then, require that appropriate correctives for cross-border spillovers, etc., also be utilized.

None the less, the growth of empirical studies of aspects of federalism is to be welcomed and, notwithstanding the fact that the choice of fiscal structures will reflect broader political values and purposes as much as economic and fiscal purposes, such studies could be helpful in discerning what impact fiscal structure has on economic and social policy performance in various dimensions.

Oates' empirical work (1972, 1985) has, in passing, indicated fairly systematic differences in the degree of fiscal decentralization evident in developed and developing countries. Whether or not this is significant in explaining their relative economic status is an interesting, but unanswered question. So, too, is the question, even among developed/ industrialized countries, whether there is any significant systematic relationship between fiscal structure and aspects of economic performance more generally. A recent study (Barwise and Castles, 1991) suggests, *inter alia*, that greater centralization of tax collection may, for example, be associated with a poorer record on inflation control among OECD countries. Their analysis, by their own admission, is preliminary and tentative, but it is highly suggestive and indicative of a wide range of issues yet to be addressed in practical empirical terms that may better shape our understanding of the importance of institutional design, fiscal structure included.

8. Concluding remarks

Because it has been shaped largely to explore issues in established mature federations (and/or systems of multilevel government) with firmly established and politically sovereign federal or central governments, the traditional fiscal federalism literature has some distinct limits as an aid to thinking about public finance issues in the European Community (and, for similar reasons, in the former Soviet Union).

In some measure, this is because in mature federations — at least those which are reasonably stable — a substantial degree of homogeneity in preferences for core public sector services (defence, foreign policy, minimum standards of social security, health and education, for example) can be expected to have evolved. This implies, for example, that centralizing such functions at federal and/or regional levels of government involves smaller costs from uniformity than seems likely in incomes that are only in the process of forming. The emphasis in the existing literature tends to be on being able to line up public goods and services on a spectrum from supranational to local, ignoring the fact that large differences in preference, at least in the early stages of federation, of relatively disparate constituent members can make what appear virtually universal conventional allocations of functions elsewhere less-relevant presumptions in new federations.

Moreover, with only few exceptions, the fiscal federalism literature pays little attention to questions of the evolution of federal-type arrangements. Here the work of Breton and Scott (1978) — outside the mainstream — may have more to offer to the future development of a theoretical understanding of evolving unions, with its emphasis, on the one hand, on administration and coordination costs and, on the other, on signalling and mobility costs as bases for considering the allocation and, over time, reallocation of roles and functions.

Notwithstanding contributions particularly emphasizing the possibility that decisions about the appropriate level for provision of public services can be separated from decisions about their production (for example, where economies of scale or of coordination exist: see Tulloch, 1969), the extant federalism literature has tended to focus on coordination largely either in the context of taxes, or as indicating a need for the centralization of functions. In Europe, in contrast, political considerations make coordination and harmonization more central concepts. Indeed, operationalization of the concept of subsidiarity where significant cross-border influences exist requires that coordination costs be recognized as a critical decision-making variable.

A further feature of the EC case which leaves a question mark over the extent of the applicability of the existing federalism literature (in its broadest sense) concerns political structures. Within existing models of fiscal federalism, the political counterparts to theorems about the likely outcomes of different assignments of functions are rarely discussed. Where implicit assumptions of well-informed, benevolent representative political arrangements are dropped in favour of explicit public choice style models (with the possible exception of those few analyses driven by bureaucratic agenda-setting assumptions), either median-voter, parliamentary/ congressional or executive/presidential style representative models have been employed, which at this stage in their development bear little or no resemblance to Europe's decision-making structures.

Finally, in relation to one of the most extensive areas of development in the fiscal federalism literature in recent years — that involving questions about the effects of mobility on fiscal arrangements — it is unclear how directly applicable the analysis is, at this time, to Europe. Labour market and residential mobility may be more limited *de facto*, if not *de jure*, between Europe's communities than within most established federations, and widely varying judgments appear to be held about how this will change as EMU and social aspects of union proceed. There are, none the less, important indications to the Community about issues relating to redistributional policies (interjurisdictional and interpersonal) that arise from it, as explained earlier.

Despite the caveats, fiscal federal theory as well as the experience of federal systems in operation offer insights relevant to constructing what obviously need to be new models of federal-style unions. Only broad limits about the nature of the required models have been provided here — but a basis clearly exists.

Appendix: Openness of local economies and free mobility

Cliff Walsh

The openness of local economies in federations where free migration between regions is possible raises a range of economic issues.

Much of the literature dealing with this aspect of local public economics began with the seminal work of Tiebout (1956). He attempted to show that in a federation with a large number of regions, each choosing a mix of local public goods and taxes, and with free mobility, the level of provision of local public goods in each region would be optimal and residents would locate between regions efficiently (an optimal population distribution). However, Tiebout's work was not rigorous and he made a number of disputable assumptions. In particular, it was supposed that: (i) residents had full information about all the alternatives; (ii) the number of regions was high enough so that residents had a spectrum of regions from which to choose; and (iii) residents' incomes were independent of locational choice.

Tiebout's conjecture was clearly stimulated by a claim by Samuelson (1954) that people had no incentive to reveal their true preferences for public goods and indeed faced an incentive to conceal them if the taxes they paid depended upon those preferences. Tiebout's hypothesis offered a mechanism for truthful revelation of preferences, at least for local public goods, because mobility between regions meant that residents could 'shop around' for the region offering the tax and public good mix closest to their true preferences. By 'voting with their feet', people revealed their preferences by migrating to these regions. Eventually, residents living in a particular region might be expected to have similar preferences so that people sort themselves by 'type' into various regions. In this way, Tiebout claimed that the problem of preference revelation would be solved for local public goods, and optimal levels of provision would be achieved.

An extensive literature has subsequently emerged on Tiebout's conjecture. The literature can be usefully categorized under the following headings: (i) analysing the implications of household mobility for locational efficiency; (ii) studies testing for a Tiebout mechanism; (iii) positive theories of local public good expenditure determination in the presence of household mobility; and (iv) the general implications of mobility for local public good provision. A brief review is presented below.

1. Locational efficiency and mobility

There are three issues which are usually discussed under the heading of locational efficiency. The first seeks to define a region's optimal population, the second looks at the optimal distribution of a given national population between regions and the last examines the efficiency consequences of free migration across localities. Each is reviewed below.

1.1. Optimal population

The following discussion examines the question of what a region's optimal population is, taking into account the amount of resources within the region and the productivity of labour. This issue has been studied by, among others, Flatters, Henderson and Mieszkowski (1974), Stiglitz (1977, 1983) and Hartwick (1980). Characterizing optimal local populations analytically is made more difficult when there are heterogeneous individuals. Hence the literature assumes that all households in a jurisdiction are identical, in terms of income and preference, and that all migrants are treated in the same way by local governments as existing residents. Other assumptions made in these models include: (i) the fixity of a factor, usually land, which generates regional rents; (ii) invoking the community preference model of local decision-making (discussed later) and assuming that regional governments adopt the Samuelson condition; (iii) that cost functions for public goods incorporate a population term to capture congestion and a public goods output term to capture economies of scale; (iv) that regional governments can control the number of residents in a locality; (v) that no existing or new resident retains ownership of resources outside the region; and (vi) that households leaving the region surrender ownership of local resources.

The key result from this literature is that region i can maximize its per capita welfare by adding residents until the consumption of public goods per capita equals per capita rents, or:[1]

$$NMB_i = \left(\frac{P_iQ_i}{n} - \frac{R_i}{n}\right) = 0 \qquad (1)$$

where NMB_i is the net marginal benefit from adding one additional person to region i; Q_i is a pure local public good; P_i is the per-unit price of a unit of local public good; R_i is the rent generated in region i from a fixed factor such as land; and n is the population of region i.

(a) Fiscal economies and externalities

P_iQ_i/n can be thought of as capturing a fiscal economy in the following sense. As n increases, P_iQ_i/n falls, i.e. the tax

[1] For example, see Boadway and Flatters (1982a). Note also that if there is congestion associated with public goods this equation must be modified but the essential result remains.

paid per resident in region i is a declining function of the region's population. Thus, an entrant to region i confers a fiscal economy on all existing residents. However, migrants do not take this economy into account when making their free migration decisions.[1] Hence, the fiscal economy can be seen as a 'fiscal externality'. Moreover, as a migrant enters region i, R_i/n declines. Region i therefore has its optimal population when the fiscal externality created by the last entrant equals per capita rents.[2]

(b) Henry George condition

Stiglitz (1977, 1983) has shown that when equation (1) is satisfied for a particular region, resource rents earned on the fixed factor are equal to local public good expenditure, so that:

$$P_i Q_i = f(n_i) - MP_i n_i \qquad (2)$$

where $f(n_i)$ describes aggregate regional output as a concave function of n, and MP_i is the marginal product of labour in region i. This result, which implies that when a region has its optimal population, public goods provision will be financed entirely from rents accruing to the fixed factor, has been termed the 'Henry George theorem'. Hartwick (1980) provides additional analysis of this theorem and Wildasin (1985) also gives a good exposition.

The assumptions upon which these models of optimal population are based are open to question (see Wildasin (1985) for a detailed discussion). One criticism is that in practice planners cannot independently vary the size of local populations to achieve an optimum since, as discussed below, in reality people migrate freely between regions in federal economies. With free migration, the Henry George theorem will not hold. Nevertheless, these models are of considerable interest as normative benchmarks against which to assess the efficiency properties of free migration outcomes.

1.2. Population distribution between regions

Buchanan and Wagner (1970), Buchanan and Goetz (1972), Flatters, Henderson and Mieszkowski (1974) and Wildasin (1980) have looked at the issue of how a given national population should be allocated efficiently across jurisdictions. The models used usually pose a planner's problem analogous to the one adopted in the optimal population models. The intuition behind the key results from this work are as follows. Suppose that the national economy consists of $i = A, B$ regions. For the federation's population to be distributed between the two regions optimally requires that $NMB_A = NMB_B$. This in turn implies that the net social benefit (NB) to the federation which results from reallocating a resident from region B to A should be zero, as follows:

$$NB = NMB_A - NMB_B \left(\frac{P_A Q_A}{n} - \frac{P_B Q_B}{m}\right) - \left(\frac{R_A}{n} - \frac{R_B}{m}\right) = 0 \qquad (3)$$

In other words, the differences between the fiscal externalities and per capita rents generated by the last migrant at a particular free migration outcome should cancel to zero for that particular population distribution to be optimal.

1.3. Free migration

However, in general, equation (3) will not hold for a particular free migration outcome. Consider this equation and the effects of reallocating a resident from region B to A. When the person enters region A they confer a fiscal externality on all existing residents of region A as noted above. However, the entrant to region A also imposes a 'fiscal diseconomy' on region B since the tax price faced by the residents remaining in region B rises as a resident leaves. As previously, when making free migration decisions it can be shown that individuals will not take into account these external economies and diseconomies and therefore equation (3) is unlikely to be replicated in a free migration outcome.

However, there are a number of instances where free migration may result in an optimal distribution of a federation's population (for a full discussion, see Wildasin (1985), pp. 14 – 17).[3] The most important relates to the type of tax used by localities. In the example above, it was assumed that head or wage taxes were used to finance public good provision. Such taxes are known as 'residence-based taxes' because their magnitude depends upon where a person locates. However, if it is assumed that all local taxes are 'resource rent taxes', i.e. taxes imposed on locationally fixed resources such as land or natural resources which only occur in a particular region ('location-specific taxes') and if one

[1] Buchanan and Goetz (1972, p. 30) show why freely migrating residents will not take these fiscal externalities into account. Basically it is because individuals have no incentive to take into account fiscal externalities and are only cognizant of the benefits and taxes that they personally share. However, Flatters, Henderson and Mieszkowski (1974) show that when taxes paid per worker are identical in each region this problem disappears and the fiscal externalities do not result in inefficient population distribution. This might happen, for example, if both regions were identical in preferences and regional aggregate endowments.

[2] This condition can alternatively be expressed as an equality between per capita consumption of a private good and the marginal product of labour (see Boadway and Flatters, 1982a, p. 617).

[3] In addition to the case where taxes paid per worker in the two regions are identical as noted in footnote 1.

assumes that congestion costs are zero, then there are no fiscal externalities generated by freely migrating individuals and optimality can be achieved. A household's contribution to a region's resource rent tax is independent of locational choice, unlike its contribution to a region's head or wage tax which is location dependent.

Hence, the distinction between whether location-specific or residence-based taxes are used by regions within a federal economy is crucial in determining the ultimate inefficiency of the free migration process. This distinction also helps to explain many of the varying results of free migration to be found in the literature. For example, in Negishi (1972) and Wildasin (1977) it is assumed that land taxes (location specific) are used by localities and hence free migration establishes locational efficiency. Studies which do not permit location-specific taxes find that free migration is locationally inefficient.

Another important case where free migration can be locationally efficient is where there are constant per capita costs of producing local public goods (see Wildasin (1985), p. 16). In this regard, some authors include head taxes in their free migration models (which induce locational inefficiency), but assume locally constant per capita costs which lead to locational efficiency. McGuire (1974) is an example. Similarly, Bewley (1981) considers the overall question of resource allocation and free migration and finds that efficiency can only be achieved in a free migration equilibrium when per capita costs are constant. He also draws the rather pessimistic conclusion that free migration equilibria do not exist when pure public goods are present.

1.4. Fiscal equalization transfers

Finally, a study by Boadway and Flatters (1982a) makes the distinction between source-based (location-specific) and residence-based taxes and demonstrates the inefficiency of free migration outcomes. They show that there may be two sources of inefficiency associated with free migration. First, there are the fiscal externalities identified above. Second, however, the existence of regional rents from fixed factors implies that residents will migrate according to differences in average rather than marginal products (when one's share of the rents depends on location). They go on to show that 'this inefficiency can be eliminated by a particular system of interregional transfers of private goods either voluntarily arranged by the provinces or imposed by the central government' (Boadway and Flatters (1982b), p. 622). The authors call this an 'equalization transfer'. Hartwick (1980) also demonstrates the existence of an optimal transfer which can be made between regions to eliminate the inefficiency associated with free migration.

The essential idea behind these transfers is that they reallocate people between regions (and hence equalize NMBs) until equation (3) is satisfied. The optimal transfer can be shown to be:[1]

$$t^* = \frac{nm}{N^*}\left[\left(\frac{P_A Q_A}{n} - \frac{P_B Q_B}{m}\right) - \left(\frac{R_l}{n} - \frac{R_{B2}}{m}\right)\right] \qquad (4)$$

Thus, the optimal transfer necessary to establish an optimal population distribution and eliminate the inefficiency associated with free migration is itself a function of the differences in fiscal externalities and per capita rents generated by the last migrant at a particular free migration outcome. In summary, the fiscal externality literature has identified a possible source of inefficiency associated with free migration: the existence of fiscal externalities generated by freely migrating residents which they may not take into account. This results in welfare losses at a particular free migration outcome (except in the special cases outlined above) which may be corrected by transfers of income between regions or interregional grants. It should also be noted that work by Wildasin (1983, 1984) on the welfare effects of intergovernmental grants has highlighted the fact that the determination of optimal grant policies depends on many variables other than those emphasized in the fiscal externality literature, making it unlikely that a single equalization grant would correct locational inefficiencies. Of particular importance is the response of localities to the central government equalization grant which is not taken into account in the fiscal equalization literature. Again, there is a need for improved positive theories of local government behaviour to be incorporated into this literature.

Thus, the fiscal externality literature has shown that, contrary to Tiebout's original conjecture, free migration in federal systems may lead to an inefficient distribution of population between regions because of two potential sources of inefficiency: (i) people will not take into account the fiscal externalities they generate when migrating; and (ii) they might migrate according to differences in average product between regions rather than marginal product.

2. Testing Tiebout's conjecture

A considerable amount of work has been devoted to testing Tiebout's conjecture. For example, it is often argued that property taxes, which may be used to finance local public

1 See Boadway and Flatters (1982b, p. 622) and Hartwick (1980, p. 696) for discussion.

goods are 'capitalized' into the value of property. If such capitalization does exist, it is evidence that Tiebout's conjecture may be correct. In other words, capitalization implies that people are not ignorant of local policy since they are taking it into account in their market transactions. This is essential if their choices on where to locate are somehow to ensure that local policies are efficient. Accordingly, evidence of capitalization is support for Tiebout's hypothesis and it is for this reason that so much effort has been put into determining to what extent and under what conditions capitalization may occur.

Oates (1972) found evidence of capitalization. Since then there have been other studies, including Cowring (1974), Gustely (1976), King (1973, 1977), Oates (1973), Sonstelie and Portney (1980), Hamilton (1976) and Starrett (1980), which have discovered capitalization in varying degrees. Underlying these studies are two notions of capitalization. The first, called 'comparative static capitalization' by Wildasin (1985, p. 66), is the change in equilibrium property values in a locality resulting from a change in fiscal policy. The second, called 'cross-sectional capitalization' by Wildasin, relates to the variation in property prices across jurisdictions observed in a particular equilibrium.

The general results of these studies are as follows. Firstly, comparative static capitalization only occurs when regions are utility-takers. If this assumption is relaxed, Starrett (1980) has shown that strong restrictions on preferences are required to retain capitalization. Secondly, for cross-sectional capitalization to occur, continual spatial variation in policy variables is needed for given regional attributes. Finally, a feature of models used in capitalization studies is that policy changes in a region do not affect residents' welfare because a change in policy in one region can be offset by a resident moving to another region. In this way, no person suffers a utility loss.

Thus, despite some limitations, models showing positive capitalization are of interest in the sense that they show under what conditions capitalization might occur. These conditions appear to be quite stringent, but there may be some circumstances where they could be met.

3. Positive theories of local public good provision with free migration

The openness of localities and free mobility also places an extra dimension on theories of how local governments determine their expenditure on local public goods. In the following discussion, the more important of the positive theories of government behaviour adopted in the public economics literature are briefly reviewed. Following this, behavioural models which have been applied at the local level (in particular to take into account government behaviour, mobility and expenditure determination) are examined and discussed. These models contain aspects of the standard public economics behavioural models, as well as aspects particular to the local level.

3.1. Community preference model

The simplest model to be found is based on the view that a community acts like a single household or group of identical households. This model is a natural starting-point for many theoretical and empirical studies of local public economic issues because of its relative simplicity.

It is usually assumed that a region acts as an individual with an exogenously determined level of income, or aggregate regional income. This income can be allocated between private and public good consumption. A jurisdiction chooses its level of local public good provision so as to maximize the welfare of its representative resident subject to a regional budget constraint. Hence, the community preference model is really the two-person model of standard consumer theory, except that there are two regional governments rather than consumers, and the budget constraint is obtained by aggregating over a homogeneous regional population.

The community preference model continues to be widely used in theoretical work but not so much in empirical work. For example, as will be seen later, it is used in the theoretical analysis of intergovernmental transfers, including the neutrality literature, tax-exporting, tax competition and optimal local taxation. Although the model is removed from any collective choice aspects of local government behaviour, effectively by assuming them away, it is often a necessary simplification in theoretical work in order to allow one to simplify some problems to a level which permits analysis. This explains its continued widespread use in theoretical work on local public economics.

3.2. Median voter models

Probably the simplest alternative to the community preference model is the median voter model discussed in Mueller (1989). The basic idea is as follows. Suppose that a public issue, for example, determining the level of provision of a local public good, is to be decided in an electorate of a fixed size by a number of pair-wise votes over a set of alternatives. Assume further that there is a simple majority voting rule. The pair-wise voting procedure is to continue until a policy (level of expenditure in this discussion) is found which cannot be defeated by any pair-wise contest against any other alternative. Call this a majority voting equilibrium. If issues are defined along a single dimensional vector and each voter's preferences are single-peaked in that one dimension, then this majority voting equilibrium will be the preferred outcome of the median voter. Given a diversity of preferences over local public goods, the median voter model predicts that the median's preferences will be implemented.

If single-peakedness is not achieved, it is possible that 'cycling' may occur whereby it is possible to keep redefining an issue so as to benefit some people and harm others. New winning coalitions, containing some members of previously losing coalitions and excluding members of the previously winning coalition, are always feasible.

The median voter model has been applied widely in empirical work on local public economics. For a review, see Wildasin (1985, pp. 42-52). However, median voter models have a number of limitations. First, they often assume that all households within a given class have identical preferences and only differ in their incomes and tax prices. Second, it is usually assumed that preferences take some specific form which imposes additional restrictions on outcomes. Third, there are the 'multiple' and 'fractile' fallacy problems noted by Romer and Rosenthal (1979). The multiple fractile fallacy is simply that the level of public good output actually chosen by a region may not be the level preferred by the median voter. Instead, the actual level may only be related to the median's preferences. The fractile fallacy refers to the problem that if local expenditures are decided by a decisive voter, as the median voter theorem suggests, how does one know that this voter is actually the one with median preferences?

Wildasin (1985, p. 53) notes that the multiple and fractile fallacy problems may be irrelevant in some cases. This would be the case if the objective is to build a behavioural model with good predictive power and at the same time be certain that levels of provision are always some given multiple of the median's preferred outcome. He also claims that a more compelling defence of the median voter model would be to show that it is in fact superior to proposed alternatives.

3.3. Bureaucratic models

Median voter models of local government behaviour emphasize the preferences of voters and implicitly assume that, by some mechanism, alternatives to be voted on are brought before voters. Some authors, for example Romer and Rosenthal (1979), have developed a theory to show the role of bureaucrats in influencing the set of alternatives to be voted on and hence the level of local public good provision.

In their simplest versions, these models assume that local bureaucrats propose budgets to voters which are either approved or not in a referendum. If the bureaucrat's proposal is defeated, then the budget is set at an alternative level, called a 'reversion' level, determined by some procedural rule, for example the previous year's budget plans with a percentage increase. Based on Niskanen (1971), bureaucrats are assumed to maximize the attainable budget. Epple and Zelenitz (1981) perceive local governments as maximizers of profits which flow to bureaucrats to be spent on perks.

3.4. Profit-maximizing localities

Another behavioural model posits profit-maximizing localities. In this model, policies are chosen to maximize land or property values because decision-makers' welfare is assumed to be linked directly to property values (see Margolis (1968) and Negishi (1972)). The key question is, will such behaviour result in efficient levels of provision? The general result (see, for example, Wildasin (1983) and Henderson (1985)) is that if utility-taking is assumed, profit-maximizing localities achieve expenditure and locational efficiency, solving at the same time the Samuelson problem of preference revelation.

Henderson (1985) examines the profit-maximizing locality problem in a two-period setting and shows that developers may find it profitable to renege in the second period on commitments made in the first period, thus destroying the efficiency result. However, fiscal zoning or other institutional arrangements may emerge to stop such cheating.

3.5. Voting models with property markets

Additional literature has emerged in which agents who determine local policies have their well-being linked to property values in the presence of free mobility. In this literature, decision-makers are assumed to be entrepreneurs who own land and develop new towns to attract migrants, or landlords or owner-occupier voters. The Tiebout proposition is usually vindicated in the models used in this literature since equilibria in which Samuelson's preference revelation problem is solved are characterized.

Further literature has linked property values with voting models of local expenditure determination. This turns out to be an interesting addition to the voting model, because now expenditure policy affects property values, which in turn influence voting decisions. Indeed, changes in property values may offset any marginal benefits from policy changes. A number of authors have looked at this question, including Epple, Filimon and Romer (1983, 1984) and Stiglitz (1983). The general result from their work is that an equilibrium with voting linked to property values yields public expenditure efficiency.

These models have much in common with the profit-maximizing models discussed above in the sense that voters can be seen as profit-maximizing enterprises. What differentiates them, however, is that they allow mobile households to own land, thus relaxing the utility-taking assumption and allowing a higher level of generality. On the other hand, the voting models usually have stronger assumptions in other respects.

3.6. Other models

There are other models which address the question of household mobility and expenditure formulation using different concepts of equilibrium from those above. One example is due to Foley (1967) who develops the idea of a 'public competitive equilibrium'. He argues that, whatever social choice mechanism one proposes, it is reasonable to expect it not to produce outcomes which are unanimously preferred to alternatives. Any equilibrium must dominate this set of alternatives, and Foley makes this set large. He then goes on to show that public competitive equilibria are Pareto-efficient, i.e. they dominate the set of alternatives, and that Pareto-efficient allocations are public competitive equilibria. Others have extended this result to local public goods, including Greenberg (1983), who adds a free population mobility constraint to the equilibrium condition. Such extensions generally show that public competitive equilibria are optimal only when private and public goods are allocated efficiently and that this is conditional on there being optimal populations in each jurisdiction. Also, the problem of preference revelation, an important ingredient in the Tiebout idea, is not addressed in this literature. There are other studies which adopt alternative concepts of equilibria in the context of household mobility. For a survey of these, see Wildasin (1987).

Summing up this discussion of the positive theories of local public good determination in the presence of Tiebout mobility, it can be seen that land-value or profit maximization leads to efficient levels of provision. Migration does not distort local decisions, and locational efficiency is also achieved in these models, depending on the assumptions made about the congestibility of local public goods and how they are financed.

4. Local public good provision and free migration: general cases

The positive models of local public expenditure determination reviewed above show efficiency in the presence of Tiebout mobility under fairly restrictive assumptions. However, Starrett (1980a, 1980b, 1982) and Boadway (1982) look at the implications of mobility for local public good provision under more general assumptions. Starrett's central result is that a locality will choose an efficient level of provision if congestion effects of migration are internalized. If this does not occur, then regions have an incentive to distort their decisions to attract or repel migrants. Thus, in Starrett's model, it is possible for mobility to distort local public good provision decisions.

However, Starrett adopts the utility-taking assumption (i.e. regions assume that they are small and per capita utility is not influenced by their decisions). Alternatively, Boadway develops a model of non-utility-taking regions which are open but large. He assumes that each jurisdiction maximizes per capita utility subject to an equal per capita utility constraint. Boadway also assumes that regions perceive the effect of their decisions on the equilibrium level of utility in the economy as a whole. These assumptions imply that each region is maximizing the common level of utility in the economy generally. He shows that this results in their choosing policies in an efficient manner. According to Boadway, therefore, regions have no incentive to do anything but provide efficient levels of local public goods.

The behavioural assumptions underlying these models are simple: a community preference model is used. It remains to develop general models of mobility with richer political models of expenditure determination. In such models, there is no reason to believe that the Starrett and Boadway results will hold. Nevertheless, in the mean time, whether or not one subscribes to the Starrett or Boadway view depends on the assumptions one finds most palatable: utility-taking small regions (Starrett) or non-utility-taking large open regions (Boadway).

References

Atkinson, A. B. and Stiglitz, J. E. (1980), *Lectures on public economics*, McGraw Hill.

Barro, R. J. (1974), 'Are government bonds net wealth?', *Journal of Political Economy*, 82.

Barwise, K. and Castles, F.G. (1991), 'The "new federalism", fiscal centralization and public policy outcomes', Discussion Paper No 27, Public policy programme, ANU, Canberra, September.

Beck, J. H. (1983), 'Tax competition, uniform assessment, and the benefit principle', *Journal of Urban Economics*, 13.

Becker, G. S. (1974), 'A theory of social interactions', Journal of Political Economy, 82.

Bell, C. R. (1989), 'Between anarchy and leviathan: A note on the design of federal States', *Journal of Public Economics*, 39(2).

Bergstrom, T., Blume, L. and Varian, H. (1986), 'On privatization of public goods', *Journal of Public Economics*, 29.

Bernheim, B. D. (1986), 'On the voluntary and involuntary provision of public goods', *American Economic Review*, September.

Bernheim, B. D. and Bagwell, K. (1988), 'Is everything neutral?', *Journal of Political Economy*, 96(2).

Bewley, T. F. (1981), 'A critique of Tiebout's theory of local public expenditure', *Economtrica*, 49.

Bhagwati, N. and Wilson, J. D. (1989), *Income taxation and institutional mobility*, Cambridge, MIT Press.

Boadway, B., Pestieau, P. and Wildasin, D. (1989a), 'Tax transfers and the voluntary provision of public goods', *Journal of Public Economics*, 39.

Boadway, B., Pestieau, P. and Wildasin, D. (1989b), 'Non-cooperative behaviour and efficient provision of public goods', *Public Finance/Finances Publiques*.

Boadway, R. (1982), 'On the method of taxation and the provision of local public goods: Comment', *American Economic Review*, 72.

Boadway, R. and Flatters, F. (1982a), 'Efficiency and equalization payments in a federal system of government: A synthesis and extension of recent results', *Canadian Journal of Economics*, 15.

Boadway, R. and F. Flatters (1982b), *Equalization in a federal State*, Ottawa, Economic Council of Canada.

Boskin, M. J. (1973), 'Local government tax and product competition and the optimal provision of public goods', *Journal of Public Economy*, 81.

Bradford, D. F. and Oates, W. E. (1971a), 'The analysis of revenue sharing in a new approach to collective fiscal decisions', *Quarterly Journal of Economics*, 85.

Bradford, D. F. and Oates, W. E. (1971b), 'Towards a predicative theory of intergovernmental grants', *American Economic Review*, 61.

Brainard, W. C. and Dolbear, F.T. jr. (1967), 'The possibility of oversupply of local "public" goods: a critical note', *Journal of Political Economy*, 75.

Break, G. F. (1967), *Intergovernmental fiscal relations in the United States*, Washington, DC, Brooking Institute.

Brennan, G. and Buchanan, J. M. (1980), *The power to tax: Analytic foundations of a fiscal constitution*, Cambridge, Cambridge University Press.

Brennan, G. and Pincus, J. (1991), 'An implicit contract theory of intergovernmental grants', *Publius*, 20.

Breton, A. and Scott, A. D. (1978), *The economic constitution of federal States*, Toronto, University of Toronto Press.

Breton, A. (1987), 'Towards a theory of competitive federalism', *European Journal of Political Economy*, special issue, 3(1&2).

Brown, C. C. and Oates, W. E. (1987), 'Assistance to the poor in the federal system', *Journal of Public Economics*, 32.

Buchanan, J. M. (1950), 'Federalism and fiscal equity', *American Economic Review*, 40.

Buchanan, J. M. (1952), 'Federal grants and resource allocation', *Journal of Political Economy*, 60.

Buchanan, J. M. (1990), 'Europe's constitutional opportunity', in Buchanan, J. M. et. al., *Europe's constitutional future*, ICA Readings 33, London, Institute of Economic Affairs.

Buchanan, J. M. and Goetz, C. J. (1972), 'Efficiency limits of fiscal mobility: An assessment of the Tiebout model', *Journal of Public Economics*, 1.

Buchanan, J. M. and Tullock, G. (1962), *The calculus of consent*, Ann Arbor, University of Michigan Press.

Buchanan, J. M. and Wagner, R. E. (1970), 'An efficiency basis for federal fiscal equalizations' in Margolis, J. (ed.), *The analysis of public output*, New York, Columbia University Press.

Bucovetsky, S. (1986), 'Nash equilibrium with tax competition', University of Western Ontario research report.

Burns, M. F. and Walsh, C. (1987), 'Market provision of price-excludable public goods: A general analysis', *Journal of Political Economy*, 89.

Cassing, J. M. and Hillman, A. L. (1982), 'State-federal resource tax rivalry: The Queensland railways and the federal export tax', *Economic Record*, 58, p. 162.

Chernick, H. A. (1979), 'An economic model of the distribution of project grants', in Mieszkowski, P. M. and Oakland, W. H. (eds), *Fiscal federalism and grants-in-aid*, Washington, DC, The Urban Institute, pp. 81-103.

Cornes, R. and Sandler, T. (1985), 'Externalities, expectations, and Pigovian taxes', *Journal of Environmental Economics and Management*, 12.

Cornes, R. and Sandler, T. (1986), *The theory of externalities, public goods, and club goods*, Cambridge, Cambridge University Press.

Courchene, T. J. (1993), 'Reflections on Canadian federalism: Are there implications for European economic and monetary union?', this volume.

Courant, P. N., Gramlich, E. M. and Rubinfeld, D. L. (1979a), 'Public employee market power and the level of government spending', *American Economic Review*, 69.

Courant, P. N., Gramlich, E. M. and Rubinfeld, D. L. (1979), 'The stimulative effects of intergovernmental grants: Or why money sticks where it hits', in Mieszkowski, P. M. and Oakland, W. H. (eds), *Fiscal federalism and grants-in-aid*, Washington, DC, The Urban Institute, pp. 5 – 21.

Cowring, T. G. (1974), 'Real property taxes, local public services and residential property values: Comment', *Southern Economic Journal*, 41.

Cumberland, J. H. (1979), 'Interregional pollution spillovers and consistency of environmental policy', in Siebert, H. et al. (eds), *Regional environmental policy: The economic issues*, New York, New York University Press.

Cumberland, J. H. (1981), 'Efficiency and equity in interregional environmental management', *Review of Regional Studies*, 2.

de Combrugghe and Tulkens, H. (1990), 'On Pareto-improving commodity tax changes under fiscal competition', *Journal of Public Economics*, 41.

Eberts, R. W. and Gronberg, T. J. (1988), 'Can competition among local governments constrain government spending?', *Economic Review*, Federal Reserve Bank of Cleveland, 24.

Eichengreen, B. (1990), 'Currency union', *Economic Policy*, April.

Epple, D., Filimon, R. and Romer, T. (1983), 'Housing, voting and moving: Equilibrium in a model of local public goods with multiple jurisdictions', *Journal of Urban Economics*, 3.

Epple, D., Filimon, R. and Romer, T. (1984), 'Equilibrium among local jurisdictions: Towards an integrated treatment of voting and residential choice', *Journal of Public Economics*, 89.

Epple, D., Zelenitz, A. and Visscher, M. (1978), 'A search for testable implications of the Tiebout hypothesis', *Journal of Political Economy*, 86.

Epple, E. and Zelenitz, A. (1981a), 'The implications of competition among jurisdictions: Does Tiebout need politics?', *Journal of Political Economy*, 89.

Epple, E. and Zelenitz, A. (1981b), 'The roles of jurisdictional competition and of collective-choice institutions in the market for local public goods', *American Economic Review*, May.

Filimon, R., Romer, T. and Rosenthal, H. (1982), 'Asymmetric information and agenda control: The bases of monopoly power in public spending', *Journal of Public Economics*, 17.

Flatters, F., Henderson, V. and Mieszkowski, P. (1974), 'Public goods, efficiency and regional fiscal equalization', *Journal of Public Economics*, 3.

Fletcher, C. and Walsh, C. (1991), 'Intergovernmental relations in Australia: Managerialist reform and the power of federalism', discussion paper No 4, Federalism Research Centre, ANU, Canberra.

Foley, D. (1967), 'Resource allocation and the public sector', *Yale Essays*, 7.

Forbes, K. F. and Zampelli, E. M. (1989), 'Is leviathan a mythical beast?', *American Economic Review*, 3.

Gerking, S. D. and Mutti, J. H. (1981), 'Possibilities for the explanation of production taxes: A general equilibrium analysis', *Journal of Public Economics*, 16.

Goodhart, C. and Smith, S. (1993), 'Stabilization', in this volume.

Goodspeed, T. (1987), 'A re-examination of the use of ability to pay taxes by local governments', *Journal of Public Economics*, 38.

Gramlich, E. M. (1977) 'Intergovernmental grants: A review of the empirical literature', in Oates, W. (ed.), *The political economy of fiscal federalism*, Lexington, Massachusetts, Heath-Lexington.

Gramlich, E. M. (1982), 'An econometric examination of the new federalism', *Brooking papers on economic activity*, 2.

Gramlich, E. M. (1985), 'Reforming US federal fiscal arrangements', in Quigley, J. and Rubinfeld, D., *American domestic priorities: An economic appraisal*, Berkeley, University of California Press.

Gramlich, E. M. (1987), 'Federalism and federal deficit reduction', *National Tax Journal*, 40.

Greenberg, J. (1983), 'Local public goods with mobility: Existence and optimality of general equilibrium', *Journal of Economic Theory*, 30.

Grossman, P. J. (1989). 'Fiscal decentralization and government size: An extension', *Public Choice*, Vol. 62.

Grossman, P. J. (1990). 'Fiscal decentralization and public sector size in Australia', mimeo, University of Western Australia.

Gustely, R. D. (1976), 'Local taxes, expenditure and urban housing: A reassessment of the evidence', *Southern Economic Journal*, 42.

Hamilton, B. W. (1976), 'The effects of property taxes and local public spending on property values: A theoretical comment', *Journal of Political Economy*, 66.

Hamilton, B. W. (1983), 'The flypaper effect and other anomalies', *Journal of Public Economics*, 22.

Hartwick, J. M. (1980), 'The Henry George rule, optimal population, and interregional equality', *Canadian Journal of Economics*, 13.

Henderson, J. V. (1985), 'The Tiebout model: Bring back the entrepreneurs', *Journal of Political Economy*, 93.

Hochman, O. (1981), 'Land rents, optimal taxation and local fiscal independence in an economy with local public goods', *Journal of Public Economics*, 15.

Inman, R. P. (1988), 'Federal assistance and local services in the United States: The evolution of a new fiscal order', in Rosen, H. (ed.), *Fiscal federalism: Quantitative studies*, Chicago, University of Chicago.

Kenyon, D. A. and Kincaid, J. (1991), *Competition among States and local governments*, Washington, DC, The Urban Institute Press.

King, A. T. (1973), *Property taxes, amenities, and residential land values, Cambridge*, USA, Ballinger.

King, A. T. (1977), 'Estimating property tax capitalization: A critical comment', *Journal of Political Economy*, 85.

King, D. (1984), Fiscal tiers: *The economics of multi-level government*, London, George Allen & Unwin.

Kolstad, C. D. and Wolak jr., F. A. (1983), 'Competition in interregional taxation: The case of Western Coal', *Journal of Political Economy*, 91.

Laffont, J. J. (1988), *The fundamentals of public economies*, London, MIT.

MacDougall Report (1977), 'Report of the study group on the role of public finance in European integration', Commission of the European Communities, Brussels.

McGuire, M. (1974), 'Group segregation and optimal jurisdictions', *Journal of Political Economy*, 82.

McGuire, M. (1975), 'An econometric model of federal grants and local fiscal response', in Oates, W. E. (ed.), *Financing new federalism*, Baltimore, Johns Hopkins University Press.

McGuire, M. (1978), 'A method for estimating the effects of a subsidy on the receiver's resource constraint', *Journal of Public Economics*, 10.

McGuire, M. (1979), 'The analysis of federal grants into price and income components', in Mieszkowski, P. M. and Oakland, W. H. (ed.), *Fiscal federalism and grants-in-aid*, Washington, DC, The Urban Institute.

McLure jr., C. E. (1964), 'Commodity tax incidence in open economies', *National Tax Journal*, 17.

McLure jr., C. E. (1967), 'The interstate exporting of State and local taxes: Estimates for 1962', *National Tax Journal*, 20.

McLure jr., C. E. (1969), 'The interregional incidence of general regional taxes', *Public Finance/Finances Publiques*, 24.

McLure jr., C. E. (1970), 'Taxation, substitution, and industrial location', *Journal of Political Economy*, 78.

McLure jr., C. E. (1971), 'The theory of tax incidence with imperfect factor mobility', *Finanzarchiv*, 30.

McLure jr., C. E. (1986), 'Tax competition: Is what's good for the private goose also good for the public gander?', *National Tax Journal*, 39.

Majocchi, A. and Rey, M. (1993), 'A special financial support scheme in economic and monetary union: Need and nature', in this volume.

Margolis, J. (1968), 'The demand for urban public services', in Perloff, H. S. and Wingo, L. (eds), *Issues in urban economics*, Baltimore, Johns Hopkins University Press, pp. 527-565.

Mieszkowski, P. and Toder, E. (1983), Taxation of energy resources', in McLure jr., C. E. and Mieszkowski, P. (eds), *Fiscal federalism and the taxation of natural resources*, Lexington, Massachusetts, Heath-Lexington.

Mieszkowski, P. and Zodrow, G. R. (1984), 'The incidence of local property tax: A re-evaluation', *NBER working paper* 1485.

Mintz, J. and Tulkens, H. (1987), 'Commodity tax competition between member States of a federation', *CORE discussion paper No 8247*.

Mueller, D. C. (1989), *Public choice II*, Cambridge, Cambridge University Press.

Musgrave, R. A. (1959), *The theory of public finance*, New York, McGraw-Hill.

Musgrave, R. A. (1961), 'Approaches to a fiscal theory of political federalism', in National Bureau of Economic Research, *Public finances: Needs, sources, and utilization*, Princeton, NJ, Princeton University Press.

Musgrave, R. A. (1971), 'Economics of fiscal federalism', *Nebraska Journal of Economics and Business*, 10.

Musgrave, R. A. (1981), ' The leviathan cometh — or does he?', in Ladd, H. and Tideman, T. N. (eds), *Tax and expenditure limitations*, Washington, DC, The Urban Institute.

Musgrave, R. A. (1983), 'Who should tax, where, and what?', in McLure jr., C. E. (ed.), *Tax assignment in federal countries*, Canberra, Australian National University Press.

Negishi, T. (1972), 'Public expenditure determined by voting with one's feet and fiscal profitability', *Swedish Journal of Economics*, 74.

Niskanen jr., W. A. (1971), *Bureaucracy and representative government*, Chicago, Aldine, Atherton.

Oakland, W. E. (1983), 'Income redistribution in a federal system', in Zodrow, G. R. (ed.), *The Tiebout model after 25 years*, New York, Academic Press.

Oates, W. E. (1972), *Fiscal federalism*, New York, Harcourt Brace & Jovanvich.

Oates, W. E. (1973), 'The effects of property taxes and local spending on property values: A reply and yet further results', *Journal of Political Economy*.

Oates, W. E. (1985), 'Searching for the leviathan: An empirical study', *American Economic Review*, 75.

Oates, W. E. (1989), 'Searching for the leviathan: A reply and some further reflections', *American Economic Review*, 79.

Oates, W. E. and Schwab, R. M. (1988), 'Economic competition among jurisdictions: Efficiency-enhancing or distortion-inducing?', *Journal of Public Economics*, 35.

Oates, W. E. and Schwab, R. M. (1989), 'Theory of regulatory federalism: The case of environmental management', unpublished paper.

Olson, M. (1969), 'The principle "fiscal equivalence": The division of responsibilities among different levels of government', *American Economic Review* (proceedings), Volume 49 (May), pp. 479-487.

Pauly, M. V. (1970), 'Optimality, 'public' goods and local governments: A general theoretical analysis', *Journal of Political Economy*, 78.

Pauly, M. V. (1973), 'Income redistribution as a public good', *Journal of Public Economics*, 2.

Petchey, J. and Shapiro, P. (1991), 'Chariot wheels and rebellion: An economic analysis of the inducement to federate', mimeo, Australian National University, Canberra.

Pisani-Ferry, J., Italianer, A. and Lescure, R. (1992), 'Regional stabilization properties of fiscal arrangements', in this volume.

Romer, T. and Rosenthal, H. (1979a), 'Bureaucrats versus voters: On the political economy of resource allocation by direct democracy', *Quarterly Journal of Economics*, 12.

Romer, T. and Rosenthal, H. (1979b), 'The elusive median voter', *Journal of Public Economics*, 12.

Rubinfeld, D. (1987), 'The economics of the local public sector', in Auerbach, A. and Feldstein, M. (eds), *Handbook of public economies*, Vol. 2, New York, Elsevier.

Sachs, J. D. and Sala-i-Martin, X. (1989), 'Federal fiscal policy and optimum currency areas', mimeo, Harvard University, June.

Samuelson, P. A. (1954), 'The pure theory of public expenditure', *Review of Economics and Statistics*, 36.

Samuelson, P. A. (1955), 'Diagrammatic exposition of a theory of public expenditure', *Review of Economics and Statistics*, 37.

Scharpf, F. W. (1988), 'The joint-decision trap: Lessons from German federalism and European integration', *Public Administration*, 66.

Scott, A. D. (1950), 'A note on grants in federal countries', *Economica*, 17.

Sonstelie, J. C. and Portney, P. R. (1980), 'Take the money and run: A theory of voting in local referenda', *Journal of Urban Economics*, 8.

Starrett, D. A. (1980a), 'Measuring externalities and second-best distortions in the theory of local public goods', *Econometrica*, 48.

Starrett, D. A. (1980b), 'On the method of taxation and provision of services for local public goods', *American Economic Review*, 70.

Starrett, D. A. (1982), 'On the method of taxation and provision of local public goods: Reply', *American Economic Review*, 72.

Stigler, G. (1957), 'The tenable range of functions of local government', in USA Joint Economic Committee (ed.), *Federal expenditure policy for economic growth and stability*, Washington, DC, US Government Printing Office.

Stiglitz, J. E. (1977), 'The theory of public goods', in Feldstien, M. and Inman, R. P. (eds), *The economics of public services*, London, Macmillan.

Stiglitz, J. E. (1983), 'The theory of local public goods 25 years after Tiebout: A perspective', in Zodrow, G. R. (ed.), *Local provision of public services: The Tiebout model after 25 years*, New York, Academic Press.

Sugden, R. (1982), 'The economics of philanthropy', *Economic Journal*, 92.

Tiebout, C. M. (1956), 'A pure theory of local expenditure', *Journal of Political Economy*, 64.

Tresch, R. W. (1981), *Public finance: A normative theory*, Texas, Business Publications.

Tulloch, G. (1969), 'Federalism: Problems of scale', *Public Choice*, Volume 6 (spring).

US Advisory Commission on Intergovernmental Relations (1981), *Interstate tax competition*, Washington, DC, ACIR.

US Advisory Commission on Intergovernmental Relations (1991), *Interjurisdictional tax and policy competition: Good or bad for the federal system?*, Washington, DC, ACIR.

Walsh, C. (1987), 'The distribution of taxing powers between levels of government: The possibility of State income taxation reconsidered', in Brennan, G. (ed.) *Constitutional reform and fiscal federalism*, Centre for Research on Federal Financial Relations, ANU, Canberra.

Walsh, C. (1990). 'State taxation and vertical fiscal imbalance: The radical reform options', in Walsh, C. (ed.) *Issues in State taxation*, Centre for Research on Federal Financial Relations, ANU, Canberra.

Walsh, C. (1991), 'Reform of Commonwealth/State relations: "No representation without taxation" ', discussion paper No 2, Federalism Research Centre, ANU, Canberra.

Warr, P. G. (1982), 'Pareto optimal redistribution and private charity', *Journal of Public Economics*, 19.

Wildasin, D. E. (1977), 'Public expenditure determined by voting with ones' feet and public choice', *Scandinavian Journal of Economics*, 79.

Wildasin, D. E. (1980), 'Locational efficiency in a federal system', *Regional Science and Urban Economics*, 10.

Wildasin, D. E. (1983), 'The welfare effects of intergovernmental grants in an economy with independent jurisdictions', *Journal of Urban Economics*, 13.

Wildasin, D. E. (1984), 'The welfare effects of intergovernmental grants with distortionary local taxes', *Journal of Public Economics*, 25.

Wildasin, D. E. (1985), 'Income taxes and urban spatial structure', *Journal of Urban Economics*, 18.

Wildasin, D. E. (1986), *Urban public finance*, Harvard, Academic Publishers.

Wildasin, D. E. (1987), 'Nash equilibria in models of fiscal competition', *Journal of Public Economics*, 35.

Wildasin, D. E. (1990), 'Budgetary pressures in the EEC: A fiscal federalism perspective', *American Economic Review*, 80.

Wildasin, D. E. (forthcoming), 'Income redistribution in a common labour market', *American Economic Review*.

Williams, A. (1966), 'The optimal provision of public goods in a system of local government', *Journal of Political Economy*, 74.

Wilson, J. (1985), 'Optimal property taxation in the presence of interregional capital mobility', *Journal of Political Economy*, 18.

Wilson, J. (1986), 'A theory of interregional tax competition', *Journal of Urban Economics*.

Winer, S. L. (1983), 'Some evidence on the effects of the separation of spending and taxing decisions', *Journal of Political Economy*, 91.

Zax, F. S. (1989), 'Is there a leviathan in your neighborhood?', *American Economic Review*, 79.

Zodrow, G. R. and Mieszkowski, P. M. (1983), 'The incidence of the property tax: The benefit view versus the new view', in Zodrow, G. R. (ed.), *Local provision of public services: The Tiebout model after 25 years*, New York, Academic Press.

Zodrow, G. R. and Mieszkowski, P. M. (1986), 'Pigou, property taxation and the underprovision of local public goods', *Journal of Urban Economics*.

The design of federal fiscal constitutions in theory and in practice

Bernd Spahn

Institut für Öffentliche Wirtschaftsgelder, Universität Frankfurt/Main, Germany

Contents

Tables

Summary

This paper establishes some theoretical principles that could guide the design of fiscal arrangements in a federation, notably the further development of an EC constitution under economic and monetary union (EMU).

The theoretical literature on fiscal federalism, heavily influenced by the idea of forming separable layers of constituencies according to the incidence of various regional public goods, is very restricted in scope and for practical purposes because important normative questions related to the design of federal politics are ignored.

A major problem to be overcome by any federal constitution concerns the choice of own taxes, shared taxes and grants. Various arguments relating to vertical tax assignment are scrutinized: benefit-pricing, the instrumental-approach argument, tax competition, the regional-arbitrariness case, and economies of scale in collecting taxes. Also the case for tax-sharing is more thoroughly examined. The fear that tax-sharing may nourish a 'leviathan' central government seems to be unfounded. On the contrary, institutional tax-sharing formulas are likely to avoid overexploitation of tax bases more effectively than other devices designed by economists.

The paper also looks into aspects of horizontal tax coordination and equalization. Under horizontal aspects, the assignment of taxes to regions may cause undesired economic effects. If political stability and fairness are regarded as factors of production, these phenomena require corrective actions through the redistribution of funds, and in particular for more active transfer policies at EC level.

Grants — both vertical and horizontal — are important means of correcting fiscal imbalances for multilevel government. For the Community, horizontal equalizing grants are unlikely to become acceptable, and equalization is more likely to take the form of asymmetrical vertical grants-in-aid programmes or, possibly, of tax-sharing — with implicit redistribution formulas.

Although important basic decisions have been made with regard to future financial cooperation in the European Community, it is still unclear which direction the Community may follow after the achievement of EMU. An attempt is therefore made to evaluate some of the experiences found in Western federations that may be useful for shaping EC federal financial arrangements and the financing of the Community budget under EMU.

The practical arrangements for two federations, Australia and Germany, are discussed in more detail in sections 3.1 and 3.2, respectively. Australia exhibits a rather centralized fixed structure, and this is unlikely to guide the Community in its further development. Certain elements of the Australian federal machinery may, however, be useful for the Community, especially those relating to the horizontal coordination of regional policies and equalization provisions. Germany with its uniformity-of-living philosophy is less appropriate in this case. However, Germany is more likely to influence the future of Community finance through its vertical fiscal arrangements, notably tax-sharing, and through institutional achievements in the areas of responsibility-sharing and joint financing.

It is obvious that EMU will lead to the reconsideration of existing institutional arrangements in Europe in the light of stronger monetary policy coordination within the Community and, eventually, to the creation of a single European currency. It should be stressed that the quest for centralizing policy functions in the European Community is rather weak even under EMU. As new forms of coordinative federalism similar to the German model emerge, it is essential that national governments preserve their sovereignty while acting conjointly. However, the need for coordinating policies will ultimately have to be recognized by all governments concerned, and it will have to apply not only to economic policies, but also to foreign policy and defence.

1. Introduction

This paper discusses some principles for assigning taxes and designing grant systems in multilevel government structures under the conditions of an economic and monetary union. Furthermore, the paper looks into federal financial constitutions as found in Australia and Germany, and elaborates on the further development of federal financial relations within the European Community.

2. Principles for assigning taxes and grants to multilevel government

2.1. The 'layer-cake' view as a reference point

2.1.1. The basic approach

The theoretical literature on fiscal federalism is heavily influenced by the 'layer-cake' idea.[1] According to this view, consumption of government services can be defined over ideally distinct geographical areas forming separable layers of constituencies for each public good. Larger constituencies supersede smaller regions forming higher layers of government responsibility whenever this is warranted by a larger geographical distribution of public goods. Efficiency considerations then require regional governments to decide on Pareto-efficient levels of public services for their respective jurisdictions rather than provide these services at uniform levels of output across all regions.[2] Public constituencies are thus ideally formed and delineated in accordance with the local distribution of internal benefits derived from government activities, and the efficient outcome would reflect both the specific preferences as well as the ability to pay of taxpayers within each region. As a consequence there would be no conflict between governments at the vertical level — neither for the provision of public goods itself nor for its financing (which would obey the principle of pure benefit taxation).[3]

In the real world, regions cannot be delineated neatly according to this view, even abstracting from given political boundaries, mainly for two reasons.

(i) For each regional public good there may be spillovers whereby neighbouring regions are affected by public activities in other regions. This calls for cooperation among the respective governments and/or financial compensation for regional benefit spillovers, giving rise to a system of horizontal grants or transfer payments. However, it does not require interventions by the central government.

(ii) Governments usually provide a full set of public goods — not separable, specific regional goods — for their constituencies. It is then most unlikely that taxpayers' preferences are sufficiently homogeneous such that all public goods are consumed within any one region. Correspondence between the taxpayers' willingness to pay and the provision of each public good cannot be achieved under these circumstances.

However, if the individual preferences of taxpayers do not conform with the local supply of government services, people are free to move into other constituencies in order to enhance personal (and social) welfare according to the Tiebout view.[4] Again, no central policy intervention is needed to maximize social welfare, except for framework legislation creating and guaranteeing the conditions for mobility of goods and services as well as of factors of production, and hence for greater efficiency, within the whole confederation.[5] This does not necessarily call for a widening of central responsibilities at the level of policy implementation.[6]

The layer-cake model stresses the vertical division of independent government functions. The larger the geographical distribution of benefits derived from a public good, the higher the level of government providing that good. Higher levels are invited to act only to the extent that lower levels of government cannot provide services efficiently themselves

1 A basic reference to this model is found in Wheare (1963).
2 This is the so-called 'decentralization theorem', Oates (1972, p. 35).
3 For a theoretical discussion of the division of functions among levels of government see, for instance, Oates (1972, Chapter 2), and on tax assignment within the layer-cake approach, Spahn (1988). See also Van Rompuy, Abraham and Heremans (1990).

4 Tiebout (1956). There may be restrictions to mobility by cultural, linguistic and other barriers, yet these can be fully incorporated into the Tiebout model: as long as the benefits (through local public goods plus individual earning potentials, cultural and other linkages, etc.) from remaining in a given community are considered to be higher than the (opportunity) costs from moving into other jurisdictions, the situation can be described as Pareto-superior to migrating.
5 The Commission's initiatives aimed at realizing the single European market as well as EMU are, of course, a prerequisite to increasing efficiency and social welfare in Europe. They lead to the abolition of economic, institutional, legal and technical barriers to mobility enabling taxpayers to react according to the Tiebout view.
6 A model that stresses the importance of framework legislation at the centre and policy implementation at the regional level is found in Germany. It has therefore been labelled a 'horizontal model of federalism' in contrast to the (vertical) layer-cake view. Nevertheless, there are strong centripetal forces embedded in the German model of federalism and the central government has successfully increased its functions over the years. See Spahn (1978) and for a more recent assessment, Spahn (1991a).

(subsidiarity principle). The central government's responsibilities are thus rather limited.[1]

On the other hand, the vertical separation of government functions leaves ample room for independent policies at each level of responsibility emphasizing cooperation among governments at the horizontal level. The model has no scope for equalization payments or intergovernmental grants, except for those warranted by regional benefit spillovers horizontally. Moreover, all government services can be attributed to regional governments who are free to design their respective tax systems independently, in accordance with benefit-pricing rules.

2.1.2. Normative ingredients

The model sketched is the economist's only positive contribution to the theory of fiscal federalism. It is wholly based on efficiency considerations disregarding distributive aspects entirely. Its conclusions are strong but very restricted in scope because they disregard a number of important aspects reigning federal financial relations in practice. It should be noted, however, that any deviation from this model necessarily implies normative (or value) judgments which are dictated by historical, political, psychological and social traditions and processes.

Normative judgments are, however, crucial for the design of federal financial relations to the extent that they reflect consensus views within the polity. There are essentially two types of processes leading to political consensus among regional authorities: those based on mutual benefits and those based on nuisance potentials or concepts of fairness.[2]

Mutual benefits: an example of the first type of consensus-forming processes is the case of extreme economic discrepancies among regions leading to large interjurisdictional migration. For the economist migration is a (value-neutral) precondition for enhancing efficiency. Politically, however, large flows of migrants may not be acceptable. Migration can cause enormous social problems resulting from mounting political tensions in labour-receiving regions, and social and economic disruptions in labour-losing areas. Even from an economic viewpoint, migration may entail social costs due to agglomeration effects, on the one hand, and to the emergence of non-viable regional economies, on the other. It could lead to regional inequalities as to the provision of public goods and to imbalances between (infrastructure) capital and labour — given that land, fixed capital and other (cultural) inputs to regional production and social life are essentially immobile.

Therefore there is a common interest, both of labour-attractive and inattractive regions, to restrict labour mobility in order to avoid the costs of too rapid transformations of local economies and an unacceptable degeneration of regional cultural heritage. If these costs are thought to outweigh the efficiency gains from migration, there is a strong case for a consensus on monitoring and discouraging migration through (opposite) economic incentives or even institutional barriers.

This consensus is wholly based on perceived mutual benefits of the regions concerned. If a wider concept of Pareto optimality is adopted, these political ingredients of intergovernmental arrangements can be incorporated into the traditional benefit-pricing model. Restricting mobility generates political stability and, if this is considered to be 'good' for citizens in all regions concerned, requisite political action can be regarded as an input to a generalized social production function correcting for regional externalities and thereby increasing general welfare.

Yet this type of government intervention may entirely be effected at the horizontal level, through bilateral or multilateral treaties among States. The case for central government intervention is relatively weak here, unless the costs of producing stability would be lower with central provision.

Nuisance potentials and fairness: as to the other type of consensus-forming processes, one should consider that the bargaining strength of regions within a confederation may vary considerably. There are many avenues toward correcting bargaining biases through the forming of regional coalitions and log-rolling. But if regional interests are too specific, and log-rolling potentials[3] are low, there is always the threat of regional interests being ignored. If bargaining processes among regions are considered to be unfair, however, minority regions may have recourse to nuisance strategies or retaliation by which they can impose costs onto other regions without being able to pursue their interest directly; they start exploiting their nuisance potentials.[4] It

[1] This follows from the reduced number of government services entailing a comprehensive coverage of benefits for the whole confederation, the most important of which is defence.

[2] Some readers may find fairness to be unrelated to nuisance potentials. To the author, fairness does not exist *per se*, but is part of a consensus designed to stabilize the polity, where potential nuisance is felt to be destabilizing.

[3] 'Log-rolling' in this context refers to the possibility for trading deals, i.e. where State A agrees to support State B with regard to a particular piece of legislation in return for concessions elsewhere.

[4] Nuisance potentials and fairness are related. To the extent that it is possible to convey minority feelings onto individuals of the majority group, e.g. via psychic analogies ('put yourself in their position'), nuisance can be culturally 'internalized' through education. It is then unnecessary to exert nuisance directly because fairness acts as a psychic corrective protecting minority interests indirectly.

then becomes the interest of the dominant regions to accept certain demands made by weaker States in order to avoid those costs and to preserve political stability. In this case, central government intervention may be warranted because there is the need for an impartial arbiter in the bargaining game, since participating States themselves are always interested parties.[1] It is obvious, though, that the central government's role as an impartial arbiter must be accepted by minority regional governments. Since this is in the realm of normative judgments, it may not necessarily happen to be the case.[2]

Again, fairness — as a normative ingredient — is usually not incorporated in the concept of Pareto efficiency; as before, it could be interpreted to form an input into a more general social production function creating gains from political stability. Redistribution of resources among regional governments then becomes a factor of production.

It is in this sense that the central government may have to intervene in order to increase general welfare and to avoid the threat of social unrest, losses in economic potential, political instability or even secession within a confederation.[3] This (normative) redistributive goal has been accepted by the Community. It was officially adopted through the Single European Act (Article 130) where 'cohesion' is seen to form a guiding principle for Community policies.

2.1.3. Centralization versus decentralization

Multilevel finance together with the subsidiarity principle tend to limit the scope for centralizing government functions. Centralization is warranted only if specific government services can be proven to be supplied more efficiently at the central level. The case for centralizing functions is usually difficult to make.

Theoretically, the layer-cake model would support centralization only for three reasons:

(i) the homogeneous preferences of voters/consumers for public services across regions;

(ii) the wider public-goods characteristics of a government service;[4] and

(iii) the lower transaction costs through economies of scale in the provision of public goods.

Homogeneous preferences are a necessary, but not sufficient, argument for centralizing government activities in order to enhance efficiency. Even though preferences may be homogeneous throughout Europe, it may still be efficient to provide public services at the lower tiers of government if this is more cost-effective or if preferences are manifest more clearly at the regional level. The argument seems to be rather weak for the Community anyway, given that preferences for public goods still appear to be very heterogeneous at present, and that maintaining diversity within Europe is widely accepted as a policy objective, leading to a better quality of life for citizens within the whole confederation.

By far the most important argument concerns public goods. If the Community is to extend its responsibilities for the provision of supranational government services, e.g. defence, this will strongly reinforce centripetal forces in Europe. But centralizing functions by political decisions based on a broad consensus view of national governments has to be thoroughly distinguished from the alleged automatic attractiveness of the central budget that is sometimes stressed in the literature on the subject.[5]

While it is obvious that a conscientious decision to centralize functions must entail a strengthening of the central government's own resources — corresponding to reduced needs for resources at subcentral levels — the alleged automatism leading to a 'concentration process' for public resources remains to be validated empirically (Pryor, 1968, pp. 70-79; Oates, 1972, p. 210; Pommerehne, 1977, p. 306; Nutter, 1978, pp. 90-94; Oates, 1991).

[1] This could be true if political bargaining strengths are distributed unevenly, e.g. by imbalances in the size of jurisdictions or in economic potentials. German unification provides a good example for the federal government having been forced to take corrective action in order to achieve a fair deal as to the distribution of taxes collected among the old and the new States *(Länder)*.

[2] Central government impotency to integrate regional interests can best be demonstrated by pointing to the situation in federations like the former Soviet Union and the former Yugoslavia, and, to a lesser extent, Canada.

[3] As can be seen from all federations of Eastern European countries, central government intervention may also be counterproductive if this is considered to undermine State sovereignty. On the importance of federal models for former socialist countries, see OECD (1991).

[4] Sometimes this quality is also referred to as 'regional spillovers'. As is argued above, regional spillovers could also be dealt with, and usually are, by horizontal cooperation among regional governments. It is thus not automatically a case for centralization as such. Where regional spillovers are universal for the whole region, however, they are indistinguishable from supraregional public goods.

[5] In the German literature this is usually referred to as 'Popitz's law' (Popitz, 1927), yet it became more widely known through the work of Peacock and Wiseman (1967).

In the following analysis no attention is paid to occasional political rhetoric which aims at painting the EC Commission as a voracious leviathan *per se*, eager to get a hold on the public resources of nation States. This view may reveal itself to be entirely based on 'gut feelings', not on objective evidence. The size of the EC budget is comparably small and so is the number of 'Euro-bureaucrats'. Yet it seems to be clear that the Community will evolve by increasingly shifting responsibilities onto the central government. Deliberate actions for financing these services will have to be considered as well. As to multilevel government finance, much depends, therefore, on the scenario for the distribution of functions within a future European Community.

Despite the importance of public goods and their role in a possible concentration process, the argument is necessary but not sufficient for centralizing the supply of public goods on efficiency grounds. This is because there may be simultaneous countervailing forces favouring decentralized government services, e.g. a lesser degree of administrative effectiveness of the central government, or diseconomies of scale in the central provision of these goods. Therefore, the residual argument of the economist for centralizing power within a confederation largely rests on transaction costs. If it is shown that central decision-making does in fact reduce coordination costs, the role of a central government will be strengthened.[1] Yet in essence this argument is more in favour of centralized coordination; it does not necessarily imply an increase in a central government's outlays or expenditure functions. The centre's role could be restricted to coordination, and services would continue to be supplied by national governments. This model has been shown to work successfully even in the realm of defence. Furthermore, it is typical for the horizontal approach to federalism adopted in Germany and, to some extent, in Switzerland.

In addition to the economic costs of decentralized coordination, there may exist what could be called 'political transaction costs'. It has been argued that smaller government units are more likely to respond to the demands of special-interest groups and political pressure which may entail inefficiencies and slower economic growth. Mancur Olson went as far as to stipulate that 'the efficiency of an economy may be increased either by making narrow special-interest groups weaker or by making the government stronger in relation to them' (Olson, 1983b, p. 23; see also Olson, 1983a, Chapter 6). This argument points toward greater centralization of responsibilities, not necessarily toward the central provision of public services, and seems to be rather convincing.[2]

[1] This argument has been stressed, *inter alia*, by Breton and Scott (1978).

It should be noted, however, that most arguments relating to the centralization of government functions stem from the expenditure aspect; they rarely result from taxation. There is little support for a centralization of government functions based on pure revenue aspects. Taxes seem to follow expenditure under the benefit-pricing rule implicitly — which is thought to be the prerequisite for economic efficiency in the public sector.

The main rationale for centralized tax collection is again based on higher transaction costs or political costs of decentralized tax collection. Yet even though there may be economies of scale in central tax collection, it is often overlooked that this may warrant central tax administration, not the assignment of the proceeds from taxation to the central government. The choice between own taxes, shared taxes and grants in multilevel federal finance is discussed in more depth in section 2.2.

2.1.4. Some initial conclusions

As far as the vertical distribution — and notably the centralization — of functions in a federal polity is concerned, pure economic theory offers little guidance. The thrust of the arguments is on efficiency regarding the provision of public goods and on transaction costs. Considering efficiency aspects as well as normative political considerations the division of functions between the central and the States' governments is seen to be determined as follows.

(a) There is a strong case for centralizing the provision of generalized public goods the benefits of which can be attributed to the whole confederation. Historically, a shared consensus on forming a regional defence pact has usually been at the cradle of existing federations, with the notable exception of the Community. Apart from defence and foreign policy, the case for generalized public goods is difficult to make, which explains the still reduced importance of the EC budget measured as a percentage of Community GDP. As to future developments of the EC budget, much depends on the political will to concentrate and join efforts in defence and foreign policy in Europe.

[2] Even the German Government found it useful, recently, to put the blame onto the Community for having to announce an increase in VAT rates, using the central government as a scapegoat for its policies even before an official agreement on higher standardized VAT rates had been reached by the Council.

(b) Based on mutual gains from internalizing regional spillovers, there is a case for coordination and cooperation among regions. The central government can play an active role by supporting these processes through information and standardization policies as well as through the provision of a legal and political framework for coordination. As is seen from the German model of federalism (which is discussed later in detail) a horizontal division of functions may result in the central government providing support through framework legislation, the States retaining the power to implement these policies according to their preferences and within the restrictions set by the centre. Central government activities usually do not require many budgetary resources under such an arrangement.[1]

(c) Political costs may emerge through regional competition for factors of production causing social disruptions and unrest through large-scale migration, for instance. This may endanger 'cohesion' within the Community. Again, emerging problems could be left to be settled by the regions concerned;[2] yet there is a case for the central government helping to smooth adjustment processes, for example by the setting of minimum standards for public services in order to check interjurisdictional migration. Coordinative functions of this type do not require large increases in budgetary resources.

(d) There is a different type of social costs based on the power of any one region to impose costs onto the federation through political frictions and retaliation if federal arrangements are thought to be unfair. It is in the interest of the Community to avoid such costs and to establish an equality of opportunities by setting minimum standards for the provision of public goods. Where these cannot be met through own financial resources, there is a case for the central government engaging in redistributive activities via asymmetrical vertical equalization grants and/or asymmetrical financial contributions of regions to the financing of central government activities. Policies of this type may lead to an expansion of the EC budget in the future.

(e) Similarly, within a Community evolving at different speeds, the more dynamic Member States may have to 'bribe' the smaller ones to join the bandwagon of common policies within the Community. This approach may help to reduce political frictions and, hence, costs to the Community. In order to render these policies feasible, it may be necessary to channel funds through the EC budget in order to 'blur' direct compensation payments. Furthermore, asymmetries in the distribution of resources may be objected to on political grounds, or central funds may have to be rendered accessible to all regions for legal and constitutional reasons. This must lead to a 'churning' of resources through the central budget, which is a dreadful thought to the economist eager to dispel fiscal illusion rather than enhancing it through such devices. It should be noted, however, that political acceptance and stability is a public good, and that fiscal illusion created through 'churning' may be the price to be paid for achieving it.

(f) Finally, the central government may play an active role in protecting national governments against special-interest groups and lobbying within their respective jurisdictions. This may, again, warrant greater responsibilities of the Commission in the setting of a framework for national legislation, although it does not necessarily entail a greater EC budget.

There may be a further case for central government intervention that is usually not addressed in the traditional model of fiscal federalism. Regional economic and political integration, especially under EMU, may require the centralization of payment or funding functions in Europe, i.e. a clearing system to be exerted by the Commission. For instance, existing proposals for a coordinated system of value-added taxation in Europe require the creation of a regional clearing mechanism. A possible future pension fund for European workers and employees may also become a reality under EMU. A number of such funds could be directly related to EMU. For example, there may be the need for a central unemployment insurance fund in order to mitigate regional unemployment caused by asymmetrical shocks. Furthermore, it may well be that parts of existing national public debts *vis-à-vis* national central banks will not be transferred onto the consolidated balance sheet of the European System of Central Banks (ESCB). Excessive parts of the national debt of any one member country may then be transferred into 'wind-up funds' that will be used to reschedule and serve existing debt under national governments' responsibilities without affecting coordinated monetary policies. These 'wind-up' funds are likely to remain under national responsibility; however, they may require EC intervention in the form of financial contributions to the redemption of the debt.

Such funds or clearing mechanisms may be regarded as being 'off budget' (as they are in many countries, e.g. pension

[1] The case of Germany illustrates, however, that framework legislation exerted by the centre may result in stronger central government intervention in the longer run, especially *vis-à-vis* the weaker regional governments.

[2] In Germany, for instance, the States are practicing a system of 'brotherly' horizontal equalization payments by which differences in taxable capacity are being reduced without federal government intervention.

funds or public health insurance funds), and that they should be governed by a strict quid pro quo principle or other 'rules of the game' as in the case of pure clearing funds. It should be noted that the Guidance Section of the European Agricultural Guidance and Guarantee Fund — which evokes strong regional *juste-retour* thinking — would also qualify to be treated in this fashion, by being put 'off' the EC budget to be run separately under its own specific 'rules of the game' (Spaventa et al., 1986).

2.2. The choice of own taxes, shared taxes and grants

2.2.1. Tax assignment

Any confederation has to deal with the vertical as well as the horizontal assignment of financial resources to its different governments.

2.2.1.1. Assigning taxes vertically

The vertical distribution of funds[1] usually follows the distribution of functions among different layers of government: the smaller the competence of the centre, the more reduced the scope for defining its own resources. The vertical distribution of funds thus reflects, to some extent, the degree of centralization within a federal State.[2]

Yet, apart from the question of the vertical structure of expenditure, there is the issue of the vertical assignment of tax instruments. The question is whether certain taxes are more suitably assigned to the central government than to other levels of government, or whether tax assignment is simply a matter of convenience.

A useful starting-point to discuss this issue is found in Musgrave's systematic treatment of the question (Musgrave, 1983). He would assign the following taxes to the central budget.

Taxes with highly progressive rates — Such taxes are expected to entail perverse incentives for migration among regions if levied at the regional level. This is consistent with Musgrave's contention that the distribution function should be exerted by central governments.

ê*Taxes on highly mobile tax bases (e.g. portfolio capital)* — Such taxes are expected to distort locational patterns of economic activity if levied at the regional level.

Taxes on tax bases that are distributed across jurisdictions in a highly unequal fashion (e.g. natural resources) — Such taxes are expected to lead to geographical inequities and to entail allocative distortions if levied at the regional level.

On the other hand, subcentral authorities should exploit the following revenue sources.

Taxes on regionally immobile tax bases — Such taxes do not exhibit 'excess burdens', and therefore they are neutral to regional locational decisions.

Taxes relating to specific regional benefits — Such taxes (e.g. user taxes and fees) create little incentive for moving across jurisdictions.

Musgrave's criteria, although very useful, seem to be heavily influenced by the assignment of taxes in the United States of America. They may not be fully sufficient for discussing the assignment of taxes within the Community. It is, for instance, debatable whether progressive subnational taxation does, in fact, lead to perverse migration effects. Tiebout migration seems to be exaggerated by economists anyway — given that individuals are usually more or less firmly tied to their regional cultural heritage.[3] In the more extreme versions of the 'public choice' perspective of federalism, it is suggested that income taxes should be levied by regions because the extent of the redistribution that can be achieved is constrained by factor mobility and regional competition (Brennan and Buchanan, 1983). There is also at least one important countermodel to the USA, a federation with regional income taxation: Switzerland. Why should the Community not form another example?

[1] It should be noted that a distinction has to be made between the right of any one level of government to consume the proceeds from taxes ('Ertragshoheit'), the right to legislate on taxes ('Gestaltungshoheit') and the right to administer taxes ('Durchführungshoheit') (Zimmermann and Henke, 1990, p. 109). These rights may effectively be split among different tiers of government or exerted jointly in part or in full. In the following, tax assignment is meant to include both the right to legislate and to consume the proceeds from taxes. It is less important in this context which level may be charged to administer or to collect taxes.

[2] 'Logically, the assignment of revenue can only be determined after the decision on responsibilities and the expenditure resulting therefrom.' Zimmermann and Henke (1990, p. 108).

[3] See also the general-equilibrium exercise on redistributive taxation at the local level by Goodspeed (1989) which suggests the possibility of significant regional redistribution policies with restricted efficiency losses.

Furthermore, Musgrave's criteria seem to imply inconsistencies. For instance, the contention that natural resources should be taxed by the centre seems to conflict with the rule that regional governments should tax regionally immobile tax bases. This is explained by Musgrave's mixing of efficiency and distribution arguments, and by a potential inherent conflict between these goals. It is not at all clear whether regional taxation of natural resources does, in fact, lead to inequities or to allocative distortions. If a residence-oriented income tax dominates in a federation, regions rich in natural resources may find themselves without any substantial revenue source unless allowed to tax their deposits of resources.[1] Furthermore, exploiting natural resources often entails excess profits that can be taxed without leading to allocative distortions. Finally, it seems that regional immobility of tax bases alone is not sufficient to warrant regional taxation. Often the tax base is malleable ('putty-clay' model of investment), and even where it stays put, regional taxation may cause severe economic damage to the region: the closure of plants or, in the case of natural resources, ruinous competition with other regions having similar resources. The necessary condition for efficient origin-based regional taxation is the existence of excess profits and not regional immobility. This idea is further discussed in the proposal for a Community cash-flow tax (Spahn, 1993).

If value-laden distributional aspects of the Musgravian criteria are put aside, the essence of the allocative argument seems to lie, again, in benefit-pricing. We shall elaborate on this adding-in of some specific elements that may be inherent in Musgrave's concept: the instrumental use of taxes, as well as the tax-competition and the regional-arbitrariness arguments.

The benefit-pricing argument

As mentioned before, the layer-cake view would attribute own taxes to each level of government according to the regional distribution of benefits derived from public services provided by each layer of government. Each level would be free to choose its own tax base, and there would be no competition at the vertical level. There could even be concurrent taxation by different layers of government, which is in fact the case for income tax in the USA, Canada and Switzerland.

Theoretically one would want to distinguish between two aspects of taxation: (i) revenue effects, and (ii) instrumental aspects.

[1] This is best illustrated with regard to Australia where New South Wales and Victoria thrive on resources accruing to (and used by) their residents, whereas the resource-rich States (Queensland, Northern Territory, Western Australia) rely more heavily on origin-based resource taxation.

Public revenue-raising should ideally be neutral in that it distorts neither economic decisions (efficiency neutrality) nor the distribution of incomes (distributive neutrality).[2] It then has a pure income effect. Although full neutrality is never achieved, the emphasis is on revenue generation to finance public services, not on allocative, distributive or other policies through the use of tax instruments.

However, if revenue-raising is the sole objective of taxation at the central level, a similar result could also be achieved through unconditional block grants being given to the centre by the States. This was essentially the solution adopted for the German Reich at its inception;[3] it is also the solution found for the Community at present (since the sharing of VAT and the 'fourth' and 'fifth' levies could all be interpreted as general revenue grants). The question is therefore whether direct access to regional tax bases has advantages over unconditional revenue grants to be accorded to the central government.

Under pure revenue considerations, the advantages of the direct taxing powers of the centre *vis-à-vis* unconditional block grants may be twofold: (i) a greater degree of political independence of the centre; and (ii) a visible link between public goods provided by the centre and the corresponding financial burden imposed on taxpayers.

Greater political independence again involves value judgments. A strong central government may be desirable for some; it may be vehemently rejected by others. Given the reluctance of regional governments to forgo sovereignty, as expressed in the subsidiarity principle, and even a renaissance of independent politics at regional levels — notably in Eastern Europe — it is questionable whether central taxation can be based on this argument. To the extent that financial stability is needed to ascertain the smooth functioning of a central government's functions, this could equally be achieved through firm financial commitments of regional authorities to supply funding, commitments that could even take the form of 'constitutional' guarantees. Under pure revenue aspects, centralization of taxing powers does not seem to be necessary.

The link between the taxpayers' bills and the provision of public goods is the economist's main avenue towards

[2] Whereas efficiency neutrality can clearly be characterized as being Pareto superior (minimization of the excess burden of taxation), distributive neutrality is a value-laden concept, and, hence, very vague.

[3] The German Reich (1871) possessed very little in terms of own resources: not more than customs duties and excise taxes. Additional funds had to be transferred to the centre from below (the so-called 'Matrikularbeiträge', general State grants given to finance the expanding functions of the Reich).

establishing efficiency and containing the size of the public sector at the same time (Brennan and Buchanan, 1977, 1980). Fiscal sovereignty at each layer of government is expected to dispel fiscal illusion which is thought to mobilize taxpayers' resistance to undesired high levels of government expenditure.

These conclusions are drawn from an analogy to the paradigm for the efficient supply of private goods under market rule. Samuelson (1954, 1955) has demonstrated under which conditions the supply of public goods may be Pareto optimal; he has also brought to the fore the fact that these requirements are difficult to meet in practice.

Pareto efficiency for public goods requires the planner to be informed on individual preferences and to set (Lindahl) tax prices according individual marginal benefits; the sum of these taxes should be equal with marginal costs. Tax prices usually vary among taxpayers according to their willingness to pay.[1] Furthermore, the model is based on the assumption of a 'first-best' economy (in particular, there are no distortions inherent in the tax system): governments provide only one public good (or there are homogeneous regional preferences as to a given bundle of public goods), and a collective welfare function is at hand allowing interpersonal comparisons of utility.

These conditions are impossible to meet in practice. And even if they were: the link between the taxpayers' bills and the provision of public goods — as only one argument in the list of conditions for Pareto optimality — is not sufficient for centralizing taxing powers. This link, that economists strive so vehemently for, could also be rendered visible at the level of regional taxation, e.g. through regional 'piggyback' (or surcharge) financing of the central government's budget.

As regards revenue-raising in the purest sense, the economist's arguments in favour of central taxation seem to be rather weak indeed.

The instrumental-approach argument

If the instrumental approach to taxation dominates, the emphasis is on the effects of taxation on the economy — not on revenue-raising. For instance, if taxes are used for stabilization purposes, the tax proceeds of a boom period may have to be immobilized in order to be spent during a recession.[2] Redistributive taxation may collect proceeds from one group of taxpayers in order to secure transfer payments to be given to another group. Taxation may also be targeted to allocative goals, thus creating incentives, for instance, to reduce pollution caused by certain economic activities. If the latter goal is achieved via tax instruments, the potential conflict with fiscal goals of taxation becomes obvious: the revenue-raising effect of an efficient pollution tax is ideally zero.

It is interesting to note that, originally, the emphasis of the EC budget was mainly on revenue-raising. Block grants as the main instruments for financing the budget would seem to bear testimony for this. The very fact that the EC budget is not allowed to run deficits prevents the Commission from engaging in stabilization policies. Furthermore, the Community has little power to legislate on taxes and it has only restricted access to own tax bases. Thus, neither regionally redistributive taxation nor taxation aiming at allocative objectives is feasible.

Yet more recent developments have introduced and strengthened the instrumental approach to taxation at Community level. To the extent that central expenditure functions — notably those related to price guarantees within the realm of the common agricultural policy (CAP) — were seen to distort the supply reactions of European farmers, corrective actions were taken through the use of agricultural levies. There is thus a strong precedent for using taxation as an instrument for Community allocation policies.

Contrary to the pure revenue-raising aspect, the case for central taxes based on the instrumental approach is rather strong. The question is, therefore, which central policies will become more important in the future and to what extent will it be necessary to hand over to the Community conforming tax instruments enabling it to perform its functions effectively. This question is addressed more specifically by Spahn (1993).

The tax-competition argument

There is a further dimension to the problem of assigning taxes vertically that has become more and more important in recent years: the increasing regional mobility of tax bases. Notably the difficulty of imposing capital income from port-

[1] Unless individual preferences are uniform throughout the constituency the Lindahl-pricing rule (Lindahl, 1919) does, in fact, require different tax rates to be applied to different taxpayers. This contradicts the view, consistently adopted in most countries, that taxation should be legally non-discriminatory against individuals in similar socioeconomic conditions (horizontal equity).

[2] Questions related to stabilization policies are not discussed in this paper since they form the subject of a separate study in this volume; see Goodhart and Smith (1993).

folio investments is acting as a constraint to effective taxation at regional levels because taxpayers can avoid taxation by moving tax bases from high-tax to low-tax jurisdictions. These reactions are tied to the so-called 'tax-competition' phenomenon. Under these circumstances, regional governments will be inclined to compete for mobile tax bases by mutually reducing tax rates. The result is a 'beggar-thy-neighbour' policy, a Nash game, the equilibrium outcome of which is undertaxation of capital. This would, then, entail a suboptimal provision of public goods within all regions (Giovannini, 1989).

The argument is often stressed in view of tax harmonization under EMU, where exchange rates cease to compensate for differences in tax rates. It could also be interpreted as a centripetal force working in favour of centralized tax collection within the Community.

The problem of tax competition and tax harmonization cannot be dealt with here in full.[1] It is especially complex with regard to taxing the proceeds from production, i.e. labour and capital income. With relatively immobile factors of production in the early days of the Community, this problem did not seem to be urgent. Where mobility became important, governments were quick to install controls — if they did not already exist, as in the case of capital income. But with capital and labour markets becoming more and more integrated, and exchange-rate risks disappearing under quasi-fixed exchange rates and later under EMU, tax avoidance may become a serious problem within the Community.

One way out of the dilemma could be uniform taxation within the federation, which is the model adopted in Germany. Uniformity of tax rates would avoid regional 'tax arbitrage' and hence discourage tax avoidance strategies and the unproductive derouteing of capital flows for tax reasons. While the necessity for uniform taxation within a federation has been proven to be wrong as long as price elasticities are below infinity,[2] the argument strongly holds for the harmonization of tax bases (Sinn, 1990), rather than rates, and it is most powerful as regards the flows of portfolio investment in globalized capital markets where price elasticities do, in fact, approach infinity. But even if the uniformity approach were accepted — as in Germany — this does not necessarily imply centralizing the proceeds from taxation. All it requires is central tax legislation or some form of tax coordination.

Tax coordination is, indeed, a soft approach to avoiding tax competition within a confederation while retaining decentralized tax legislation. The smaller the discrepancy between effective regional tax rates, the lower the incentive to move tax bases across regions. The Community has embarked on that road by proposing bands of tax rates or 'floors' for certain excise taxes and for VAT.

Tax coordination may be an intermediate step towards achieving full tax harmonization in the long run. As markets develop, tax competition may reappear with falling transaction costs, exerting political pressure to narrow the bands of tax rates. Only if convergence of tax rules were complete would all forms of tax competition within the Community vanish. Full tax harmonization may eventually become a sort of VAT in the longer run, which is increasingly being considered as a revenue-raising instrument *par excellence*. A unitary income tax is, however, likely to be politically unacceptable for a long time to come.

Income taxation is very heterogeneous; it is heavily intertwined with national social policy; it is subject to large differences in collective value judgments, especially on redistribution; it is a tool for achieving important national policy objectives (relating, for example, to the family, to cultural and political life, to education and to specific sectors of the economy, notably housing); and it is typically a symbol of national sovereignty. Nevertheless, pressure to harmonize the taxation of capital income will mount as competition for international resources increases. In particular, governments may eventually accept a unitary corporation tax affecting excess profits or rents within the Community. This point is more fully addressed by Spahn (1993) in this volume. Again, it does not necessarily imply central tax legislation or central tax collection.[3]

The regional-arbitrariness argument

Tax competition within a confederation also relates to the discussion on which taxes should be centralized for technical reasons and which taxes should remain at the State (and local) level for that matter. Obviously, the more difficult it

[1] See, for instance, Spahn and Kaiser (1991).

[2] See Spahn and Kaiser (1991). There are a number of further arguments in favour of diversifying tax rates discussed in this paper, in particular as regards indirect taxation. For German VAT, 'optimal' non-standard rates were estimated empirically on the basis of price elasticities for different goods. It is interesting to note that European politics have greatly stressed the importance of harmonizing indirect taxes, whereas the case for harmonizing capital income taxes appears to be much stronger.

[3] The author does, in fact, argue that such a tax should be collected by the Commission, yet the argument is not based on tax competition but on the instrumental approach.

is to define a tax base at the regional level, the more appropriate it is for central tax assessment. In particular, if the regional distribution of tax bases is arbitrary, apportioning the proceeds from taxes to regional governments is equally capricious.

At the Community level, this can best be demonstrated for customs duties. Customs duties are levied on international transactions at uniform rates throughout the Community. From a fiscal point of view, it is rather arbitrary whether a foreign supplier goes through country x or y when accessing the European market. Regional apportionment of tax proceeds would reflect this regional arbitrariness: it would favour regions specialized in foreign trade, and disfavour all other regions — irrespective of the final use of the imported good. It is for these reasons that the proceeds from these taxes have been handed over to the Commission, although tax collection remains at the State level.

A similar reasoning applies to agricultural levies used for the CAP. Import levies and export subsidies are instrumental in protecting the agricultural sector *in toto*. Again, it is rather arbitrary in which region they are applied. Consequently, the proceeds from those levies, as well as related expenditure, have been transferred to the Commission under these conditions.[1]

Similar problems may emerge for value-added taxation. If a destination-type VAT with a tax credit is used in a confederation where no interior fiscal frontiers exist, regional apportionment of taxes is questionable on the basis of the proceeds from these taxes. There may be regions specializing in the production of exportable goods, whereas others may thrive on import-refining industries. Governments of the former regions would receive comparably little revenue from VAT or even experience negative incomes (if they have to credit taxes paid to other governments of the confederation and these credits are higher than own tax proceeds), and governments of the latter regions would collect taxes on imported goods even though final consumption is effected mainly outside the region.

It may be for these and similar reasons that VAT is usually a tax collected by the central government or — as in the case of Germany — jointly by federal and *Länder* governments, and that the apportionment of the tax to regional governments is independent of regional tax proceeds, e.g. based on a per capita formula.[2] It may also explain why a share of VAT has been transferred to the EC budget. VAT is therefore another strong candidate for coordinated or even centralized taxation. However, the argument is not sufficient for handing over VAT entirely to the central government. As is seen from both the German and EC examples, VAT can also become a shared tax between central and regional governments.

A similar reasoning could apply to business income taxes (of a residence type) for multinational companies, since the attribution of taxable income to different plants is absolutely arbitrary.[3] The argument is less stringent for business income taxes of an origin type. It is true that the location of firms and their network of regional plants within the confederation should not be dictated by tax considerations; and there are also strategies to move the taxable base from one region to another. Yet harmonizing business taxes of an origin type is mainly based on the tax-competition argument, and hence the case for centralizing these taxes is rather weak.

More recently, a case has been made for centralized pollution taxes to the extent that the effects of pollution cannot be confined to regions, and that discrepancies in regional environmental charges may entail ruinous tax competition among States, thus failing to achieve environmental efficiency. This argument is in fact related to a number of arguments for centralizing or coordinating tax collection: regional arbitrariness, tax competition, instrumental and benefit-pricing arguments alike. This idea is further pursued by Spahn (1993).

The economies-of-scale-in-collecting-taxes argument

As is noted above there may be economies of scale in collecting and administering taxes at the central level. The main rationale for this is based on higher transaction costs or political costs of decentralized tax collection. Earlier it

1 One should note, however, that the instrumental approach to centralizing taxes has also played a role in this context.

2 Recent experiences of German unification clearly demonstrate the problem of regional arbitrariness here: East Germany is predominantly importing while West Germany is mainly exporting. If national boundaries still existed, the East would collect VAT on the basis of its (imported) consumption; the West would forgo tax proceeds relative to its regional export surplus. Under a single market regime with a currency union, tax credits for regional exports to the East disappear. The West then collects taxes on Eastern consumption whereas Eastern regions benefit from VAT only to the extent that there is value-added on imported goods. This massive regional redistribution of tax proceeds calls for a clearing mechanism — as in the case of some proposals relating to the future European system of value-added taxation. The per capita redistribution formula applied on joint tax collection adopted in Germany forms such a corrective device.

3 Profits can always be shifted from one subsidiary to another via appropriate transfer-pricing procedures. This horizontal dimension of tax competition is discussed by Spahn (1993) in this volume.

was argued that the dimensions of the tax-assignment problem are more important with regard to the right to legislate and to levy taxes, and that tax administration seems to be subsidiary in nature. Therefore, the argument seems to be less relevant here. Moreover, it is questionable whether it is convincing in the context of Community finance where tax administration is likely to remain at the level of nation States, at least for the foreseeable future.

The case for economies of scale in central tax collection with regard to its possible impact on a future EC budget under EMU is not discussed here at length. Nevertheless, a few remarks seem to be in order.

(a) Central tax administration for reasons of economies of scale should not be confused with central tax administration under the instrumental approach. It is true that tax legislation and tax administration may become heavily intertwined, because of enforcement problems, for instance. Yet in this case the dominant argument for centralizing taxing powers still rests on tax legislation and not on its administrative issues.

(b) Central tax administration does not necessarily imply the assignment of the proceeds from taxation to the central government. The Community could eventually collect and administer taxes on behalf of Member States — as the latter may act on behalf of the Community. Assigning the proceeds from taxes can, in fact, be fully separated from tax administration.

(c) If central tax administration and collection is chosen for any reason (economies of scale or legislative reasons, instrumental purposes), this may be compensated for by the system of multilayer finance to be adopted within the confederation. In principle, any system of tax collection may be acceptable to Member States since the right to administer taxes and the right to absorb the proceeds from taxation are fully separable. However, it may entail additional provisions in the form of vertical clearing mechanisms that re-cast resulting cash flows to the revenue structures adopted.

Vertical cash flows stemming from the divergence between the right to collect taxes and the right to retain the tax yield should be distinguished from vertical tax adjustment warranted for other reasons, for example a discrepancy between tax proceeds and expenditure needs. The latter is more fully addressed in the next section.

2.2.1.2. Vertical tax adjustments: The case for tax-sharing

Within the layer-cake model, any necessary vertical adjustments of tax proceeds can always be effected via a change in tax rates and/or tax bases at any one level of government. Tax proceeds ideally follow the expansion of government functions, the benefit-pricing or correspondence approaches remaining the general guiding principles. It is emphasized, however, that these principles are far from being operational for an effective Pareto-efficient allocation of public goods. In addition, the vertical distribution of funds is often blurred by contradictory value judgments. For instance, some authors expect a more centralized government to lead to larger public sectors while others take the opposite view. For some, centralized taxation is an evil, while others regard it more positively. The lack of consensus on the vertical distribution of funds may entail vertical tax competition or an overexploitation of tax bases. It is then in the interest of all governments to avoid this by imposing constitutional constraints on taxation at the vertical level.

The constitutional separation of taxing powers found in most Western federations largely conforms to the layer-cake idea. Yet even though the initial constitutional assignment of taxes may correspond to a given division of outlay functions among the tiers of government, the distribution of public revenues may have to be continuously readjusted in order to cope with the following dynamic problems:

(i) the assignment of taxes may not correspond to the central government's obligations in the area of demand management;

(ii) taxes may react differently to vagaries in the business cycle and to growth, and hence the development of public funds may jeopardize a steady, continuous, needs-oriented expansion of government services;

(iii) the vertical distribution of tax yields may not follow developments in the vertical distribution of functions among tiers of government;

(iv) there may be political changes in the distribution of functions that fail to be reflected in the distribution of financial means among the tiers of government which will require some governments to react to the change.

Problems related to compensatory finance in a federal setting are not dealt with in this paper.[1] As far as the correspondence between outlays and revenues is concerned, there is a multitude of reasons why it may become undermined in the longer run: for instance, easier access to debt finance may relax the budget constraint for one level of government compared with others; this may lead to an asymmetrical expansion of government outlays through government debt (the case of the US Federal Government). More generally speaking,

[1] See, however, Goodhart and Smith (1993) in this volume.

softer budget constraints usually render governments more vulnerable to the demands of specific-interest groups with an asymmetrical expansion of functions among the tiers of government. Low revenue elasticities for taxes assigned to one tier of government may combine with highly elastic outlays either as a function of a higher proportion of services (health, education) or as a result of a widening of functions through alien legislative interference (the case of German municipalities with regard to 'Sozialhilfe').[1]

It is for these and other reasons that Germany, for instance, has moved away from assigning taxes to independent levels of government, increasingly using shared or joint taxes. Taxes can, in principle, be assigned jointly to all levels of government. Tax yields can then be distributed vertically using any formula imaginable. Desired (and undesired) implicit horizontal equalization effects — by the very nature of the formula adopted — may also result if the distribution of funds works asymmetrically among regions. Joint taxes or revenue-sharing are therefore flexible as to both vertical readjustments and the regional redistribution of means.

Tax-sharing needs a strong political consensus among all the governments concerned; and it requires an institutional setting for revising distribution formulas in view of changing demands. These institutions must also protect regional minority interests effectively and from the outset, and they must guarantee fair dealing in the settling of conflicts or disputes among the parties concerned.

Tax-sharing is the horror of the layer-cake economist because it destroys the link between taxation and the provision of public goods. However, scepticism as to the viability of benefit taxation in general seems to be appropriate. Furthermore, the economist's argument is questionable to the extent that a neat vertical division of functions remains a theoretical construct; and the vertical distribution of functions often reflects value-laden political decisions — not simply efficiency considerations. But even based on pure theoretical grounds, concern over the destruction of this link is unfounded to the extent that the emphasis is on revenue-raising, i.e. on the income effect of taxation. In this case, tax-sharing among governments — notwithstanding the non-neutral effects of taxation — may become a public zero-sum game, with no further incentive effects to the economy.[2]

The fear that tax-sharing may nourish a leviathan central government is unfounded. On the contrary: an institutional tax-sharing formula may avoid overexploitation of tax bases more effectively than any alleged constraining power of the revenue-expenditure link exerted by the median voter. This is illustrated by the Australian case (see section 3.1.6).

If taxes are to be used as policy instruments, however, a clear-cut and visible pattern of tax incidence is desirable, and any sharing formula blurring these effects must then become counter-productive. It is therefore important to underline the instrumental aspects of taxation when defining the scope for further revenue sources to be handed over to the Commission.

2.2.1.3. Horizontal aspects of taxation: Regional inequities and the case for equalization

The other problem to be solved in a federation concerns the horizontal distribution of taxes. The theory of fiscal federalism tends to favour independent tax policies within different regions. States may be free to define different tax bases; they may fix different rates and accord different tax concessions to their citizens. Taxes are seen as 'prices' for government services, and independent benefit-pricing rules are seen to foster efficiency within the public sector.

Under political aspects, taxes can be targeted toward specific national policy goals. They are used for income redistribution, family and employment policies, and other policy objectives. Administratively, they become intertwined with social security arrangements; they are combined with other taxes to a varying degree (corporation taxes, payroll taxes); and they operate within different institutional and political settings. Regional taxation is thus essential for preserving existing patterns of social traditions and cultural heritage.

1 An impressive example of an abrupt change in the distribution of functions can also be found in President Reagan's new federalism policy where the federal government's withdrawal from certain areas of competence was not matched by concomitant financial compensation to the States.

2 This statement may be rather controversial given a large body of literature on the alleged 'flypaper effect' of intergovernmental grants. This effect is said to lead to additional public spending for every dollar of unconditional grant received by the recipient government. Gramlich's (1977) survey of existing empirical work indicates some 40 to 50% additional public outlays for this type of grant. Theoretically, however, unconditional grants must have a pure revenue effect. Bradford and Oates (1971) have formally shown that — for a wide class of choice rules — unconditional grants have effects on spending identical to those of an increase in private disposable income. A number of authors have therefore claimed that the flypaper effect is some form of mirage. The author's own empirical work on State-local grants in Australia could not identify the flypaper effect for this constituency (Spahn, 1977a). The issue still seems to be unresolved. For a more recent discussion of the effect, see Oates (1991).

Yet under horizontal aspects, the assignment of taxes to regions may cause undesired economic effects: different levels of taxable capacity may entail different individual tax burdens for a given level of public services (or imply different levels of services for a similar tax burden). Moreover, the taxable capacity of poorer regions is restricted. This must lead to a lower provision of public goods (human and fixed-capital infrastructure); and this, again, tends to preserve existing regional discrepancies in economic potentials. This consequence may be resented as unfair by poorer regions, rendering social and political cohesion more difficult. Hence, it jeopardizes regionally balanced growth in the confederation. The problem may be accentuated by tax-competition phenomena, and further inequities are likely to occur within the confederation where interregional tax loopholes exist.

If political stability and fairness are considered to be factors of production, these phenomena require corrective actions to be undertaken through the redistribution of funds. For the Community, the essence for implementing such policies is embedded in Article 130 of the Single European Act where the aim of cohesion is emphasized; Germany goes a step further, stressing — in its Constitution — even a 'uniformity of living conditions' principle for the federation.

Redistributive policies are normative to a large extent. Furthermore, they tend to destroy desired links between taxes and expenditure. As is more fully discussed above, cohesion — even as a vague concept — can lead to horizontal equalization grants (as in the German case) or to asymmetrical vertical grants, or else to regional tax concessions. The design of intergovernmental grants is discussed in the next section.

2.2.2. Grants and equalization

2.2.2.1. Definition of grants

Federal fiscal relations are typically characterized by the existence of intergovernmental grants — the transfer of resources among governments within a federal polity.[1]

A thorough distinction should be made between intergovernmental grants and intergovernmental financial flows. Grants always imply a transfer of real resources from the granting to the grantee government. Whether grants take the form of financial compensation or other forms of assistance (e.g. unpaid services) is unimportant here. On the other hand, there may be intergovernmental financial flows that are different from grants. These may originate from one government collecting taxes on behalf of another (discrepancy between 'Ertragshoheit' and 'Durchführungshoheit'), which entails the need for financial clearing, or from payments for services received according to a strict quid pro quo principle.[2]

Grants may be either for general purposes, i.e. they are available for spending at the discretion of the recipient government, or for specific purposes, available only for spending on particular programmes designated by the granting government. Furthermore, grants can be conditional or unconditional.[3] Grants are therefore classified as follows.[4]

Table 1

Classification of grants

	Unconditional	Conditional
General purpose grants	G-grants	G*-grants
Specific purpose grants	S-grants	S*-grants

S-type grants are usually given for allocative reasons when the level of provision for specific services to be supplied by the grantee government is low and the granting government wants to raise it. If grants are unconditional, their effects on the aided function are uncertain, since these grants usually release the own funds of the receiving government which would have been spent on the aided programme anyway.

1 There is a large body of literature on intergovernmental grants that is not reviewed here. See, for instance, Buchanan (1952); Breton (1965); Thurow (1966); Break (1967); Musgrave (1969); Oates (1972); King (1984, Chapters 3-5); and Costello (1993) in this volume.

2 Where the quid pro quo principle applies, intergovernmental financial flows correspond to conforming resource flows in the opposite direction. The net effect for marginal benefits and costs is zero in this case. However, a strict quid pro quo principle is seldom applied for intergovernmental relations. In this case, one would ideally want to separate the quid pro quo content from the grant element associated with the resource flow. This distinction is difficult to make in practice. If the distinction is ignored, however, it will lead to a large degree of arbitrariness in the definition of grants. Some aspects of this problem are discussed below.

3 It may be interesting to speculate whether strings attached to a grant package reflect a 'service' to be rendered to the granting government by the recipient, i.e. whether the quid pro quo principle is applied in disguise. This is all the more relevant as the grantee government may 'buy' the package or reject it, as often happens. However, conditions attached to intergovernmental grant programmes can seldom be realized through the market, which should retain the distinction made between conditional grants and the pricing of services rendered.

4 See, for instance, Spahn (1977a).

To the extent that S-grants free resources for other uses as the granting government thinks fit, their effects are indistinguishable from general purpose grants.

S*-grants tend to affect the function of recipient governments to a much larger degree because national priorities can be more clearly defined as conditions for aid.[1] Furthermore, this type of grant may mobilize additional funds for the aided programme, for instance through matching requirements. Open-ended matching grants are often seen to follow the standard prescription for Pigouvian subsidies where the matching term indicates the benefits to residents of other jurisdictions. The grant therefore serves to internalize these benefits into regional decision-making (Break, 1967).

G-grants are usually given for equalization purposes or as a substitute for own-revenue collection by regional governments (as in Australia). G*-grants are also frequently used for allocative purposes when the income elasticity of demand for public services is high at the receiving end. The conditions attached are rather weak in these cases, e.g. the grant may be required to be spent on fixed capital formation only.

Grants may take the form of horizontal or of vertical transfers of resources. Horizontal grants are used to shift resources among regional governments of a given level. Vertical grants involve different levels of government, and they may be downward, as well as upward, oriented.

2.2.2.2. Horizontal grants

The case for horizontal grants among governments is often made on the basis of regional spillovers. These grants may operate on a voluntary basis among States without a third party intervening. They thrive on the mutual benefits to be realized through such a scheme. In the case of horizontal grants compensating for public services provided by neighbouring regional governments, a market-like quid pro quo principle may be applied which is, of course, the economist's delight. It is expected to enhance efficiency. In fact there are many examples of horizontal cooperation of this type, even among EC Member States, yet the case is more complex than it appears at first sight.

Firstly, horizontal cooperation based on mutual benefits among States only functions for the provision of goods — whether rivals in consumption or not — to which the exclusion principle can be applied. Exclusion may, however, be politically unacceptable (e.g. a university education for members of the region only), or technically unfeasible, which is generally the case for regional public goods. Under these circumstances, there may be a 'free-rider' incentive to regional governments, leading to a breakdown in cooperation and to the failure to achieve Pareto-efficient outcomes. This may require government intervention.

Secondly, the taxable capacities of some regions may be too low, preventing them from cooperating effectively within horizontal joint public ventures. Again, corrective measures are needed at the horizontal level.

Finally, there is the case of regional inequities leading to political instability which may warrant intervention on the grounds of regional fairness or social and economic cohesion.

The first two issues cannot be resolved through horizontal grants. They necessitate central government intervention. If a free-rider strategy is adopted at the regional level, horizontal grants are inappropriate to internalize benefits from spillovers. The same is true if cooperation is hindered by an effective budget constraint of a regional government benefiting from spillovers: horizontal grants given to ease this constraint may then be considered equivalent to conceding regional spillovers directly and without compensation. If there is a deadlock on an infrastructural project caused by the inability to pay of a regional constituency benefiting from spillovers, this problem can only be resolved through vertical grants.[2]

The third issue, the regional equalization of diverging taxable capacities, may also be achieved through vertical grants (see section 2.2.2.3). Yet correcting regional imbalances can equally be effected among regional governments themselves through horizontal grants. Such grants require coordinative action; yet they do not necessarily imply central government involvement.[3] An institutional example of horizontal equalization can be found in Germany's 'Finanzausgleich'.[4]

[1] These conditions may take various forms: specific minimum contributions by recipient governments, matching requirements, compliance to national standard programmes, etc.

[2] The argument also applies in a dynamic context where the public project under consideration is capable of increasing taxable capacities in the future. With perfect capital markets, a government facing an effective budgetary constraint is always able to borrow against future increases in taxable capacity. If capital markets are imperfect, however, a possible dynamic deadlock stemming from the inability to pay of one benefiting region may be broken by horizontal government loans, not by horizontal grants.

[3] In Germany the scheme is the result of central federal legislation involving State interests through the Upper House of Parliament, the Bundesrat.

[4] The process of interstate equalization in Germany is more fully discussed in section 3.2.5.

Equalization does not compensate for regional spillovers: it is a purely redistributive device implying political or value judgments. As is argued above, equalizing measures can also be subsumed under the Pareto concept, to the extent that such devices act as a safeguard for political stability within the confederation. It is obvious that a strong consensus on more general benefits to be reaped from equalizing public revenue is needed among participating States for such a scheme to become operational. Yet horizontal grants may also be based on the nuisance potential of any one region if the confederation has an interest in preserving stability and avoiding possible disruptions. In this sense, the Community concessions accorded to the United Kingdom and Germany in the Fontainebleau Agreement may also be understood as implicit horizontal grants — especially since the reduction in the British contribution is made up by all the Member States except Germany — in accordance with their respective percentage share of VAT payments.[1]

Horizontal grants may take different institutional forms: they may be arranged bilaterally or multilaterally; they may be negotiable or based on firm constitutional rules; they may be once-and-for-all payments or be granted on a regular basis; the amount may be determined *ad hoc* or calculated using complex distribution formulas; there may be a full annual clearing of grants or a revolving fund to be managed in accordance with specific needs (e.g. a public investment fund).

More important than the institutional peculiarities of the arrangements are the criteria guiding horizontal equalization. Basically two approaches may be distinguished: one attempts to equate taxable capacities; the other stresses equal opportunities on the basis of specific needs for public services.

The German Finanzausgleich in its present form emphasizes taxable capacity as the yardstick for equalization. Consequently, horizontal grants are pure G-grants with no strings attached to the receiving end. This may make sense as long as the cost of providing public services is comparable across regions, and as long as the basket of public goods supplied is rather homogeneous — which was true for the Federal Republic of Germany before unification.

If the aim is equal opportunities, and the costs of providing specific public services differ significantly among regions, horizontal grants must be corrected on the basis of cost indices (e.g. wages) for a given basket of goods. Balancing fiscal capacities without taking these differentials into account would result in overequalization.[2] If ever the Community were to adopt horizontal grants, it would be likely to opt for corrective cost elements in the distribution formula given the fact that there are large discrepancies in the cost of providing services in different regions of the Community. This is true despite the fact that EMU will eventually lead to more homogeneous cost levels within Europe.

If the aim is equal opportunities and the baskets of goods supplied by regional governments differ widely, there is a further problem involving nearly insurmountable interpersonal and interregional comparisons of value judgments. The problem is then to define the content of 'equal opportunities' in terms of a specific basket of public services to be supplied under different geographical, climatic, cultural, ethnic, religious and other social circumstances. Problems of this kind are familiar to politicians in Australia, Canada and the USA where large regional discrepancies exist. Whereas the USA makes no attempt to equalize regional differences of this type, Australia regularly reviews these discrepancies through a specific independent body, the Commonwealth Grants Commission. This Commission monitors the provision of public goods in each State recommending financial assistance for specific purposes on the basis of perceived regional needs. It is obvious that these judgments are heavily influenced by 'merit-good' considerations (in the Musgravian sense), which are unlikely to be resolved through horizontal cooperation. They usually rest on the notion of a benevolent patriarch or dictator, which is a way of describing central government intervention.

For the Community — even with converging unit costs under EMU — horizontal equalizing grants are unlikely to become acceptable, given the variety of cultures and the specific needs of different regions. Equalization is more likely to become a realm of central government intervention taking the form of asymmetrical vertical grants-in-aid programmes and, possibly, of tax-sharing — with accordingly implicit redistribution formulas (e.g. the sharing of VAT in Germany). This must have a bearing on the central government's budget. Moreover, different options for vertical grants will have to be scrutinized in order to identify which type may be most appropriate for achieving common policy goals, notably the fostering of regional development projects and a more balanced economic expansion of the Community as a whole.

1 Commission of the European Communities (1989, p. 21). See also the discussion by Spahn (1993).

2 For this reason the introduction of cost elements in the distribution formula may even become an option for Germany after unification, as long as wage rates remain significantly lower in the East. Although there may be a temporary consensus in Germany on the need for regional overequalization — as long as public infrastructure is lagging behind in the new *Länder* of the federation — it is doubtful whether this can be realized within the horizontal grants scheme. It surely implies federal government intervention.

2.2.2.3. Vertical grants

Federal fiscal relations are typically characterized by vertical flows of funds which are usually more important than horizontal grants. The distinction between specific purpose and general revenue grants also applies to this type of transfer, as does the distinction between conditional and unconditional assistance.

To the extent that unconditional vertical grants are a substitute for own revenues at any one level of government, they can be used as a corrective for imbalances in the vertical assignment of taxes among levels of government. Pure revenue redistribution within the government sector may become a public zero-sum game which — given certain premisses — may have no incentive effects on the economy. Vertical G-grants may thus become an essential ingredient in the fiscal federal machinery correcting for imbalances between expenditure functions and assigned revenues.

In principle, two extreme philosophies could be adopted for vertical G-grants: a central tax collection with downward-oriented G-grants (which is essentially the Australian model); and a decentralized tax collection with upward-oriented G-grants (which was the model of the German Reich of 1871 and is, at present, the approach to financing the EC budget). There may be variants to this that allow some discretion for rate policies at the receiving end. Instead of downward G-grants, the States may be allowed to impose surcharges on central taxes (basically the Canadian model); or, conversely, the centre may be allowed to levy piggy-back taxes onto State taxes.[1]

Revenue-sharing (as in the German model) may be seen as a special form of G-grant arrangements.[2] The distinction of shared taxes from own resources is warranted on the grounds that their apportionment onto participating governments usually entails a revenue distribution deviating from local taxable capacity.[3] This then implies regional equalization effects.

[1] This is a proposal made by Biehl (1985, 1990a, 1990b) for the future financing of the EC budget.

[2] Legally, a distinction should be made: tax-sharing includes a 'property right' on the tax base, whereas revenue grants are based on political commitments only.

[3] This is definitely true for the distribution of VAT in Germany. Not only is VAT apportioned on a per capita basis — implying strong equalization effects, but 2% of the tax yield is also used by the federal government to adjust for regional imbalances of taxable capacity through asymmetrical vertical grants.

A pure vertical redistribution of public resources correcting for imbalances in the assignment of taxes can in fact be implicitly combined with equalization, both for revenue-sharing and vertical grants. Tax-sharing formulas, as well as the rules governing the distribution of vertical grants, can be designed in such a way that below average taxable capacity leads to a relatively higher apportionment of funds correcting existing inequities.[4]

Again there is no room to discuss the multitude of vertical grant schemes which implicitly embed equalization effects. These may entail pure revenue effects as they may — through matching requirements — alter relative prices, the objective being to correct for existing disincentives (or to create incentives). There may be strings attached to grants which may be binding or 'soft' (freeing resources that would have been spent in any case).

The advantages of such vertical grant schemes (as of tax-sharing) are sometimes seen to be of a conflict-resolving nature. True, they tend to blur the economist's favourite revenue-benefit link, yet this may be accompanied by the disguising of social conflicts within a confederation, thus enhancing political stability and preserving the conditions for a favourable economic environment.

The economics profession may be divided on the issue of fiscal illusion in the context of federal finance. Clear-cut fiscal sovereignties with a transparent division of functions among government may be praised for enhancing process efficiency; they may, alas, also jeopardize the basic social contract on which an operating economy is founded. Process efficiency is hence only part of the story. Casual empiricism indicates that politicians have chosen to sacrifice the narrower concepts of process efficiency to a broader view of economic stability by creating an arsenal of instruments geared toward avoiding political unrest, of which fiscal illusion is just one implement.

2.2.3. Tax assignment and grant systems as political symbols

It is important to note that any one of the models discussed in this section does in fact convey symbolic messages that must be in accordance with traditions and existing consensus views if political frictions are to be avoided in the confederation. This is why history has generated such widely differing

[4] The per capita distribution of VAT among the German *Länder* implies such an equalizing effect. It may be reinforced by asymmetrical vertical G-grants at the discretion of the federal government.

institutional arrangements for existing federations that cannot be transplanted from one cultural setting to another.

For instance, both the Australian and the Canadian models of federalism may be interpreted as the States being at the mercy of the central government.[1] This may be greatly resented by Member States — as is seen from the Canadian case. Corrective measures may then have to be taken in order to satisfy regional demands (e.g. through specific purpose grants based on needs criteria as in the Australian case). It is obvious that neither the Australian nor the Canadian model of federalism is suitable to guide fiscal federal reforms in Eastern Europe — the former Soviet Union, former Czechoslovakia or former Yugoslavia. The model conveys too much central political power, a message that is not acceptable to East European republics at present.

On the other hand, the German tax-sharing model conveys the message of homogeneity and cooperation among the different layers of government within the federation. Again, this symbol may be rejected by East European confederations in transition; it may also be resisted as a guiding principle for reforming the EC budget.

Lastly, there are established federal constituencies that emphasize regional diversity by jealously defending States' sovereignty against the mounting power of central governments. Some of them were more successful in their endeavour (Switzerland) than others (USA). With regard to the financing of public budgets in more decentralized confederations, the question emerges whether revenue-raising can be effectively coordinated under such conditions or whether this must lead to a costly 'tax jungle', which is the administrator's nightmare (and the economist's delight?).

The Community is still a relatively young constituency, and as a confederation *in statu nascendi*. Although important basic decisions have already been made, in particular at the 1991 Maastricht Summit, it is still unclear which direction the Community may follow after the achievement of EMU. The following section evaluates some of the experiences found in Western federations that may be useful for the revamping of EC federal financial arrangements and the financing of the Community budget under EMU.

3. Federal financial constitutions compared: Lessons to be drawn from alternative approaches to financing multilevel government

A spectrum can be envisaged between two extreme models of federalism: one puts regional constituencies at the mercy of the centre; the other leaves the centre depending on the mercy of States. The first model is discussed relative to the Australian experience; the second is formed by the Community which is more fully addressed by Spahn (1993) in this volume. The exercise demonstrates, among other things, that the notion 'at the mercy' is misleading with regard to both the Australian and the EC cases.

Two intermediate models are also of interest in this context: one emphasizes both central and regional governments' independence as well as regional diversity; the other stresses the notion of federal-State cooperation as well as unity and uniformity. The first is formed by the case of Switzerland (and, to a certain extent, the USA); the second is related to German experience. The case of Switzerland is not elaborated on here despite the fact that it may influence developments in Europe more strongly than US or Australian experiences.[2] The Swiss and German federal arrangements also bear directly on the key question to be resolved in any constitution of a future European confederation under EMU: how unity can be achieved without sacrificing regional diversity and State sovereignty. The exercise demonstrates, *inter alia*, that the EC federal machinery has already absorbed a number of elements taken from these two federations, notably from Germany (e.g. the subsidiarity principle, the role of the Council and revenue-sharing). A number of issues remain to be resolved, however, where benefits can be reaped by looking more closely into these two European federations.

3.1. The case of Australia: The States at the mercy of the central government[3]

3.1.1. General characteristics of the Australian federation

Australia[4] was formed as a federation at the beginning of this century. The aim of the States' joining politically was

1 The Australian situation has been described as the 'fiscal supremacy' of the Commonwealth. For some writers, the Australian States appear to be at the mercy of the central government (see Mathews and Jay, 1972, pp. 184 et seq.).

2 See, however, Dafflon (1977, 1991); Bieri (1979); and Spahn (1991b).

3 The author wishes to thank Professors R. L. Mathews and C. Walsh for comments on an earlier draft of this section. The author remains responsible for all remaining errors.

4 The following account is largely based on Mathews and Jay (1972); Hunter (1977); Mathews (1982); Galligan and Walsh (1990); Walsh (1990); and Groenewegen (1991).

twofold: defence, and a more intensive economic cooperation and exchange on the Australian continent.[1] The latter aim resembles the motive for creating the Community in the second half of this century.

Among the six major federal countries in the Western world, Australia is by far the most centralized with respect to revenue sources. The Commonwealth accounts for approximately four fifths of national tax revenue for most years since the Second World War. Approximately three quarters of the remaining taxes accrue to the States directly; the local government sector's share in taxation (and responsibilities) is extremely small compared with other federations, and even compared with unitary States.

The vertical imbalance between tax assignment and expenditure functions is very acute in Australia. The Commonwealth's own revenue greatly exceeds its outlay responsibilities. On the other hand, the States, which retain control over almost all major government functions, except defence, foreign affairs, interstate matters and social service benefits, are denied access to the two major sources of revenue in Australia: income taxation and sales taxes on goods.[2] Australian States thus largely depend on revenue transferred to them by the Commonwealth. This is effected predominantly through general revenue-sharing — unconditional block grants — and specific purpose payments — categorical grants. In 1987-88 the States relied for half of their revenue needs on Commonwealth grants (Groenewegen, 1991). This has led some authors to speak of the States as depending 'on federal largesse' (Bird, 1986, p. 125) or of the Commonwealth's 'financial domination over the States' (Mathews and Jay, 1972, p. 291). This interpretation needs further elaboration.

3.1.2. Vertical tax assignment, federal and State taxation, and tax reimbursement grants

Tax assignment in Australia, as in Switzerland, may be seen as strictly following the layer-cake approach, with each level of government having its own tax base. But it also vividly demonstrates what may result from such a prescription: a severe lack of vertical fiscal balance. Contrary to Switzerland, the Australian Federal Government controls virtually all lucrative taxes.

A number of historical events have led to the central government continuously eroding State competences in taxation. The following are the main steps in this process:

(a) At its inception in 1901, the federation transferred exclusive powers on customs and excise revenue to the Commonwealth as constitutional rights. Starting in 1908[3] the High Court has consistently interpreted these powers more and more generously in favour of the central government. Sales taxes (a major State tax in the USA) would be considered unconstitutional at the State level in Australia.

(b) In compensation for the loss of customs duties and excise taxes, the States were originally given three quarters of collected revenue, which then was relatively more important than today (Section 87 of the Constitution). Yet on the expiry of the clause, the central government did not continue this form of tax-sharing. It accorded per capita financial assistance instead (1911-27), a grant that was rapidly eroded in real terms by inflation.[4]

(c) An offer was made in the early 1920s by the Bruce-Page government to vacate the area of personal income taxation, leaving it exclusively to the States. This failed on the rejection of New South Wales (all other States had accepted). A similar move to hand over smaller taxes and to reduce income taxation was also discarded at a premiers' conference in 1926. The States then had no desire to administer unpopular taxes.

(d) A change in the provision of financial assistance through the Financial Agreement of 1927 led to the Commonwealth intruding on State sovereignty: the (unconditional) per capita grants were transformed into annual contributions towards interest charges on the public debt of States. (The Agreement also introduced greater Commonwealth control of State borrowing through the establishment of a Loan Council.)

(e) A system of fiscal equalization for the financially weaker States, involving special grants from the Commonwealth, was introduced in 1933.

(f) The most important development during World War II was the taking-over, in 1942, of all income tax by the Commonwealth as a wartime emergency measure. The federal government, 'having tasted the delights of full control of this great revenue machine, wanted to retain

[1] At that time, the States' overseas trade connections were generally much more developed than interstate trading within Australia.

[2] The High Court has ruled the States out of taxes on goods but not on services; it has allowed the States to impose 'franchise fees' on liquor, tobacco and petroleum, which are calculated on the value of past period sales.

[3] In the 'wire-netting' case, and the 'steel rails' case.

[4] 'The real burden of grants (to the Commonwealth) had been at least halved by the increase in prices during the war, and of course was far less than 75% of customs and excise revenue would have been.' (Mathews and Jay, 1972, p. 118).

that control' (Bird, 1986, p. 110), and was successful in doing so.[1]

(g) Financial compensation for the loss of the income tax was given through tax reimbursement grants, which became — with amendments — the cornerstone of intergovernmental fiscal arrangements in Australia. This issue is addressed in more detail in section 3.1.3.

(h) The only (minor) reversal of this centripetal trend came in 1971 with the handing-over of payroll taxation to the States.[2]

(i) Since World War II, there was a massive increase in specific purpose payments to the States in the main functional fields for which they have constitutional responsibility, such as education and health.[3]

The Commonwealth government now collects all major taxes in Australia: taxes on income, profits and capital gains (70% of all taxes collected in 1988[4]), sales taxes (16%), and customs duties (5%). The States and municipalities collect payroll taxes, stamp duties, motor vehicle taxes, gambling taxes, franchise taxes, land taxes and property taxes (municipal rates) that contribute relatively little to total tax revenue.

Irrespective of these historical facts, the distribution of revenue sources in Australia may be found to be more or less consistent with Musgrave's criteria for vertical tax assignment in a federation. There is a strict separation of taxable sources avoiding tax competition among governments. Moreover, since the Australian tax system relies heavily on the (progressive) income tax, it is understandable that this revenue source was centralized on the grounds of fiscal stability and regional equity.[5] As a matter of fact, the discussions centring around the introduction of uniform income tax legislation in 1942-43 owed a good deal to the very uneven tax incidence of State income taxes. It was also tainted with arguments in favour of Keynesian demand management and central control of the economy, and of general welfare (Mathews and Jay, 1972, pp. 180-183). More recently, a premiers' conference in 1990 essentially reconfirmed this assignment of taxes on similar grounds,[6] but the position is now being reviewed as part of a general process of reforming intergovernmental relations.

Table 2

Sources of revenue for each level of government in Australia

(%)

Revenue source	Commonwealth	State	Local
Own-tax revenue	89	32	56
Net operating surplus	4	11	7
Other	7	8	12
Total own-source revenue	100	51	75
Payments from:			
Commonwealth	—	49	19
States	—	—	7
Total revenue	100	100	100

Table 2 may be indicative (for 1987-88) of the contribution of taxes and grants to total revenue at each level of government.[7] It illustrates the heavy dependence of States (and to a lesser extent of local governments) on vertical grants: nearly 50% of State revenue is supplied by the Commonwealth, and 20% of municipal income.

3.1.3. Financial assistance and revenue-sharing

By far the most important single revenue source of subcentral governments in Australia is grant money. These grants are paid in the form of general purpose financial assistance which is explained by their historical roots as 'income tax reimbursements' following the implementation of uniform income taxation in 1942. The Tax Reimbursement Act provided the legal basis for grants to any State which abstained from levying income tax.[8] In addition, half of Common-

1 Four of the States challenged the validity of the legislation that transferred income taxes to the Commonwealth government. Yet to the dismay of the States, the High Court declared the essential parts of this legislation valid not merely under defence powers but also under normal conditions of peace (Mathews and Jay, 1972, pp. 173-174).

2 Arguably, Fraser government legislation allowing the States to impose surcharges (or give rebates) on federal income taxation granted greater freedom for revenue-raising to the States — which was not taken up, however. The Commonwealth scrapped the legislation in 1988 because it feared it might be used.

3 As of 1990-91, half of Commonwealth transfers to the States are specific purpose payments (tied grants).

4 Own calculations on the basis of *Government Finance Statistics Yearbook 1990*, p. 122. Tax assignments were based on 'Commonwealth financial relations with other levels of government 1989-90', Budget Paper No 4, Canberra, 1989, p. 14.

5 A flat-rate State income tax would, of course, not be in conflict with these policy objectives.

6 At a further special premiers' conference in July 1991 there were signs that the Commonwealth was prepared to accept greater revenue freedom for the States; for a summary of the results see Walsh (1991, pp. 18-20).

7 'Commonwealth financial relations with other levels of government 1989-90', Budget Paper No 4, Canberra, 1989, p. 14.

8 The States were thus not prohibited from exploiting this tax base; yet they were encouraged to refrain from doing so (Mathews and Jay, 1972, p. 175).

wealth assistance is in the form of tied grants (for health, education, roads and public housing).

The more recent history of general revenue assistance to the Australian States falls into three phases:

(i) from 1959 to 1976, when general revenue funds were given to the States under the label of 'financial assistance grants';

(ii) from 1976 to 1985, when such revenue was transferred to the States through revenue-sharing; and

(iii) from 1986 onwards, when financial assistance grants were reintroduced.

Financial assistance grants were increased annually (from 1959 to 1976) by a formula stressing — for each State — three factors: (i) population changes, (ii) average wage increases, and (iii) a so-called 'betterment factor'[1] designed to allow the States to expand their relative level of services. On their reintroduction, these grants were determined 'by fiscal equalization factors based on revenue/expenditure disabilities for different States while the size of the pool is determined by a percentage growth rate set to reflect specified real inflation-adjusted changes in assistance which can be negative when fiscal restraint is called for' (Groenewegen, 1991). From 1990 onwards, the Commonwealth has agreed to maintain the real value of such grants in order to provide greater certainty in the funding of State budgets.

The revenue-sharing interlude had been initiated by Fraser's 'new federalism' policies. Sharing was first adopted for income tax alone. The pool was formed applying first a fixed, and later an increasing, proportion of the tax proceeds collected in the States. This led to the States' revenues being determined by factors similar to those used before for financial assistance grants. Later, revenue-sharing was extended to federal tax receipts as a whole, which somewhat lowered the rate of growth of the States' revenue pool (since revenue elasticities of other Commonwealth taxes are typically lower than for the income tax).[2]

As noted before, the revenue-sharing experiment was abandoned largely because of uncertainties on the Commonwealth's planned tax policies and for political reasons, since the States had found themselves to be 'more vulnerable to unilateral federal decisions on tax policy' (Bird, 1986, p. 116).

It should be mentioned that, in addition to general revenue funds, the Commonwealth supplies financial assistance in the form of specific purpose grants. These are given for social services (health, education), social security and welfare, economic services (roads, transport, industry assistance, water resources) and other services (e.g. housing and urban renewal, regional development, disaster relief and debt charges). As has been argued before, it is questionable whether the budgetary effect of specific purpose grants is different from that of general purpose grants — a pure revenue effect — to the extent that they may free tied resources for general purposes at the State level. Some specific purpose grants in Australia are provided with matching requirements, however. My own studies found that these grants were associated with substantially increased State-local taxation.[3] This indicates corresponding additional increases in State-local expenditure (or saving) through expenditure requirements and relative price effects. In any case, the specific nature of the grants has an impact on the horizontal regional distribution of these resources, subject however to the Grants Commission taking grant differentials for most of the recurrent specific purpose grants into account in assessing general revenue grant relativities.

3.1.4. Equalization and the role of the Commonwealth Grants Commission

The horizontal distribution of government resources among the Australian States depends on a number of factors:

(i) on the distribution of general revenue grants (tax-sharing funds). Since the distribution formula chosen for allocating these funds leads to varying weights being attached to different States, a gradual change in the relative provision of State revenue may result. The distribution of Commonwealth grants — both general revenue and specific purpose — depends almost wholly on the Grants Commission's assessment of relative State taxable capacity and their relative expenditure needs (see below);

(ii) on the distribution of specific purpose grants. This hinges on several factors, including the historical distribution which was often arbitrary or reflected State expenditure policies and the Commonwealth's policy

[1] This factor was 1,2% in the beginning; it was then raised to 1,8% in 1971 and 3% in 1975.

[2] During the period of revenue-sharing (1975-85), the proceeds from income taxes were experiencing high income elasticities through the fiscal drag induced by high inflation rates (and a failure to index taxes consistently).

[3] The propensities for taxes to increase in response to this type of grant money were about 35% for grants for recurrent purposes and nearly two thirds for capital grants (Spahn, 1977a, pp. 140-142).

priorities (e.g. road construction, university education). Specific purpose payments are not always granted on the basis of relative economic advantage or needs;

(iii) on the distribution of the States' own tax bases; and

(iv) on the distribution of the States' loan money (which is centrally controlled in Australia; see section 3.1.5 below).

This intergovernmental redistribution of funds may be subsumed under the heading 'asymmetrical vertical grants' — except for the States' own revenue. Yet — similar to Germany — the Australian system also comprises a specific equalization scheme that is designed to mitigate large regional inequities. But the equalization process is carried much further in Australia, where relative costs of providing standard services and relative specific purpose grant differentials are taken into account as well as relative revenue-raising capacities. These relativities are assessed by the Commonwealth Grants Commission following detailed submissions from, and exhaustive discussions with, the States and the Commonwealth Treasury.

The Commission was set up in 1933 and charged with the task 'of enquiring into and reporting on applications by the States for financial assistance under Section 96 of the Constitution' (Mathews and Jay, 1972, p. 154). The Commission defines its own role as '... an independent, impartial and authoritative arbiter in relation to distributional aspects of fiscal federalism' (Commonwealth Grants Commission, 1983, p. 160) in Australia.

Over the years, the Commission developed and refined criteria for horizontal fiscal equalization. The guiding principle for supplying special grants was initially that of regional 'financial needs'. The formulas adopted are not discussed here in full, yet two points are worth mentioning.

First, for many years, the system was restricted to 'claimant' States, the needs of which were compared to the two 'standard' States (New South Wales and Victoria). The horizontal review was hence only partial. With some States ceasing to claim special grants, the scope for equalization through the Grants Commission was further reduced. The special grants recommended by the Commission — whose recommendations were always accepted by the Commonwealth — were relatively small because they reflected the distribution of the financial assistance grants and because the financially weaker States were also the States with the smallest populations. The special grants were financed from the Commonwealth budget and did not affect the total amount of the financial assistance grants.

Second, both revenue needs and expenditure needs were assessed comprehensively for all recurrent revenue/expenditure categories. This was different from the formula governing German Finanzausgleich, for instance, which essentially emphasizes aggregate fiscal capacity, leaving expenditure functions aside.[1]

However, the needs criteria developed by the Commission had (and have) a more general bearing on the philosophy governing horizontal equalization in Australia, even for general financial assistance. This point was ostensibly made clear when the Commission was asked to review the initial allocation of tax-sharing funds introduced in 1976 through the new federalism policy. The Grants Commission's detailed reports on tax-sharing led to a great deal of controversy in Australia, and the initial reactions were described as 'cold, if not actively hostile' (Bird, 1986, p. 138). This was mainly for two reasons: (i) a full review of State relativities was to define losers and winners of the proposed redistribution exercise, which always meets with political resistance; and (ii) the report was so specific in many ways, for instance addressing outlays on 'shark and crocodile protection' (Commonwealth Grants Commission, 1985, Volume II, p. 66), that people started to wonder what this had to do with the transfer of general revenue to States — although it has to be acknowledged that a systematic assessment had to include all State revenue and expenditure.

The Commission may, in fact, have overstressed its mandate in this exercise. Some authors concluded that this work had weakened the status of the Grants Commission. Yet it should not be forgotten that, undoubtedly, the Commission has been 'the cynosure of federal finance specialists throughout the world' (Bird, 1986, p. 142) for over 50 years. What may have been overlooked in its achievements was the fact that the recommendations initially only related to a small proportion of redistributive means — special grants — and that these grants were far from being comprehensive equalization payments, both quantitatively and as to their coverage of regions. When the recommendations started addressing a broader range of issues, the obvious came to the fore: that horizontal equalization is essentially a political process. This process may follow the advice of 'independent experts' but only as long as it suits existing political interests.

Another lesson to be learned from the Grants Commission's tax-sharing exercise is that too specific horizontal redistribution formulas for substantial amounts of general revenue to be distributed are likely to meet with political resistance.

1 The Australian model also defines relative 'tax effort' (own 'tax effort' relative to standard 'tax effort'). Such a distinction would make little sense in Germany where legislation governing State taxation is uniform.

Qui nimium probat nihil probat. It is more likely to jeopardize any move aiming at establishing a greater degree of cohesion.[1]

Nevertheless, the basic methodology developed by the Commission with the assistance of the States and the Commonwealth Treasury — the equalization model for assessing general revenue grant relativities — has been accepted by all parties, the main issues between them being the extent to which the equalization process should be carried out — a political question — and the details of revenue and expenditure assessments, involving technical and data considerations. While the political question (the extent of equalization) needs to be determined by governments, it is generally accepted in Australia that an independent body is more likely to achieve an equitable distribution of grants than a process of political bargaining by governments of different political complexions and different fiscal strengths. The present system was developed in Australia because of the perceived unfairness of the previous arrangements.

The distribution model which has been used in Australia since 1981, replacing the special grants arrangements, thus embraces all States and territories and determines the distribution of the total amount of Commonwealth general revenue grants. It involves the calculation of grant relativities by reference to the relative per capita revenue-raising capacities for all recurrent own-source revenue, the relative per capita expenditure needs (costs of providing standard services) for all recurrent expenditure and the differential per capita amounts of most recurrent specific purpose grants (those for the expenditure which has been equalized). In effect, each State or territory share of the total Commonwealth general revenue grants depends on its standardized deficit, which is the product of its population and its per capita grant relativity. The latter is assessed as its per capita standardized expenditure minus its per capita standardized own-source revenue, plus (or minus) its differential per capita specific purpose grants.

Separate assessments are made for some 30 revenue categories, more than 60 expenditure categories and more than 20 grant categories. The grant relativities are assessed following a major review every five years. Methodological issues are also reviewed between the major inquiries.

An advisory body similar to the Commonwealth Grants Commission could also be considered as an element within the EC budgetary process. Such an institution could be extremely useful in developing recommendations to politicians on more informed regional and programme-related 'needs criteria'. Policy guidelines could be set to constrain such recommendations in advance, and Parliament could even introduce firm budgetary limitations through the closed-ending of regional and structural funds to be allocated. A paper prepared for the MacDougall Committee (Mathews, 1977) suggests action along these lines and develops a partial equalization model similar in structure to the Australian distribution model.

3.1.5. Constraints on deficit-financing

A full discussion of revenue instruments would also have to include loan money to be raised at vertical levels of government. Loan money — if not controlled — may contribute to softening budget constraints at all levels of government; loan control is thus most delicate for multilayer government finance. Moreover, government borrowing is intertwined with monetary policy and macroeconomic demand management (through its impact on capital markets). Effective control on public sector borrowing is hence a major concern for all confederations — notably for EC monetary policy under EMU.

Although the thrust of this study is not on public sector borrowing under EMU, which has been studied extensively by the Commission, a few remarks on the situation in Australia seem to be in order.

State borrowing (general government as well as State business enterprises) is determined by the Loan Council, not only the total amount, but also the allocation among Australian States. This Council was set up through the Financial Agreement of 1927. It provides essentially what may be called 'joint decision-making' machinery, yet the Loan Council's decisions have predominantly reflected Commonwealth interests throughout its history.[2] Again, the impression of the Australian States being at the mercy of the Commonwealth is re-stated.

In the early 1980s, it appeared that the Australian Loan Council was relaxing its control. The 1980s have brought about an increase in 'off-programme' borrowing activities at all levels of government. Furthermore, the States had increasingly developed devices to circumvent Loan Council control. State budget constraints had thus been softened quite considerably. And the constraints on regional loan financing appeared to be softer than they seemed at first

[1] A similar conclusion may be drawn on the German horizontal Finanzausgleich discussed below.

[2] The federal government has to convince only two States in order to have a motion passed, but in any case is able to control the Council's decisions because of its dominating fiscal strength and power to award grants.

sight. Nevertheless, the Commonwealth retains control over the total borrowing programme and, more recently, has introduced a new global limits formula which is used restrictively.[1] At present, consideration is given to allowing 'corporatized' government business enterprises to be freed from Loan Council borrowing limits.

3.1.6. The States at the mercy of the Commonwealth? An attempted answer

The lack of flexible tax resources under State control is often cited as constituting a severe problem for multilevel government finance in Australia. Yet it is questionable whether the States have really been 'at the mercy' of the Commonwealth for that matter. A number of factors point toward the States having been able to preserve, and even extend, their responsibilities, as follows.

(a) General revenue grants based on quasi-constitutional rules and institutional inertia ('no one should lose a benefit once received') provide a secure revenue source covering half of State resources on average. This is prone to foster a stable environment for State policy decisions and for the long-term planning of public sector developments. In recent years, however, general revenue grants have been cut substantially in real terms.

(b) If the States had continued to impose their own income taxes, they would probably have received less revenue than they obtained through general revenue assistance. This was certainly true for the post-war period until the mid-1960s (Mathews and Jay, 1972, p. 317); it was most likely to be true for the initial tax-sharing phase in the 1970s. The fact that the Commonwealth was able to reverse these trends on several occasions is not an argument for central dominance; it is rather an indication that intergovernmental financial control may work even without the often cited tax/outlay link (see below).

(c) Specific purpose payments have almost certainly released State own funds in certain policy areas that could be used for general purposes. This is true in spite of matching requirements in some instances. Matching requirements may, however, sometimes have introduced biases in the structure of State government outlays — creating, for instance, an incentive to increase expenditure on university education relative to primary and secondary schooling. Deploring this type of inefficiency is justified; yet it calls for a revision of the set of matching requirements associated with specific purpose grants, not for a revision of the whole system of federal finance, a process which has generally been undertaken in Australia. Recently, the major growth in tied grants has been in areas where the States' own expenditure is limited and very little State money has been released.

(d) Special grants and, later, the general revenue equalization arrangements have helped to ease the budgetary constraints of the poorer States.

(e) The States have recently started to exploit more heavily some own resources, notably user charges, resource taxation and business franchise tax revenue.

(f) The consistent reduction in the Loan Council's role in controlling State borrowing has further contributed to easing budget constraints at State level.

There is no doubt that the States play an important role in Australia and are resilient — not only because such a role is firmly established in the Constitution. The Commonwealth cannot ignore them and cannot keep cutting back grants to them. It is forced to reach broad agreements with the States (Fletcher and Walsh, 1991) in order to preserve political stability. An outside observer of Australian federalism may well come to the conclusion that '... overall, the pattern of Australian fiscal federalism seems to be fairly stable' (United States Advisory Commission on Intergovernmental Relations, 1981, p. 78).

Despite this positive interpretation of the effects of multilevel finance on State sovereignty in Australia, a number of writers continue to underline the inefficiency of these provisions, notably by stressing the missing tax/expenditure link or accountability supposed to enhance fiscal responsibilities at each level. On the grounds of the analysis given in the theoretical part of this paper, the importance of this link may be debatable, in particular for smaller vertical fiscal imbalances. The question is whether the vertical imbalance in Australia is severe enough to warrant such concern.

It should not be overlooked that the political process regarding the vertical distribution of funds under revenue-sharing or general purpose assistance may also generate a corrective response; this may be different from the traditional median-voter model, yet leads to similar results. The Commonwealth government may thus come under direct pressure from its own electorate to constrain the overall level of taxation, and may therefore be encouraged to pass this pressure on to States by demanding a revision of the revenue-sharing formula. Not only can it be shown that such revisions have been taking place in Australia; the mechanism may in fact be fully appropriate for a polity in which 'neither the Senate nor the Cabinet provides adequate regional representation at the national level, because they are primarily dominated

[1] This was facilitated politically because high real borrowing costs have reduced State desires to borrow.

by party rather than by regional considerations' (Bird, 1986, p. 130, referring to Mathews, 1978, and Solomon, 1982).

The analysis shows that federal financial arrangements in Australia have been preserving and securing State independence and that the lower tier of government is far from being at the mercy of the Commonwealth.

3.2. The case of Germany: Unitary federal dominance or cooperative federalism?

3.2.1. General characteristics of the German federation

Contrary to the Australian and Swiss histories of federalism, German federalism in its present form dates back only to the period after World War II. Its initial shape was strongly influenced by the Allies, notably by the US model of federalism, yet it also includes typical German elements that predate Nazi centralism. Furthermore, developments in Germany have consistently shied away from the original federal machinery established after the war.

A superficial glance at the German arrangements may detect many features of a unitary State.[1] There is a strong central government with an extensive area of influence. There is uniformity in legislation on almost all important issues. There is a uniform tax system. Based on collective welfare arguments or equity, the Germans strive for the uniformity of living conditions in the whole nation, notably for national average standards in the provision of public goods (rather than for minimum standards).[2] Another characteristic is the strong coordination of policies among the different layers of government which was equally guided by the uniformity-of-living-conditions principle. This principle will thus have to be kept in mind when discussing present federal arrangements in Germany.

Of course, there are elements that vindicate the official title of the federation: the existence of intermediate levels of government, 16 *Länder* or States (after unification), and a local government sector, the importance of which cannot be overemphasized;[3] yet the impression of a 'unitary federation' remains very strong.

The present Constitution of Germany makes little attempt to divide government functions among the tiers vertically. At the central level, emphasis is laid on legislative functions, the allocation of financial resources and the formulation of policy guidelines. The *Länder* and local governments are generally in charge of implementing and administering these policies. Lower levels of government often execute policies on behalf of higher levels, where financing is sometimes tied to the function executed leading to corresponding grants (or better: cost restitution), yet it may also have to be provided by the lower tiers themselves without any contribution from the top.[4] Central administration is thus relatively underdeveloped (except for specific functions like defence, foreign affairs, etc.), and the *Länder* bear the brunt of administrative costs (including tax administration) which tend to grow comparably faster since these services are relatively labour-intensive.

On the other hand, municipalities have to spend a large share of capital expenditure in such fields as communal services (sewerage, etc.), health, sport and recreation, schools, housing and road construction. This particular division of functions — central decision-making with decentralized execution — has been labelled the 'horizontal' approach to federalism, in contrast to the 'vertical' model of the Anglo-Saxon world (Spahn, 1978).

Despite the fact that the original constitutional power is with the *Länder*,[5] the lower tier of government has experienced a continuous erosion of its original competences to the benefit of the central government. The few remaining policy areas where *Land* governments are autonomous in the sense of a clear vertical division of functions are culture, education, law and order, parts of environmental and health policies as well as regional economic policy, but even in these areas *Land* competence has been reduced as a result of larger responsibility sharing and joint-decision mechanisms intro-

---

1 The West German system was already characterized as 'unitary' in the early 1960s; see, for instance, Hesse (1962).

2 Equity considerations are generally derived from the 'social-State' principle ('Sozialstaatsprinzip') inherent in Article 20(1) of the Grundgesetz, yet it is spelled out explicitly in Articles 72(2) and 106(3) of the Constitution where the 'maintenance of uniformity of living conditions beyond the territory of any one *Land*' is recognized.

3 Local governments are responsible for two thirds of all public investment programmes in Germany.

4 The most critical function in this context is public welfare ('Sozialhilfe') which is being executed by local governments, and paid out of their normal budgets without reimbursements from the upper levels of government.

5 According to Article 30 of the Grundgesetz, government responsibility lies in the hands of the *Länder* unless the Constitution explicitly transfers competences to the federal government. There are, of course, also 'implied powers' at the central level stemming from the 'nature of the cause' without clear-cut boundaries (BVerfGE 12, p. 205).

duced into the Constitution in 1969. This has recently led to initiatives aiming at restoring some of the lost ground — also in view of stronger centripetal forces through Western European integration.[1]

At the level of financial arrangements, the horizontal distribution of functions is matched by the prevalence of revenue-sharing. All major taxes (income, corporate income, value-added taxes) are joint taxes, i.e. they accrue jointly to the federal and *Land* governments. Legislation on taxes is uniform and centralized. *Land* parliaments have essentially no power to legislate on taxes any more (Stern, 1980, pp. 1118 et seq.) despite the fact that some smaller taxes continue to be assigned to *Land* or local governments. All taxes are assessed according to the same national tax code, in particular as regards the tax base.[2] Recent attempts to differentiate tax rates of the income tax in the Western and Eastern parts of Germany have met severe criticism, and the proposals were successfully resisted.[3]

Uniform taxation is typical for the German federal machinery. In economic terms, uniform taxation may in fact be desirable both under distributive and allocative aspects. Uniformity of tax rules stresses the argument of regional fairness or equity; it also simplifies tax coordination under administrative aspects. More importantly, it avoids tax competition among regions with distorting effects on the flow of capital, on migration and on cross-border shopping. This again fosters social cohesion and tends to equate taxable capacity as long as the regional flows of resources resulting from market-oriented arbitrage remain unimpeded. The allocative aspects furnish strong arguments for the uniformity in national tax legislation. They are, however, not sufficient to explain the assignment of taxes to different layers of government or tax-sharing in particular.

In political terms, uniform taxation may be debatable, since it seems to restrict State sovereignty. As regards Germany, it may be astonishing that a federal organization has produced a political consensus leading to uniformity of tax rules and even to the sharing of joint taxes on the basis of standardized criteria for the apportionment of revenues. This can only be understood when looking at the specific rules governing the process of federal legislation and the means by which the *Länder* inject their voice into this process (Spahn, 1977b).

3.2.2. The role of the Bundesrat

Virtually every law affecting the interests of the *Länder* has to pass the Bundesrat, the legislative assembly (Articles 50 et seq. of the Grundgesetz) of the *Länder* which, unlike the equivalent in other federations such as the USA, Canada or Australia, is a true States' House in the sense that its members are appointed by State governments, recalled by them, and are strictly bound to the directions of their respective governments (imperatives 'Mandat'). The actual status of the Bundesrat in federal legislation has given the German *Länder* a strong position compared both to Germany's own past[4] and to other federations.

The influence of the *Länder* is far-reaching, particularly in the field of taxation and related fields, because the consent of the Bundesrat is required with respect to: (i) all laws affecting the proceeds of taxes accruing entirely or in part to the *Länder*, (ii) federal laws on fiscal equalization, and (iii) federal laws regulating the administration of the *Länder* by fiscal authorities (Articles 105(3), 106(4), 107(2) and 108(3) of the Grundgesetz).

In Germany the power to legislate on specific taxes has to be seen as being totally distinct from the right of each layer of government to appropriate the proceeds from these taxes. Tax assignment to specific levels of governments is guaranteed by the Constitution itself, with only minor adjustments to be made via federal legislation. Major revisions of federal financial arrangements — for instance as a consequence of German unification — can, therefore, only be made through a change in the Constitution requiring a two-third majority in both houses of the federal parliament.

3.2.3. Vertical tax assignment, federal and *Land* taxes, and joint taxation

As mentioned before, joint or shared taxes cover all of the most important revenue sources in Germany. In 1989, the wage and income tax, the corporation tax and value-added tax (all joint taxes) yielded approximately three quarters of total tax revenue in the Federal Republic.

1 See, for instance, the recommendations of a working party (Martin-Kommission, 1985), or Große-Sender (1990).

2 There is some limited discretion to tax and/or to vary the tax rates of national taxes at the communal level, notably with regard to the local business tax ('Gewerbesteuer') and the property tax.

3 It should be mentioned, however, that West Berlin has been benefiting from lower income tax rates until now, yet these benefits, which are unique, will be phased out as a result of German unification.

4 Only during Bismarck's Empire and before (in the North German Confederation) did the *Länder* seem to have enjoyed more power than today, yet the predominance of Prussia in the Reich always jeopardized their constitutional rights.

These taxes are apportioned to the different layers of government as shown in Table 3.

Table 3

Distribution of joint taxes for each level of government in Germany

(%)

Joint tax	Federal	*Land*	Local
Personal income tax	42½	42½	15
Corporate income tax	50	50	0
Value-added tax	65	35	0

In addition to these taxes, the local business tax is also shared by all three levels of government, although it is not officially a joint tax.[1] From its share of VAT, the federal government has to finance the contributions made to finance the EC Commission's budget.

The vertical distribution of income taxes is fixed by the Constitution (Article 106(3) of the Grundgesetz) and, except for grants, any adjustments of the vertical distribution of public funds are exclusively effected by renegotiating the shares of turnover taxes (VAT). The result of the bargaining between the federal and the *Länder* governments is embodied in a federal law requiring the consent of the Bundesrat.

The regional distribution of income taxes follows the regional pattern of tax yields (according to the residence principle with special rules for the apportionment of the corporation tax). The regional distribution of VAT is essentially on a per capita basis (which implies an implicit equalization effect). A small share of VAT is used by the federal government for explicit equalization purposes in the form of unconditional asymmetrical vertical grants ('Ergänzungszuweisungen').

The main federal taxes (11,8% of total taxes in 1989) are excise taxes,[2] the most important of which are those on mineral oil, tobacco and alcohol (except beer[3]). The main *Land* taxes (4,7% of total taxes) are the motor vehicle tax and the net wealth tax — a rather unimportant tax in Germany. Apart from the local business tax, municipalities employ a property tax and communal levies on public services (utilities).

The vertical assignment of taxes in Germany is shown in Table 4.

Table 4

Sources of revenue for each level of government in Germany

(%)

Revenue source	Federal	*Land*	Local
Exclusive taxes	22	9	4
Shared taxes	70	64	30
Unconditional block grants	—	1	11
Specific purpose grants	—	14	11
Other	8	12	43
Total revenue	100	100	100

3.2.4. Cooperative federalism

The German federal machinery does not use vertical general revenue grants.[4] They would make little sense within the tax-sharing arrangements which allow vertical adjustments via the share of VAT. There are, however, specific vertical grants that imply federal cofinancing of *Land* projects. These grants function within a complex network of interstate cooperation and monitoring which is typical of 'cooperative federalism', the antagonistic approach to the independent layer-cake model.

In addition to the joint federal legislation process, there are further instruments of policy coordination provided by the Constitution: an institutional joint decision-making and responsibility-sharing machinery, combined with joint planning and joint financing and/or grants-in-aid, which is a peculiarity of the German federal arrangement.[5]

These elements of cooperative federalism were introduced in 1969 when it had become clear that federal legislation alone was not sufficient to coordinate policies at the central

[1] In Table 4 only the 'shared' part (federal and *Land*) is recorded as shared business tax (1%). The rest remains in the local taxes' category.

[2] Customs duties have been handed over to the Community.

[3] The beer tax is the only excise tax remaining at the *Land* level — bearing testimony of Bavaria's successful policy in the Reichstag at the end of last century.

[4] Recently, in the context of German unification, the federal government introduced vertical general revenue grants (on a per capita basis) for financing local governments in the former German Democratic Republic. This must, however, be considered to be a temporary device. It accounts for the fact that these governments, for administrative, legal and economic reasons, have an incomparably lower tax base than their Western counterparts.

[5] For a fuller discussion see, for instance, Reissert (1978).

level. The federal division of functions — with framework legislation assigned to the centre and the implementation of policies to the lower tiers of government — was deficient in view of the (then more important) goals of coordinated stabilization policies.[1] The model also 'precluded the federal government from setting guidelines or prerogatives within those policy areas in which policies cannot be controlled by legislation, that is the provision of public goods and services, especially public infrastructure. It was in these policy areas ... that the planning and spending functions assigned to the *Länder* proved to be more important than the legislative functions assigned to the federal government' (Reissert, 1978, pp. 24-25).

Two major coordinative instruments were therefore created in 1969: (i) the 'joint tasks' ('Gemeinschaftsaufgaben') according to Articles 91a and 91b of the Grundgesetz; and (ii) grants-in-aid ('Finanzhilfen') according to Article 104a(4) of the Grundgesetz.

Joint tasks were defined in the Constitution for five policy areas.[2] Grants-in-aid were given to the *Länder* for regional and local investments within certain policy areas to be defined by federal law or by federal-*Land* agreement. Again the uniformity-of-living-conditions principle is visible in these arrangements since the Constitution stipulates that these grants be used only for equalizing regional disparities, for stabilization purposes, and in order to stimulate growth.

These constitutional rules have legalized past practices whereby the federal government had provided funds to the *Länder* on a bilateral basis. Instead of bilateralism, the new instruments stress multilateral agreements — at least for the joint tasks — within the so-called 'planning committees' ('Planungsausschüsse') where the federation shares the votes with all the *Länder*. There is joint planning and joint financing of all State projects adopted by the federal government and a majority of the *Länder*. These coordinative instruments have thus increased the scope for central government interference in many ways, not only through its impact on the planning process (in particular on the selection of projects), but also through the potential threat to withdraw federal cofinancing which usually covers 50% of the costs.[3]

The arrangements have therefore met with criticism at *Land* level, and further attempts to centralize powers in Germany were successfully resisted in the 1980s.[4] On the contrary: scepticism as regards the effectiveness of central stabilization policies as well as the high costs of coordination and administration — together with political constraints imposed on *Land* governments and parliaments by the mixed financing arrangements[5] — have led to moves towards a redecentralization of powers recently. However, German unification as well as the Gulf War have contributed to reinvigorating the role of the federal government at the expense of *Land* power.

3.2.5. Equalization and horizontal grants

One particular feature of German federalism is the existence of interstate equalization, the Finanzausgleich. This is achieved through a specific set of rules governing a second-round redistribution of financial means among the *Länder* themselves (except for West Berlin which so far has received a federal grant instead). These rules are set out by federal law based on Article 107(2) of the Grundgesetz.[6] It should be noted in advance that this mechanism only applies to the Western *Länder*, even after unification.

The process starts from a definition of a State and local fiscal capacity measure for any one *Land* ('Steuerkraftmesszahl') which is roughly the sum of State tax revenues corrected for special burdens and local tax revenues adjusted for population density, degree of urbanization, etc. This measure is then related to an equalization yardstick for this *Land* ('Ausgleichsmesszahl') derived from the average per capita fiscal capacity of all participating *Länder* multiplied by the population of this particular *Land*.

[1] The centralization of competence as a consequence of policy coordination for stabilization purposes had reached its peak at the end of the 1960s, when Article 109 of the Grundgesetz was amended (1967), the Stability and Growth Law was enacted (1967), a Business Cycle Council ('Konjunkturrat') and a Finance Planning Council ('Finanzplanungsrat') were established and the principles governing the budgets of federal and *Länder* governments were harmonized (1969).

[2] These are university construction, regional policy, agricultural structural policy and coastal preservation, as well as the planning of education, and the fostering of research to the extent that these are of supraregional importance.

[3] The federal contribution varies. It is 60% for agricultural measures and 70% for coastal preservation.

[4] The last attempt to centralize powers was made in 1973 when the federal parliament set up a commission for a revision of the Constitution (Enquête-Kommission Verfassungsreform), the recommendations of which had no further impact on developments.

[5] An influential study analysing the effects of responsibility-sharing and joint financing was undertaken by Scharpf, Reissert and Schnabel (1976, 1977). See also Reissert (1978).

[6] *Gesetz über den Finanzausgleich zwischen Bund und Ländern* as of 18 December 1987 (Equalization Act), BGBl. I, p. 2764, amended by the *Gesetz zum Ausgleich unterschiedlicher Wirtschaftskraft in den Ländern* of 20 December 1988, BGBl. I, p. 2358.

Any shortfall in fiscal capacity in relation to the yardstick is equalized in steps with graduated rates. A uniform average is not requested, yet there is a guarantee that fiscal capacity (including equalization payments) should reach at least 95% of the average for the *Länder* as a whole.

Equalization payments are made by those *Länder*, the fiscal capacity of which exceeds the yardstick, again in graduated contributions. The system works as a clearing mechanism, i.e. payments made by the financially stronger *Länder* always equal the sum of receipts of the weaker *Länder*.

The financial settlement among the *Länder* has had a rather strong equalizing effect in the past[1] — and, at the outset, the mechanism has worked reasonably well. Yet the fact that the burden of the settlement has consistently shifted onto two *Länder* only — Baden-Württemberg and Hesse — while all other *Länder* either benefited or were exempt from contributing, led to severe political tensions among the *Länder* that are reflected in actions to amend the arrangement by appealing to the Constitutional Court.[2] This proves that the 'brotherly' financial-settlement arrangements among the *Länder* seem to have been stretched to their political limits in West Germany, even without the new problems created by German unification.

3.2.6. Constraints on deficit-financing

The institutional limits on deficit-financing are twofold in Germany.

(a) Paragraph 20 of the Bundesbankgesetz restricts borrowing of all tiers of government from the Central Bank (local governments having no access to this form of deficit-financing at all). There are fixed ceilings set for this type of borrowing by legislation — which are proportional to population for the *Länder* — and the amounts appear to be relatively low.

(b) Article 115 of the Constitution restricts federal government borrowing to the 'amount of projected outlays for investment purposes in the budget'. Similar rules apply to *Länder* budgeting in accordance with State constitutions or legislation. Local government borrowing is subject to State control.

Budget constraints thus appear to be rather tough in Germany. The 'quasi-constitutional' limitation of access to Bundesbank financing is often praised by German politicians as being the origin of low inflation, a strong currency and financial stability of the public sector. In principle this cannot be denied — especially since legislation has rendered the Bundesbank legally independent of the federal and *Land* governments.

Yet one could argue that the system had not been put to any severe test in the past, and that it has worked largely based on a consensus formed by all political parties and interest groups, trading partners in particular. History shows, however, that the constraint may have been less binding than many people thought, and that the test of German unification made it definitely clear that judicial control of budget deficits is difficult to achieve, even with constitutional rules.

The budget constraint has been 'softened' in many respects.

First, it is far from clear what is understood by 'investment purposes'. Events have shown that it is possible to redefine current outlays to represent investment outlays without much difficulty in some instances.

Second, an amendment of the Constitution made in 1969 has permitted the federal government to raise loan money in order to combat 'disturbances of general economic equilibrium'. This rule is even more difficult to monitor in quantitative terms. The provision was introduced in the heydays of legislation sanctioning Keynesian demand management policies (which are no longer applied as such in Germany). Application of this rule reached its climax only recently, however, when 'disturbance of general economic equilibrium' was interpreted as relating to the consequences of German unification.

Third, German unification with its massive needs to transfer resources from one part of the country to the other (see below) has brought to the fore another strategy to dissimulate budget deficits and to soften legal budget constraint: a proliferation of off-budget funding. Political developments have created the German Unity Fund, the 'Treuhandanstalt' and the 'Kreditabwicklungsfond'. All rely heavily on loan funding.[3]

As far as access to money creation is concerned a few qualifications should be made, as follows.

(a) German monetary union, introduced on 1 July 1990, has lead to a monetization of almost all the personal

[1] Compare the calculations made by Spahn (1977b), pp. 222 et seq.

[2] The recent legislation mentioned before was adopted following a ruling of the Court in 1986 (BVerfGE 72, pp. 330 et seq.). This legislation has provoked new counterinitiatives from Hamburg, Bremen and Saarland.

[3] These developments have been taking place in spite of the 'unity-of-the-budget' principle operating in German budgetary processes. Similar developments — both the relabelling of outlay (and revenue) categories, as well as off-budget operations — could also be observed in the USA in response to legislation trying to limit the size of the federal budget deficit.

savings of East German citizens at a ratio of Ostmark 1 : DM 1, against the will of the Bundesbank. This was not necessarily inflationary. Yet it has eased the budget constraint of German governments (and accentuated the financial situation of East German business firms), since money thus created was available to be invested in interest-bearing government bonds.

(b) Even under normal circumstances, the Bundesbank had been indirectly supportive of government debt-financing by its open-market policies. It should be recognized, however, that this was mainly achieved without macroeconomic distortions and with the Central Bank responsibly following its main policy objective: price stability.

Central bank independence is therefore the cornerstone for budgetary discipline in the German public sector. Yet it should also be clear that deficit-financing is much softer than it may appear at first sight. Restrictive constitutional rules and restrictive monetary policies could not prevent the German public sector from running massive deficits that may amount to DM 190 billion for 1991 or approximately 7% of total German GNP.[1,2] As to federal and regional loan financing of public budgets in Germany, the effective constraints appear to be much softer than is indicated by existing legal provisions.

3.2.7. German unification and the new strain on fiscal federal relations in Germany

On 3 October 1990, five new Eastern *Länder*[3] joined the Federal Republic of Germany which had formerly been administered centrally by a socialist government. The West German currency was adopted even before unification, and the tax system was almost fully introduced in rapid steps without any major amendment.

The effects on the German federal machinery are enormous: productivity levels are extremely low in the East compared with the West, and markets for East German products have almost instantaneously vanished as a result of German monetary union — some products can no longer be sold to traditional former Comecon (Council for Mutual Economic Assistance) markets, since they are priced in convertible currency, and they often fail on Western markets. The consequences are closure of product lines and firms, with concomitant unemployment or short-time work. This renders the taxable capacity of Eastern *Länder* lower than that of their Western counterparts.

On the other hand, there are large demands for government services. Some services had to be created from scratch (i.e. tax administration, unemployment insurance, the administration of welfare programmes, parts of public education and jurisdiction), and needs are most urgent in the area of public infrastructure, especially at local level. Obviously, large public sector deficits for Eastern *Länder* governments result from these imbalances requiring particular solutions.

Germany is in the midst of this process of economic and fiscal adjustments (Krupp, 1991). What had to be solved immediately was the distribution of joint taxes among the different *Länder*.

Politically, the horizontal tax apportionment of shared income taxes did not pose major problems since the residence (or tax yield) principle applies. Economically, however, income taxes are thus distributed very unevenly — through the progressivity of the tariff — and will continue to be as long as income levels are much lower in the East.[4]

On the other hand, the distribution of VAT caused a major political controversy since it is apportioned on a per capita basis, implying strong horizontal equalization effects. Yet in spite of initial resistance expressed by the Western *Länder*, the system now applies fully to Eastern Germany, which lets the East implicitly benefit from the higher productivity levels in the West.

At present, fiscal federal relations in the West continue to be governed by the old system. Yet political pressure is continuously mounting, given the threat of Eastern municipalities — and even *Länder* — becoming unable to finance their current outlays. Local governments may have to close certain operations (or threaten to do so). The most urgent problem is, however, unemployment. Employment may be

1 Own estimates. This amount may be distributed as follows: federal government, DM 66 billion; *Länder*, DM 35 billion (of which DM 20 billion in the East); municipalities, DM 5 billion. To this should be added the deficits of special public funds (European Recovery Fund, Post, Railways) of DM 29 billion, and the 'shadow' budgets (Treuhandanstalt, German Unity Fund, etc.) of DM 58 billion. (The author wishes to thank Dr Kaiser of the Deutsche Bank for collecting these data from various sources.)

2 This experience demonstrates vividly — together with the US federal budget deficit — that EMU may not have to fear the relative size of deficits for smaller countries (like Belgium), but the absolute amounts of the larger budgets to be financed through capital markets and money creation.

3 East Berlin merged with West Berlin which had formerly existed as a West German *Land* under special rule (still being controlled by the Western Allies of World War II).

4 This effect is accentuated by special deductions from the tax base accorded to residents of the former German Democratic Republic.

left to the labour market to be solved; but mass unemployment has a political and social dimension calling for government intervention. It therefore has a bearing on the public budget, like it or not.

Proposed and applied solutions dealing with the most urgent needs of Eastern government imply *ad hoc* a great number of vertical and horizontal specific purpose payments. For 1991, public funds of approximately DM 160 billion are being transferred from Western to Eastern Germany. This corresponds to approximately 80% of East Germany's own GNP; it is one-and-a-half times the size of the EC budget — or per capita, in relation to the constituencies concerned, roughly 30 times as much; and it amounts to approximately twice the amount the industrialized world as a whole gives to all less-developed countries (LDCs) in the form of official government aid[1] — or, per capita of the respective recipients, more than tenfold of what the North gives to the South per annum (discounted appropriately for GNP per capita). The German West-East transfer programme should be considered as the most massive regional redistribution scheme ever put into effect in the history of mankind.

The transfers take the following forms (annual estimates are given for 1991):[2]

(i) specific purpose payments of the federal government (support for regional development, infrastructure, traffic, social expenditure, interest payments) in the order of DM 80 billion;

(ii) transfers through a separate fund 'Aufschwung Ost' (including an investment programme for communities, measures for job creation, as well as road and house building) of DM 12 billion;

(iii) direct transfers from the West German unemployment insurance scheme (DM 23 billion);

(iv) equalizing payments through the full participation of the new *Länder* in the per capita distribution of VAT (DM 7 billion);

(v) payments from the old *Länder* (DM 4 billion); and

(vi) contributions of the federal government and the old *Länder* through the German Unity Fund (DM 35 billion).

[1] In 1988, total public development aid was USD 51 billion. (*Weltentwicklungsbericht 1990*, edited by the Weltbank, Washington, DC, p.154).

[2] The figures are own estimates based on Ministry of Finance information.

The complex incidence pattern generated by the activities of the Treuhandanstalt is not considered here. Intentionally, this institution was set up to privatize the business sector formerly under the control of the socialist government. It was, therefore, expected to generate extra funds for the federal budget.[3] However, the threat of mass unemployment contingent on decisions of the Treuhandanstalt is likely to force this institution more and more into advancing cash for salaries to be paid to the potentially unemployed,[4] which may not only force it to run down its own liquid assets, but may also require support from the federal and Western *Länder* governments.[5]

As far as the horizontal fiscal settlement scheme among the *Länder* is concerned, the problems relating to German unification are not yet resolved or even touched upon. The inclusion of the East German *Länder* into the system of horizontal equalization would have meant a further considerable loss for Western *Länder* (Krupp, 1991, pp. 375-376), and all of them (but Bremen) would have had to contribute to the clearing mechanism, even those that are now at the receiving end. In view of this historic challenge, a radical review of German Finanzausgleich and fiscal federal relations in general may seem to be in order — with possible consequences for a constitutional reform.

A new system of fiscal federal relations is in fact scheduled to be introduced in 1995. So far, not even the shadow of any new principles governing future intergovernmental fiscal relations can be spotted. It seems obvious, though, that the new arrangements will have to stress cost or even needs criteria, given that the costs of providing government services have started to vary widely in Germany. Cost elements are almost entirely missing from the present equalization machinery. The work of the Australian Commonwealth Grants Commission may be useful in this regard.

Yet it seems almost certain that the uniformity-of-living conditions principle will remain the cornerstone of German intergovernmental financial relations. As a basic constitutional right it is most likely to survive. Given new large

[3] Consequently, the Treuhandanstalt was put under the control of the Finance Ministry, not the Economics Ministry, although its activities are more important by far for the future structure of the German economy than for revenue-raising.

[4] This is, of course, heavily resisted by the Treuhandanstalt, yet — for political reasons — it could not prevent its having to subscribe capital for the forming of so-called Beschäftigungsgesellschaften (which are essentially public-works and job-retraining firms).

[5] The 1991 deficit of the Treuhandanstalt is estimated to be at least DM 20 billion.

regional discrepancies, it is not easy to fulfil this mandate, however. In order to preserve the principle, criteria based on it may have to be slightly amended — hopefully by taking economic cost elements more strongly into account. This reform remains on the agenda of German federal politics for the coming years.

3.2.8. Unitary federalism or cooperative federalism? An attempted answer

It is true that the German federal financial arrangements convey the impression of a rather unitary State: uniform tax legislation, extensive tax-sharing and horizontal financial settlement arrangements may be interpreted in this fashion. Yet this impression is essentially misleading. The role of the Bundesrat — allowing the *Länder* to inject their voice into federal legislation, responsibility-sharing and cofinancing arrangements in important areas of State responsibility — and the horizontal design of the federal machinery by which the centre coordinates through framework legislation, whereas the *Länder* are free to implement their policies within that framework, all constitute a complex ensemble of political checks and balances requiring a high degree of cooperation.

The German model of federalism can be seen as the antagonistic approach to the layer-cake view of the economist. The direct link between the taxpayer's bill and the provision of public goods is destroyed through tax-sharing as well as implicit and explicit equalization. Regional taxing powers are virtually non-existent. Standards for the provision of public goods are set at average levels — as a consequence of the uniformity-of-living-conditions principle.

In spite of all these federal features, the German economy — notwithstanding actual problems due to the integration of a formerly socialist economy — seems to be vigorous and robust. This may indicate that the failure to comply with the economists' prescriptions must not necessarily imply low productivity levels due to inefficiencies in the provision of public services.

The German model of federalism is highly cooperative — not unitary. As in Switzerland, it is based on a strong consensus on creating a politically stable, socially pacified and economically robust environment for the further development of society. It remains to be seen whether this model is capable of coping with the challenge of German unification. Despite possible amendments as regards specific aspects of the German federal machinery, notably horizontal equalization, the fundamental approach is most likely to survive.

It is questionable whether the German federation could become a model for the further enhancement of the European Community in its relations with Member States. Cohesion is a concept far from homogeneity, and national sovereignty is much stronger at the European level than among the German *Länder*. Nevertheless, German experience may impinge on the development of the institutional setting within the Community. Already the European Council is very similar to the German Bundesrat. A strong voice of regional governments within the central legislation process is a prerequisite for their handing over parts of national sovereignties to the Community. However, centripetal forces are still relatively weak in Europe compared with Germany. This is for institutional reasons (restricted role of the European Parliament, lack of a democratically elected central government) as well as for political and cultural reasons.

4. Concluding remarks

This paper establishes some theoretical principles that could guide the design of federal fiscal arrangements and notably the EC constitution under economic and monetary union. The practical arrangements for two federations, Australia and Germany, are discussed in more detail.

It is obvious that EMU will lead to the reconsideration of existing institutional arrangements in Europe in the light of stronger monetary policy coordination within the Community and, eventually, the creation of a single European currency. It should be stressed that the quest for centralizing policy functions in the European Community is rather weak, even under EMU. However, new forms of coordinative federalism similar to the German model may emerge, with national governments preserving sovereignty by acting conjointly. The need for coordinating policies will ultimately have to be recognized by all governments concerned, and it will have to apply not only to European economics, but also to foreign policy and defence.

EMU will also have a bearing on fiscal federal arrangements within the Community, both at the horizontal and vertical levels; and it will affect the financing of the Community budget. The latter issues are more fully discussed by Spahn (1993) in this volume.

References

Biehl, D. (1985), 'A federalist budgetary policy strategy for European union', *Policy studies,* The Journal of the Policy Studies Institute, Vol. 6, Part 2, October, pp. 66-76.

Biehl, D. (1990a), 'Financing the EEC budget', in Prud'-homme, R. (ed), *Public finance with several levels of government,* Foundation Journal Public Finance, The Hague/Koenigstein, pp. 137-152.

Biehl, D. (1990b), 'Deficiencies and reform possibilities of the EC fiscal constitution', in Crouch, C. and Marquand, D. (eds), *The politics of 1992 — Beyond the single European market,* Oxford, pp. 85-99.

Bieri, S. (1979), 'Fiscal federalism in Switzerland', Research Monograph No 26, Canberra, Centre for Research on Federal Financial Relations, Australian National University.

Bird, R. (1986), *Federal finance in comparative perspective,* Toronto, Canadian Tax Foundation.

Bradford, D. F. and Oates, W. E. (1971), 'The analysis of revenue-sharing in a new approach to collective fiscal decisions', *The Quarterly Journal of Economics,* Vol. 85, pp. 416-439.

Break, G. F. (1967), *Intergovernmental fiscal relations in the United States,* Washington, DC, Brookings.

Brennan, G. and Buchanan, J. M. (1977), 'Towards a tax constitution for leviathan', *Journal of Public Economics,* Vol. 8, pp. 255-274.

Brennan, G. and Buchanan, J. M. (1980), *The power to tax,* Cambridge, MA, Cambridge University Press.

Brennan, G. and Buchanan, J. M. (1983), 'Normative tax theory for a federal polity: Some public choice preliminaries', in McLure, Jr, C. E. (ed.), *Tax assignment in federal countries,* Canberra, Centre for Research on Federal Financial Relations, Australian National University, pp. 52-65.

Breton, A. (1965), 'A theory of government grants', *Canadian Journal of Economics and Political Science,* Vol. 31, pp. 175-187.

Breton, A. and Scott, A. (1978), *The economic constitution of federal systems,* Toronto.

Buchanan, J. M. (1952), 'Federal grants and resource allocation', *Journal of Political Economy,* Vol. 60, pp. 208-217.

Commission of the European Communities (1989), *Community public finance: The European budget after the 1988 reform,* Brussels, Luxembourg.

Commonwealth Grants Commission (1983), *Equality in diversity: Fifty years of the Commonwealth Grants Commission,* Canberra, Australian Government Publishing Service.

Commonwealth Grants Commission (1985), *Report on tax-sharing relativities,* Vols I and II, Canberra, Australian Government Publishing Service.

Costello, D. (1993), 'Intergovernmental grants: What role for the European Community?', in this volume.

Dafflon, B. (1977), *Federal finance in theory and practice with special reference to Switzerland,* Berne, Paul Haupt.

Dafflon, B. (1991), 'Revenue-sharing in Switzerland', OECD (ed.), *Financing federal and State governments,* Paris, Centre for Cooperation with European Economies in Transition, Committee on Fiscal Affairs, forthcoming.

Fletcher, C. and Walsh, C. (1991), 'Intergovernmental relations in Australia: A managerialist revolution?', Federalism Research Centre (formerly Centre for Research on Fiscal Federal Relations), Australian National University, mimeo.

Galligan, B. and Walsh, C. (1990), 'Australian federalism — Developments and prospects', *Publius: The Journal of Federalism,* Vol. 20, No 4, forthcoming.

Giovannini, A. (1989), 'National tax systems versus the European capital market', *Economic Policy,* No 9, October, pp. 364-384.

Goodhart, C. and Smith, S. (1993), 'Stabilization', in this volume.

Goodspeed, T. (1989), 'A re-examination of the use of ability to pay taxes by local governments', *Journal of Public Economics,* Vol. 38, pp. 319-42.

Gramlich, E. M. (1977), 'Intergovernmental grants: A review of the empirical literature', in Oates, W. (ed.), *The political economy of federalism,* Lexington, MA, pp. 219-240.

Groenewegen, P. (1991), 'Financing the States in the Australian federation', in OECD (ed.), *Financing federal and State governments,* Paris, Centre for Cooperation with European Economies in Transition, Committee on Fiscal Affairs, forthcoming.

Große-Sender, H. A. (ed.) (1990), *Bericht der Kommission 'Erhaltung und Fortentwicklung der bundesstaatlichen Ordnung innerhalb der Bundesrepublik Deutschland — auch in einem Vereinten Europa'*, Düsseldorf, Landtag Nordrhein-Westfalen.

Hesse, K. (1962), *Der unitarische Bundesstaat*, Karlsruhe.

Hunter, J. S. H. (1977), *Federalism and fiscal balance*, Canberra, Centre for Research on Federal Fiscal Relations, Australian National University.

King, D. (1984), *Fiscal tiers: The economics of multilevel government*, London, Allen & Unwin.

Krupp, H.-J. (1991), 'Political change and intergovernmental fiscal relations: The case of German unification', in Prud'homme, R. (ed.), *Public finance with several levels of government*, Foundation Journal Public Finance, The Hague/Koenigstein, pp. 368-378.

Lindahl, E. (1919), *Die Gerechtigkeit der Besteuerung*, Lund.

Martin-Kommission (1985), 'Landtag Rheinland-Pfalz', Drs 10/1150, January 1985.

Mathews, R. L. (1977), 'Mechanisms for fiscal equalization in an integrating European Community', Ch. 13, Vol. II of the MacDougall Report, pp. 401-432 (reproduced in Grewal, B. S., Brennan, G. and Mathews, R. L. (eds), *The economics of federalism*, Canberra, ANU Press, 1980).

Mathews, R. L. (1978), 'Issues in Australian federalism', *Economic Papers*, March.

Mathews, R. L. (1982), *The Commonwealth-State contract*, Reprint No 46, Canberra, Centre for Research on Federal Fiscal Relations, Australian National University.

Mathews, R. L. and Jay, W. R. C. (1972), *Federal finance. Intergovernmental financial relations in Australia since federation*, Melbourne.

Musgrave, R. A. (1969), 'Theories of fiscal federalism', *Public Finance*, Vol. 24, pp. 521-532.

Musgrave, R. A. (1983), 'Who should tax, where, and what?', in McLure, C. (ed.), *Tax assignment in federal countries*, Canberra, Australian National University Press, pp. 2-19.

Nutter, G. W. (1978), *Growth of government in the West*, Washington, American Enterprise Institute for Public Policy Research.

Oates, W. E. (1991), 'The theory of fiscal federalism: revenue and expenditure issues — A survey of recent theoretical and empirical research', in Prud'homme, R. (ed.), *Public finance with several levels of government*, Foundation Journal Public Finance, The Hague/Koenigstein, pp. 1-18.

Oates, W. E. (1972), *Fiscal federalism*, New York et al., Harcourt-Brace & Jovanovich.

OECD (1991), *Financing federal and State governments*, Paris, Centre for Cooperation with European Economies in Transition, Committee on Fiscal Affairs, forthcoming.

Olson, M. (1983a), *The rise and decline of nations*, New Haven.

Olson, M. (1983b), 'The political economy of comparative growth rates', in Mueller, D. C. (ed.), *The political economy of growth*, New Haven, Yale University Press, pp. 7-52.

Peacock, A. T. and Wiseman, J. (1967), *The growth of public expenditures in the United Kingdom*, second edition, London.

Pommerehne, W. W. (1977), 'Quantitative aspects of federalism: A study of six countries', in Oates, W. E. (ed.), *The political economy of fiscal federalism*, Lexington, pp. 105-13.

Popitz, J. (1927), 'Der Finanzausgleich', *Handbuch der Finanzwissenschaft*, Vol. 2, first edition, Tübingen, pp. 348 et seq.

Pryor, F. L. (1968), *Public expenditures in communist and capitalist nations*, London.

Reissert, B. (1978), 'Responsibility-sharing and joint tasks in West German federalism', in Spahn, P. B. (ed.), *Principles of federal policy coordination in West Germany: Basic issues and annotated legislation*, research monograph, Canberra, Centre for Research on Federal Financial Relations, Australian National University, pp. 24-41.

Samuelson, P. A. (1954), 'The theory of public expenditure', *Review of Economics and Statistics*, Vol. 36, pp. 386-389.

Samuelson, P. A. (1955), 'Diagrammatic exposition of a theory of public expenditures', *Review of Economics and Statistics*, Vol. 37, pp. 350-356.

Scharpf, F. W., Reissert, B. and Schnabel, F. (eds) (1977), *Politikverflechtung II. Kritik und Berichte aus der Praxis*, Kronberg.

Scharpf, F. W., Reissert, B. and Schnabel, F. (1976), *Politikverflechtung: Theorie und Empirie des kooperativen Föderalismus in der Bundesrepublik*, Kronberg.

Sinn, H.-W. (1990), 'Tax harmonization and tax competition in Europe', *European Economic Review*, Vol. 34, No 2/3, pp. 489-504.

Solomon, D. (1982), 'Constitution and politics: Conflict restrained', paper presented to the Australian Institute of Political Science, Canberra.

Spahn, P. B. (1977a), 'Federal grant policy and State-local taxation', in Mathews, R. L. (ed.), *State and local taxation*, Canberra, Australian National University Press, pp. 125-142.

Spahn, P. B. (1977b), 'The pattern of State and local taxation in the Federal Republic of Germany', in Mathews, R. L. (ed.), *State and local taxation*, Canberra, Australian National University Press, pp. 190-241.

Spahn, P. B. (1978), 'The German model of horizontal federal decentralization' in Spahn, P. B. (ed.), *Principles of federal policy coordination in West Germany: Basic issues and annotated legislation*, research monograph, Canberra, Centre for Research on Federal Financial Relations, Australian National University, pp. 3-23.

Spahn, P. B. (1988), 'On the assignment of taxes in federal polities', in Brennan, G., Grewal, B. S. and Groenewegen, P. (eds), *Taxation and federalism: Essays in honour of Russell Mathews*, Sydney et al., Pergamon Press/ANU Press, pp. 148-165.

Spahn, P. B. (1991a), 'The choice of own taxes, shared taxes and grants to finance State governments: The experience of Germany', in OECD (ed.), *Financing federal and State governments*, Paris, Centre for Cooperation with European Economies in Transition, Committee on Fiscal Affairs, forthcoming.

Spahn, P. B. (1991b), *Functions and financing of the Community budget under EMU: Federal financial constitutions compared — The cases of Australia, Switzerland, Germany, and the EC*, Frankfurter Volkswirtschaftliche Diskussionsbeiträge, No 17, Universität Frankfurt am Main.

Spahn, P. B. (1993), 'Consequences of economic and monetary union for fiscal federal relations in the Community and the financing of the Community budget', in this volume.

Spahn, P. B. and Kaiser, H. (1991), 'Tax harmonization or tax competition as a means to integrate Western Europe', *Konjunkturpolitik*, 37 Jahrgang, No 1/2, pp. 1-44.

Spaventa, L., Koopmans, L., Salmon, P., Smith, S. and Spahn, P. B. (1986), 'The future of Community finance', Brussels, CEPS Paper No 30, Centre for European Policy Studies.

Stern, K. (1980), *Das Staatsrecht der Bundesrepublik Deutschland*, Vol. II, Munich.

Thurow, L. C. (1966), 'The theory of grants-in-aid', *National Tax Journal*, Vol. 22, pp. 486-95.

Tiebout, C. (1956), 'A pure theory of local expenditure', *Journal of Political Economy*, Vol. 64, pp. 416-426.

United States Advisory Commission on Intergovernmental Relations (1981), *Studies in comparative federalism: Australia*, Washington, DC.

Van Rompuy, P., Abraham, F. and Heremans, D. (1990), 'Economic federalism and the EMU', in *European Economy*, Special Edition No 1/91, 'The economics of EMU', Brussels, Luxembourg, pp. 109-135.

Walsh, C. (1991), 'Reform of Commonwealth-State relations: No representation without taxation', Discussion Paper No 2, Federalism Research Centre, Australian National University, August.

Walsh, C. (ed.) (1990), 'State taxation and vertical fiscal imbalance — The radical reform options', *Issues in State taxation*, Canberra, Centre for Research on Federal Financial Relations, Australian National University, pp. 1-22.

Wheare, K. C. (1963), *Federal government*, fourth edition, London, Oxford University Press.

Zimmermann, H. and Henke, K.-D. (1990), *Finanzwissenschaft*, sixth edition, Munich.

Intergovernmental grants: What role for the European Community?

Declan Costello

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

The author wishes to thank Cliff Walsh and Horst Reichenbach for their helpful comments on the paper.

Tables

Graphs

Summary

Intergovernmental grants are direct transfer payments between governments, and form a major component of the fiscal constitutions in federations and unitary States. Consumer theory is used to predict the effects on grantor and recipient behaviour with various grant forms, e.g. conditional and unconditional, lump-sum and matching, etc. In general, matching grants have a greater stimulus on the consumption of the favoured public good than conditional lump-sum grants of equal value since the former have a substitution effect in addition to an income effect. However, consumer theory has proved to be of limited usefulness only. Subcentral authorities have a tendency to spend all grants they receive (the so-called flypaper effect) and to divert transfers away from the purposes intended by the grantor (the fungibility problem). Grant design at the Community level is particularly difficult given information asymmetries between EC and national authorities, the relatively small size of EC budgetary expenditure, and the presence of 'third parties', i.e. where both the European Community and national government provide similar grants to regional/local authorities.

The role of intergovernmental grants at European Community level depends upon decisions about the assignment of public functions. The paper concludes that the provision of EC intergovernmental grants is warranted for three purposes, namely to correct interjurisdictional spillovers and externalities, to promote interregional redistribution, and to provide side-payments to compensate the welfare losses of economic agents as a result of EC initiatives. Intergovernmental grants are usually provided in existing federations for two additional reasons, namely to correct fiscal imbalances and to promote interpersonal equity. However, given the current state of European integration, grants for such purposes are not warranted.

The greatest challenge which concerns the design of grants at EC level involves overcoming the problem of fungibility. A multifaceted approach is required, which includes a move towards performance/output requirements on the part of recipient authorities rather than expenditure commitments, the development of additionality criteria which are easily verified, and the avoidance of EC grants being provided to subcentral authorities who also receive complementary or substitute transfers from national authorities.

1. Introduction

Intergovernmental grants are direct resource transfer payments between governments and form a major component of the fiscal constitutions in most federations and unitary States. As illustrated in Table 1, they account for some 27% of the revenues of State and local governments in federations, albeit subject to very wide divergences among countries. Local governments in unitary States are even more reliant on grants as a source of finance, comprising 50 to 60% of their total revenues. Typically grants flow vertically from higher to lower authorities, although horizontal grants between jurisdictions at the same level also occur, e.g. the Finanzausgleich in Germany.

This paper examines the role that grants play in federal structures and applies the analysis to the European Community. It also examines the design of intergovernmental grant regimes which, in a second-best policy environment, are determined by political and managerial considerations as much as by theoretical prescriptions. Sections 2 and 3 provide a description of the various forms of grants and an analytical overview of their welfare implications and effects on grantor and recipient behaviour using conventional 'consumer theory' analysis. The paper does not examine in detail operational aspects of grant systems in existing federations,[1] but will consider new theories concerning the role and impact of grants and review empirical estimates of grant impact, paying particular attention to the 'flypaper effect'. Section 4 looks at the rationale for intergovernmental grants in federal systems and section 5 examines the main fields where provision of grants by the European Community might be justified. Clearly, policy prescriptions will depend upon decisions about the assignment of public functions (e.g. allocation, redistribution) to the EC level.

2. A typology of grant forms

A typology of intergovernmental grants is presented in Graph 1. There are two principal forms. Conditional grants come with strings attached, i.e. the grantor defines the specific purposes on which the funds are to be spent. Unconditional grants give discretion to the recipient to spend the funds as they please.

Conditional grants can be subdivided into two varieties, matching grants and lump-sum grants. Matching grants

[1] See Spahn (1993) and King (1984).

Table 1

Breakdown of government revenue according to source — Federations

		Tax revenue		Non-tax revenue		Grants	
		% GDP	Share[1]	% GDP	Share[1]	% GDP	Share[1]
Australia	C	25,1	90	2,9	10	0,0	0
	S	4,9	33	2,3	16	7,6	51
	L	1,1	43	0,9	38	0,5	19
Austria	C	20,7	86	3,1	13	0,2	1
	S	5,6	59	1,2	13	2,7	28
	L	4,5	53	2,7	32	1,3	16
Canada	C	14,3	87	2,1	13	0,0	0
	S	12,1	65	2,7	14	3,9	21
	L	3,1	39	1,2	15	3,6	46
Switzerland	C	8,8	81	1,4	13	6,0	6
	S	7,0	55	2,3	18	3,5	27
	L	5,5	53	3,3	32	1,6	16
USA	C	11,7	87	1,7	13	0,0	0
	S	5,6	55	2,6	26	2,0	20
	L	3,6	42	2,0	22	3,1	36
Germany	C	11,6	89	1,3	10	0,1	1
	S	8,2	71	1,5	13	1,8	16
	L	3,3	37	3,2	36	2,4	27
Average[2]	C	15,4	87	2,1	12	0,2	1
	S	7,2	56	2,1	17	3,6	27
	L	3,5	44	2,2	29	2,1	27

C = central government; S = State government; L = local government.
[1] Share of each revenue source in the total revenue for that level of government.
[2] Simple average.
Sources: OECD. *Revenue statistics 1965-89*, Paris, 1990; plus author's calculations.

occur when the amount received is determined on the basis of expenditure by the recipient, i.e. an *ad valorem* subsidy provided by the grantor. In turn matching grants can be open- or closed-ended, referring to whether there are quantitative upper limits on the resources made available. Conditional lump-sum grants are block transfers of a fixed amount which must be spent for the purposes specified by the grantor.

Unconditional grants, while not restricting the expenditure choice of the recipient, may in fact come with some conditionality. Hence they can be divided into lump-sum (no restrictions) or effort-related types. Usually the 'effort' required of the recipient concerns the generation of revenues from other sources, e.g. taxes, charges and loans. Often the outward appearances or labelling of grant forms may be misleading (Walsh, 1993), since there may be 'implicit contracts' between the grantor and the recipient, such that even apparently unconditional grants impose behavioural or spending conditions on the recipient.[1]

3. The effects of grants

From the grantor's perspective, it is interesting to determine analytically the precise effects on recipient behaviour for each grant form. The analysis used considers the recipient government to be a single utility-maximizing consumer, subject to a balanced budget (income) constraint.

[1] Brennan and Pincus (1991).

Table 2

Breakdown of government revenue according to source — EC unitary States

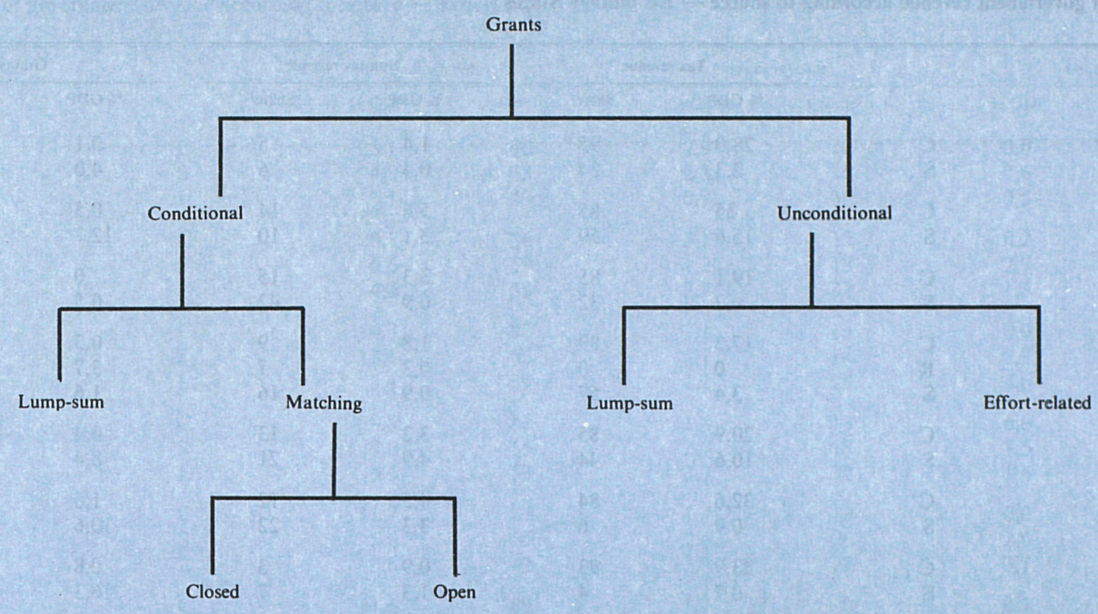
		Tax revenue		Non-tax revenue		Grants	
		% GDP	Share[1]	% GDP	Share[1]	% GDP	Share[1]
Belgium	C	28,0	95	1,4	5	0,1	0
	S	2,3	34	0,4	6	4,0	60
Denmark	C	35	85	5,6	14	0,5	1
	S	15,6	50	3,1	10	12,7	40
Greece	C	19,1	85	3,3	15	0	0
	S	0,7	32	0,9	42	0,5	26
Spain	C	17,3	89	1,8	9	0,3	1
	R	0	0	0,3	7	3,7	93
	S	3,4	57	0,9	16	1,6	27
France	C	20,9	85	3,2	13	0,4	2
	S	10,6	44	4,9	21	8,4	35
Ireland	C	32,6	84	4,5	12	1,6	4
	S	0,9	6	3,3	22	10,6	71
Italy	C	23,9	93	0,9	3	0,8	3
	S	0,7	4	1,3	7	16,3	89
Luxembourg	C	24,7	88	3,3	12	0,1	0
	S	4,7	55	1	11	2,8	33
Netherlands	C	26	85	4,4	14	0,2	1
	S	1	6	2,2	13	14,3	81
United Kingdom	C	26	88	3,5	12	0,2	1
	S	3,9	34	2,3	20	5,2	46
Average[2]	C	25,4	88	3,2	11	0,4	1
	S	4,4	32	2	17	7,6	51

C = central government; S = State government; R = regional government.
[1] Share of each revenue source in the total revenue for that level of government.
[2] Simple average.
Sources: OECD, *Revenue statistics 1965-89*, Paris, 1990; plus author's calculations.

The partial equilibrium framework means that only the direct effects on grantor/recipient behaviour and aggregate welfare are considered. Society's indifference curves (assumed to be convex) are used to display aggregate preferences rather than considering the preferences of the median voter. It is supposed that grants are not financed through taxation on recipient citizens, since this would have a real income effect. For example, if grants received exactly equalled the financing tax payment made by recipients, then unconditional lump-sum grants would have no impact whatsoever on real income or the budget constraint. For matching grants, a pure substitution effect would occur as relative prices alter even if real income is left unchanged. It is also assumed that no spillovers occur between jurisdictions caused by the reactions of authorities. Moreover, it is assumed that recipients' tastes are not altered through demonstration effects.

Finally, conventional analysis assumes that a one-to-one relationship exists between expenditure and output of public services. In reality, transfers may be dissipated on extra spending on inputs without any corresponding increase in output, i.e. the cost per unit of output may increase. Hence, one may need output or performance measures to monitor the real effects of grants. However, such performance-related measures increase monitoring costs and increase the explicit and implicit control of the grantor.

GRAPH 1: **Typology of intergovernmental grants**



Source: Adapted from King (1984).

3.1. Lump-sum grants

Graph 2 illustrates the budget constraint and aggregate indifference curve of a subcentral government between a particular public good (A) and expenditure on all other public goods (B).[1]

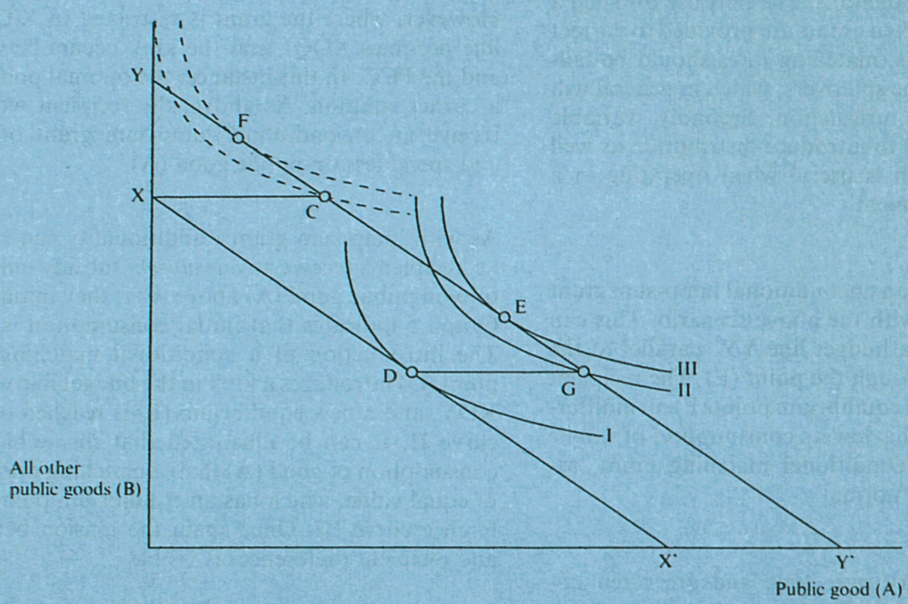
Suppose a higher level of government provides an unconditional lump-sum grant equal to XY units of 'other public goods' (B). This is tantamount to an increase in the real budget size, with relative prices (opportunity costs) remaining constant. This transfer of XY units of (B) shifts the budget line outwards in a parallel fashion from XX' to YY'. The recipient's equilibrium changes from (D) to (E) with consumption of both the public good (A) and all other public goods (B) increasing through pure income effects, i.e. assuming both are normal goods with positive income elasticities of demand. Welfare improves as indifference curve III is attained.

[1] Alternatively (A) could be viewed as spending on all public goods and (B) as spending for private purposes. Central government in this case would be attempting to raise overall subcentral public spending.

It can be demonstrated that the impact on expenditure from a conditional lump-sum grant is identical to that of an unconditional lump-sum grant. In the case of the former, the budget line becomes XCY', since the grantor requires the funds to be spent on the public good (A). However, this does not alter the expenditure choices of the recipient, who continues to choose to consume at point (E).

A difference in expenditure choices between the two grant forms only occurs when the equilibrium point along YY' lies above point (C), say at point (F). Using different hatched indifference curves, it is evident that the recipient would prefer the unconditional lump-sum grant as indifference curve V can be reached. In contrast, the grantor favours the conditional lump-sum grant solution at the corner point (C), as this yields additional consumption of public good (A), albeit on a lower indifference curve IV. The overall effect on society's welfare depends upon who is the best judge of welfare, i.e. central or subcentral authorities. Note that the 'conditionality' effect usually only occurs when the grant is large relative to pre-existing subcentral expenditure on the 'desired' public good.

GRAPH 2: **Lump-sum grants**



As a result of the income effect, central governments find that subcentral authorities transfer conditional lump-sum grants towards other expenditure purposes. To counteract this diversion of funds, the additionality principle is frequently applied, i.e. subcentral authorities only receive grants provided they do not reduce their existing expenditure on the favoured public good. This can be illustrated in Graph 2 as a budget line XDGY', giving a corner solution at (G) on indifference curve II. Expenditure on good (A) is higher than with an unconditional lump-sum grant.

The likelihood of subcentral authorities switching transfers to purposes other than those intended may be even greater where the grant substitutes for transfers previously provided by third parties, e.g. EC grants to regional authorities encourage central national governments to reduce corresponding transfers. Third parties (e.g. national government) may be able to reduce their support for activities which are complementary to or substitutes for those for which grant financing is available. For example, EC transfers for road construction may induce national governments to reduce transfers for the provision of rail infrastructure. This arises with respect to both conditional and unconditional grants (Walsh, 1993). Specifying, monitoring and enforcing additionality hence becomes very complicated especially when one considers the information asymmetries among different levels of governments.

A further problem with the additionality principle is that over time it may fail to maintain the recipient's own financing share of expenditure. If subcentral expenditure requirements are determined on the basis of nominal outlays in a base year, in real terms this will decline due to inflation. Hence subcentral expenditure should be required to grow in line with real GDP.

3.2. Conditional matching grants

Analysis involving matching grants is slightly more complicated, involving both price and income effects. A conditional matching open-ended grant is illustrated in Graph 3. The *ad valorem* subsidy provided to the subcentral government for public good (A) lowers its relative opportunity cost of production, causing the budget line to rotate outwards from XX' to XX". The higher the rate of subsidization, the greater the substitution effect and the further outward the rotation. Consumption of good (A) increases as equilibrium shifts from point (D) to (E). An interesting variation on the above scenario is to have a conditional matching grant with variable rates for different jurisdictions. The purpose for such a design could be twofold. When grants are provided to correct interjurisdictional spillovers, matching rates should be tailored to the magnitude of the spillovers, which in general will vary from jurisdiction to jurisdiction. Secondly, variable matching rates can be used to introduce distribution as well as allocation effects, which is useful when operating in a second-best policy environment.

The recipient would prefer an unconditional lump-sum grant of equal value compared with the above scenario. This can be illustrated by drawing a budget line YY' parallel to the initial budget line XX', through the point (E). The recipient would then be able to reach equilibrium point (F) on indifference curve III. However, this lowers consumption of public good (A) relative to the conditional matching grant, assuming public good (A) is 'normal'.

Subcentral preferences vary over time and are often unknown to central authorities. Therefore, the grantor may not be able to determine in advance the scale of matching open-ended grants required to induce a desired consumption level of public good (A). For these and other reasons, the central government may choose to operate matching closed-ended grants. The effect of an upper limit is to introduce a kink in the budget line. As illustrated in Graph 4, equilibrium depends upon the position of the kink in relation to the income consumption curve (ICC)[1] and the price consumption curve (PCC).[2]

When an upper limit of X'Y, is placed on the grant, the budget line becomes XCY. In this case, equilibrium will be at point (L) along the ICC.[3] However, it is evident that the central government could have obtained precisely the same result by providing an unconditional lump-sum grant of equal value. When an upper limit of X'Z is provided, the budget line becomes XDZ. Equilibrium will occur at point (M), along the PCC. The recipient would of course still prefer to receive an unconditional lump-sum grant of equal value.

However, where the grant is restricted to X'Q', the budget line becomes XQQ', and the kink occurs between the ICC and the PCC. In this instance, the optimal point is (Q) itself, a corner solution. As above, the recipient would prefer to receive an unconditional lump-sum grant of equal value, and spend less on public good (A).

As with lump-sum grants, additionality can be introduced, i.e. recipients receive an *ad valorem* subsidy only for expenditure on public good (A) above what they initially undertake. Graph 5 indicates that initial consumption is at point (D). The introduction of a conditional matching grant above point (D) introduces a kink in the budget line which becomes XDY, and a new equilibrium (E) is reached on indifference curve II. It can be illustrated that this achieves a greater consumption of good (A) than a matching open-ended grant of equal value, which has an equilibrium point (F) on indifference curve III. Once again the tension between grantor and recipient preferences is visible.

3.3. New theories; reconciling theory with evidence

To summarize the previous two sections, matching grants have a greater stimulus on the consumption of the favoured public good than conditional lump-sum grants of equal value, since the former have a substitution effect in addition to an income effect, i.e. the marginal tax price to the recipient of providing public good (A) is reduced. The introduction of additionality may enhance the positive impact on the recipient's consumption of the 'favoured' public good. Grantors and recipients differ as to the preferred form of grant, the former favouring matching grants, in contrast with the latter who favour lump-sum transfers. The net effect upon society's welfare is indeterminate, depending upon whether or not one considers it appropriate for central preferences to prevail.

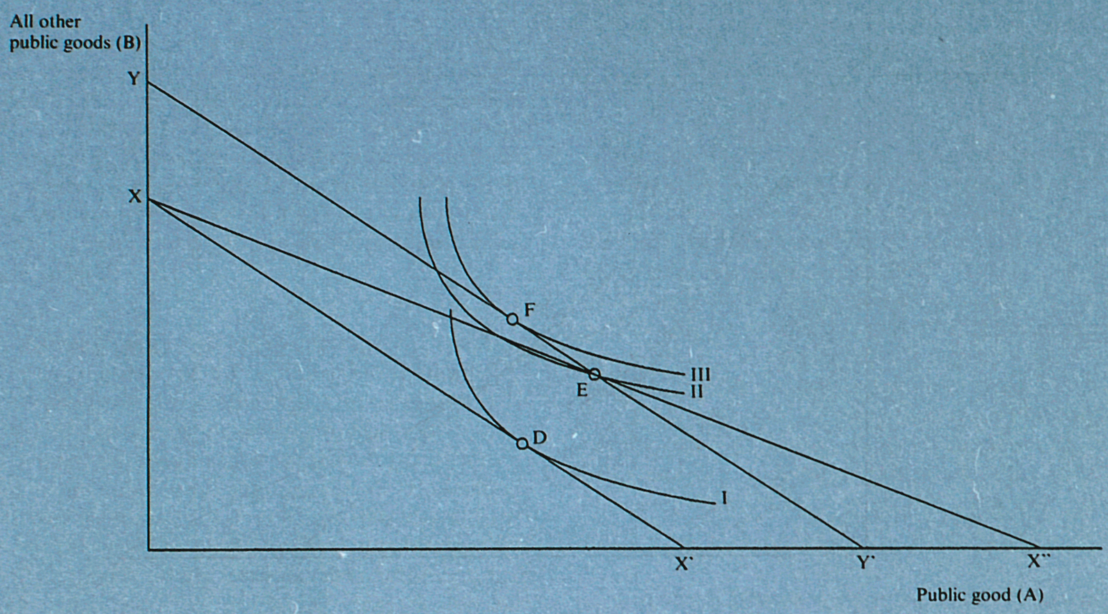
Empirical evidence generally supports the theoretical claim of a greater impact on recipient spending with matching grants. Nonetheless, it is evident that given the lack of disaggregate data, information asymmetries between tiers of government and the inability of central authorities to develop sufficient monitoring procedures, subcentral authorities have wide scope for transferring matching grants to fund other projects (so-called fungibility).

1 The income consumption curve represents the locus of equilibrium consumption points of A and B goods, holding relative prices constant and varying the levels of real income. It is upward sloping when goods are normal.

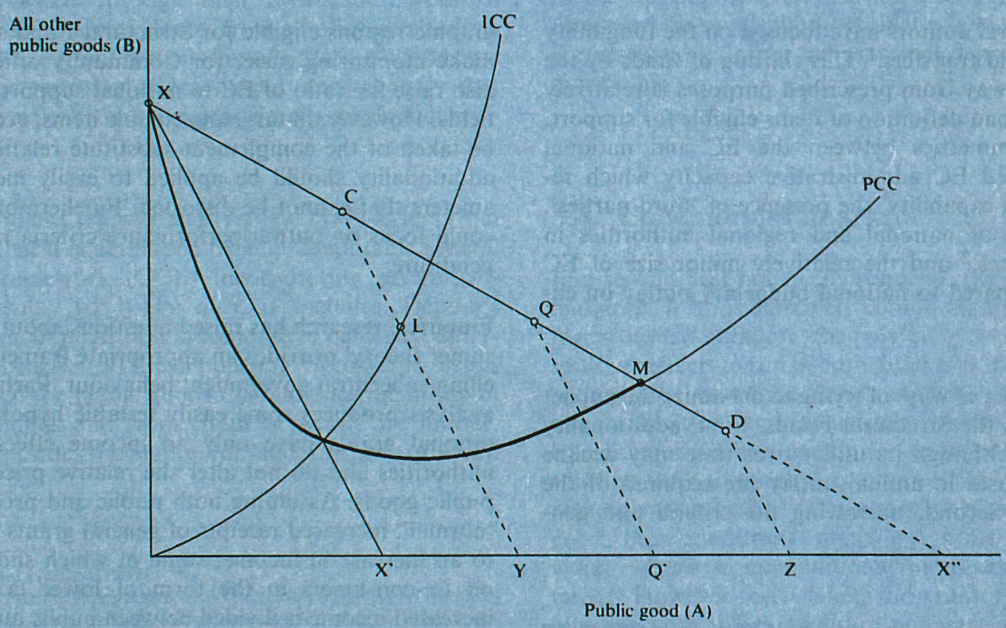
2 The price consumption curve represents the locus of equilibrium consumption points of goods A and B, holding real income constant and varying relative prices. Note that consumption of the non-subsidized good (B) initially declines but eventually starts to rise.

3 This is because the relevant part of the budget line, CY, is parallel to the initial budget line XX'.

GRAPH 3: **Conditional matching open-ended grants**

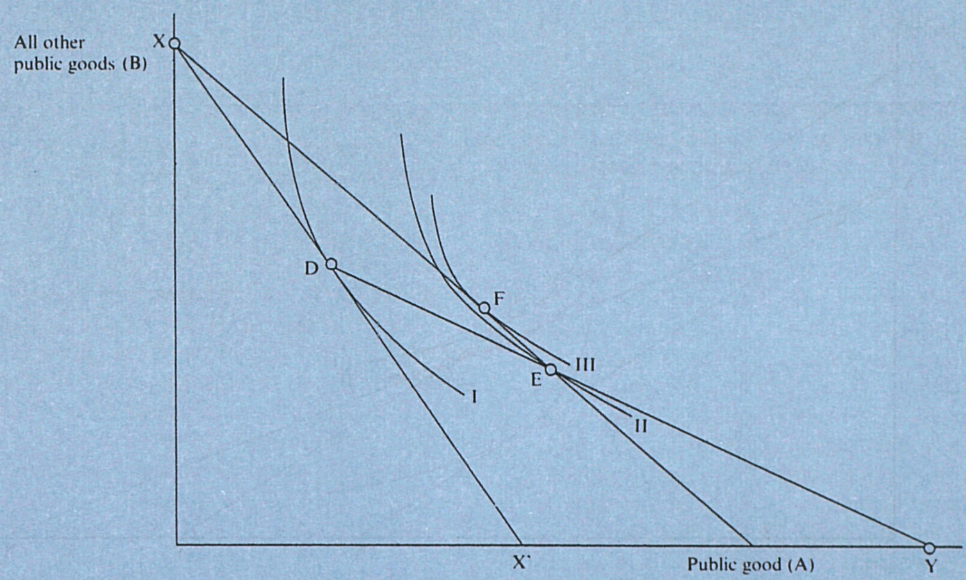


GRAPH 4: **Conditional matching closed-ended grants**



Source: Adapted from King (1984).

GRAPH 5: **The impact of additionality requirements on grants**



At EC level, several authors have focused on the fungibility of Structural Fund transfers.[1] This shifting of funds by the Member States away from prescribed purposes is relatively easy given the broad definition of items eligible for support, information asymmetries between the EC and national authorities, limited EC administrative capacity which reduces monitoring capability, the presence of 'third parties', i.e. the presence of national and regional authorities in the Member States,[2] and the relatively minor size of EC expenditure compared to national budgetary outlay on eligible items.

There are a number of ways of trying to maximize the impact of grants such as the Structural Funds. First, additionality can be applied, although its utility over time may decline unless real increases in annual outlay are required of the Member States. Second, narrowing the criteria and geographic regions eligible for Structural Fund support would make monitoring easier for Community officials; it would also raise the ratio of EC to national support in the eligible fields. However, in targeting eligible items, account needs to be taken of the complement-substitute relationship. Third, additionality should be applied to easily measurable parameters that cannot be distorted. Furthermore, monitoring could focus on output/performance criteria rather than expenditure.

Empirical research has raised questions about whether 'consumer theory' provides an appropriate framework for modelling subcentral government behaviour. Partial equilibrium analysis produces some easily testable hypotheses. Unconditional grants have only an income effect on recipient authorities and do not alter the relative price of providing public goods. Assuming both public and private goods are 'normal', increased receipts of general grants are equivalent to an increase in income, some of which should be passed on to consumers in the form of lower taxation, as the increased income is divided between public and private consumption. However, empirical estimates indicate that general grants result in unexpectedly large increases in recipient

1 See Gordon (1991).
2 This 'third party' problem arises regardless of whether the Structural Funds are transferred directly to national or subcentral authorities in the Member States.

authority expenditure, the so-called flypaper effect. Economists have struggled to reconcile theory with evidence and four explanations are discussed here.

First, inadequate data and econometric misrepresentation is one plausible explanation.[1] An alternative rationalization was developed by Niskanen (1973), incorporating leviathan assumptions of bureaucrats maximizing power through budgetary expansion. An extreme model allows bureaucrats to operate as perfectly discriminating monopolists of public service provision, who on receipt of a general grant increase taxation and raise public expenditure by more than the size of the initial transfer.[2]

A third model was proposed by Oates (1972), based on fiscal illusion on the part of all or some economic agents concerned. Consumers are confused by the complexity of the grant system, and thus have incomplete information about net revenues accruing to their local authority. Administrators and local politicians may also fail to understand the complexity of the numerous matching and unconditional grants systems in operation. Agents may mistakenly perceive the rise in real income resulting from increased grant receipts as a fall in the relative cost of public service provision and inadvertently expand public expenditure beyond what is optimal. One factor explaining this 'fiscal illusion' is that voters/taxpayers may consider the marginal and/or average tax price of grants to be zero, which is not the case; e.g. recipient countries of Structural Funds implicitly partly finance these transfers through their own-resource contributions to the EC budget. Hence, from a policy perspective, it is important that grant systems in multitiered governments do not become excessively complicated, and secondly that financing and expenditure decisions do not become disconnected.

A fourth hypothesis (Hewitt and Heffley, 1989) differs from the others in that it is developed from a computable general equilibrium framework (CGE) incorporating several additional elements. To begin with, it includes Tiebout's characterization of migration in response to perceived differences in net benefits of fiscal policies.[3] Second, it distinguishes between the public goods that enhance the utility of private households and firms, both of which are mobile. Third, it incorporates the market for land, the price of which is sensitive to taxation and public spending policies through capitalization effects. In this environment, authorities faced with mobile firms and households seek to maximize the value of the sole immobile factor, land. Grants, taxation and expenditure policies have complicated feedback mechanisms on land prices, the taxation base and mobility of firms and households.

Hewitt and Heffley were thus able to show that assumptions of leviathan behaviour and fiscal illusion are not necessary for the flypaper effect to occur (that is not to deny that they play no role at all). For example, on receipt of an unconditional grant, increased local public expenditure, which may be accompanied by a small fall in the rates of local taxation, attracts inward migration, which in turn raises land prices and increases the property tax base. Overall public expenditure may actually increase by more than the grant, and certainly by more than would be predicted by the conventional partial equilibrium models. The analysis can be extended to matching grants, where it can be shown that public expenditure rises by an amount greater than the initial transfer.

Hewitt and Heffley highlight the ability of central authorities to stimulate subcentral public expenditure and to have a 'profound effect on government policy and the composition of communities'. Furthermore, whereas some 'power' maximizing behaviour on the part of bureaucrats may occur, it may not be the sole or even principal explanatory factor in the development of taxation and expenditure policies. However, the applicability of their model to the Community is questionable, given the marginal degree of cross-border migration.

3.4. Concluding remarks

In a second-best policy environment, the design of an optimal grant form is extremely complicated given the multiple forms of market failure, the possibility for interjurisdictional spillover effects to run in both directions, the costs associated with public intervention and taxation, and the inability to treat allocation and distribution issues separately. Policymakers therefore search for best rather than optimal solutions. As a general rule, when the grantor wishes to promote the recipient's consumption of a particular public good, then conditional matching grants ought to be provided; otherwise unconditional lump-sum grants are preferred. However, even when the grantor has no desire to interfere with the expenditure preferences of the recipient, some conditionality may be nonetheless required for reasons of democratic and managerial control.

1 See Hewitt and Heffley (1989).

2 Alternatively, public expenditure could increase with no corresponding rise in public service provision with the additional outlay being absorbed by bureaucratic X-inefficiency.

3 In other words, the net effect of a fiscal package for an individual is total public services received minus taxes paid.

Conditional grants are often diverted by the recipient away from its intended purpose as specified by the grantor. This fungibility is particularly acute when large information asymmetries exist between the grantor and recipient, and when the recipient also receives transfers for similar purposes from another party. Grant systems can be designed to overcome such difficulties, although their construction is not straightforward. It is important to ensure that grant systems do not become excessively complicated, and that financing and expenditure decisions do not become disconnected.

4. The rationale for intergovernmental grants

Intergovernmental grants are only one of the policy instruments available through which an optimal assignment of policy responsibilities among different levels of governments is achieved in the pursuit of public objectives. Musgrave identified three such objectives: to ensure an efficient allocation of resources, to guarantee an equitable distribution of income both among individuals and across regions, and to stabilize the rate of change in economic activity. The rationale for public intervention, the appropriate public policy responses, and the assignment of public functions among different levels of government is discussed in greater detail in other papers in this volume by Walsh (1993), Munk (1993) and Costello (1993).

The role of intergovernmental grants in an institutional structure clearly depends upon decisions about the assignment of public functions among several tiers of authority. A list of purposes commonly cited for the provision of intergovernmental grants includes:

(i) the correction of interjurisdictional spillovers and externalities;

(ii) fiscal imbalance — vertical fiscal equalization;

(iii) distribution, both interpersonal and interregional;

(iv) the enforcement of grantor's preferences and side payments to compensate the losers of central initiatives.

The role for European Community grants in these four cases shall be examined in the following section. However, when discussing intergovernmental grant provision in the context of the European Community, the political, social and economic realities of the integration process and the heterogeneous nature of Member States' economies must be borne in mind. One cannot extrapolate directly from the experience of subcentral authorities in the Member States and existing federations. Product and factor market integration in the European Community is generally lower than within unitary States. In particular, labour mobility between Member States is marginal, implying a relatively immobile personal income tax base. This allows Member States to conduct independent redistribution policies which are not undermined by free-riders from other countries.

Political preferences about the nature, scope and means of public intervention are (almost certainly) less homogeneous at Community level than at national level. As a general rule, public opinion tends to favour much greater restrictions on the role of the Community than on that of national governments. This means that there is little popular support either for Community involvement in policy fields where social and political preferences play a significant role or for large cross-border resource transfers.

Furthermore, when considering EC grants, the dominance of national public finances *vis-à-vis* Community expenditure limits their impact, which are currently thinly spread over numerous policy fields. Finally, integration is a dynamic process, the welfare changes of which are not necessarily Pareto-improving. This implies an additional purpose for grants not always found in nation States, i.e. compensation for losses arising from integration and the promotion of political goodwill among citizens for the integration process.

5. The role for European Community grants

5.1. Interjurisdictional spillovers and externalities

Interjurisdictional spillovers are inevitable with respect to public interventions designed to correct market failure when perfect correspondence does not exist.[1] In the absence of cooperation, optimality conditions for public intervention equating net marginal benefits with marginal costs will not be fulfilled. A Pareto-efficient outcome can be realized if intergovernmental grants exactly equal the marginal spillover effects. This is analogous to a Pigouvian tax/subsidy.

Tresch (1981) suggests that this argument alone is not a sufficient justification for an intergovernmental grant, since in a federal setting, a higher tier of authority encompassing all affected regions could choose to provide the appropriate level of public good/service. However, an intergovernmental grant would be supplied if local autonomy is favoured over central provision. The decentralized option would apply

[1] In other words, when the geographical area affected by a form of market failure does not match political boundaries.

if subcentral authorities were better informed as to local preferences, subject to greater forces of democratic accountability, and if they enjoyed benefits of decentralized administrative and executive activities. In other words, a cost-benefit analysis is required to determine the welfare effects associated with centralization/decentralization.

The optimal grant would be conditional, matching and open-ended.[1] Such a grant is illustrated in Graph 3. The rates of grant can vary between jurisdictions if the degree of spillovers differs from region to region. This region (in Graph 3) is a recipient of a subsidy on account of positive externalities provided to other regions caused by supplying public good (A). A matching grant is preferable to an equivalent conditional lump-sum grant, not only because it is cheaper for the grantor, but also because it alters relative prices. There is no economic reason why the matching grant should be closed-ended, as this may fail to alter the marginal tax price of the desired public good. This is illustrated in Graph 4.

In practice, it is difficult to discern accurately the appropriate type, range and amount of spillovers and hence the grants required. Subcentral governments do not have complete information about local preferences or the scale of spillovers. In addition, strategic behaviour will ensue between authorities competing for limited central funds. Nonetheless, it is normally possible to ascertain the general flow of spillovers and to develop grant systems that reflect broad assessments of them.

Cross-border spillovers and externalities are commonplace among the Member States, indicating a potential role for Community grants. In particular, this is the case in the allocation field, e.g. research and development, environment, infrastructure provision. However, the need for Community grants may be limited, given that many cross-border spillovers are often a bilateral affair only, the Community interest may be small relative to total national public expenditure and grant financing may not be the European Community's principal function, i.e. market regulation, coordination of Member States' activities or the provision of loan financing may be more appropriate forms of intervention.

Whereas EC grants in these fields are conditional and matching, they are never open-ended as economic theory suggests they ought to be. Furthermore, the additionality principle is frequently applied. Hence, EC grants correspond to that depicted in Graph 5. A further interesting feature of EC grants is their strong cohesion element, operating through restrictive eligibility criteria and/or variable matching rates.

[1] See Boadway and Wildasin (1984).

5.2. Fiscal imbalance

In nation States, taxation undertaken at the central level is commonly out of proportion to the central authority's expenditure responsibilities. This occurs for three reasons: interjurisdictional mobility of tax bases, the distorting effects on resource location of fiscal actions and economies of scale in tax collection and administration. As a result, a 'vertical fiscal imbalance' may arise, whereby a discrepancy emerges between the expenditure needs and revenue-generating capacity of subcentral authorities. In this situation, local governments may be unable to undertake welfare-improving (local) public interventions unless they receive financial assistance (i.e. grants) from the central government. Furthermore, subcentral authorities may be forced to rely excessively on tax revenues from non-mobile tax bases (e.g. land, property) possibly raising efficiency and equity considerations.[2]

In many unitary States and federations, central authorities act as revenue-collection agents for subfederal authorities. In this situation, unconditional lump-sum grants are optimal since no expenditure function in particular is being targeted. This corresponds to Graph 2.

In practice, however, central authorities often do not have complete authority over tax sources and have to share taxes. In determining the share of tax revenues accruing to each subcentral authority, revenue-generating efforts and expenditure needs are frequently taken into consideration so that an element of interregional redistribution is introduced. For example in Germany, VAT is a shared resource which is divided in a 65:35 ratio between Bund and *Länder* (although this can be changed). Seventy-five per cent of the *Länder's* VAT share is allocated on the basis of number of inhabitants:[3] the remaining 25% consists of supplementary shares (Ergänzungsanteile) for fiscally weak *Länder* whose revenue falls below 92% of the average per capita tax receipts.[4]

For the Community, problems of mobility of the tax base and ensuing tax competition[5] do exist but are less pronounced than within countries. Hence, there is currently no

[2] They may also be forced to raise revenues through charges.
[3] This is required by the Financial Equalization Law of 1969, and in itself has a positive interregional redistributive effect.
[4] This 92% relates to per capita tax receipts of *Länder* from a standard basket of shared and own tax sources before VAT equalization.
[5] Tax competition can arise through: (1) differences in tax rates; (2) divergent tax bases; and (3) different enforcement requirements and procedures.

case for EC grants to correct vertical fiscal imbalances. Tax base mobility should increase with the internal market due to greater product and factor mobility and the dismantling of frontier controls. Harmonization is required to prevent undesirable levels of tax competition and to protect the integrity of the internal market. However, where EC initiatives are required, these can take the form of minimum harmonization of rates, bases and enforcement procedures, rather than assigning tax authority to the Community with corresponding revenue-sharing arrangements. This not only respects the subsidiarity principle, it also permits the beneficial aspects of tax competition to operate, e.g. allows flexibility and innovation, and the exertion of pressure on governments to deliver value for money at minimum cost.

Concerning VAT and excise duties, fiscal controls at intra-EC frontiers were dismantled on 1 January 1993; nonetheless the destination principle (as regards revenue collection) remains in force, although it is proposed that it be replaced by 1 January 1997 with an origin regime (for revenue collection only): revenues would be allocated among the Member States through a central clearing-house on the basis of country of final consumption.[1] There is no question that ownership of these resources will first accrue to the Community for disbursement later.

A strong case for Community harmonization arises with respect to the taxation of savings and corporate taxation, given the high mobility of their tax bases, their potential for distorting resource allocation and the difficulty in assigning taxable income on a per country basis (see Spahn, 1993). Once again this is more a case for minimum harmonization than for Community taxation. Moreover, the mobility of the tax base extends beyond Community frontiers; hence the OECD might provide a broader and more appropriate framework for agreement. It would therefore appear that there is currently no role for the Community to offer grants for the purposes of rectifying vertical fiscal imbalances.

5.3. Distribution

5.3.1. Interpersonal redistribution in a federal context

Equity can be viewed in at least two dimensions, interpersonal and interregional. Interpersonal equity depends not only on income differentials among individuals in different regions, it also depends upon whether individuals of equal income living in different jurisdictions have the same fiscal residuum. The fiscal residuum is equal to the net fiscal impact on individuals resulting from public interventions. Differences in fiscal residua arise due to different unit costs and unit needs in the provision of public goods, differing income distributions among populations, and disparate tax yields (efficiency in collection) between jurisdictions.[2]

The appropriate role for the central authority in redistribution policy is a particularly contentious issue, and depends as much on political as economic arguments. Early analysts of fiscal federalism advocated strong centralization, on the grounds that labour mobility would undermine subcentral policies. This does not, however, fit very well the case of the European Community, where cross-border mobility is marginal.

In contrast to the early analysts, Tresch (1981) argues in favour of subcentral provision of interpersonal redistribution. Tresch's model assigns to each level of government a social welfare function, which is a function of the utilities of government directly below it in the fiscal hierarchy (e.g. the Community would be concerned about income differentials among the Member States). Only the lowest level of authority is concerned with interpersonal welfare. Intergovernmental grants would flow vertically downwards for interregional redistributive purposes, except for the lowest level of authority, which would be concerned with interpersonal redistribution. Ideally grants should be unconditional, lump-sum and closed-ended (i.e. no more than is required to redress distributional problems). This scenario, while not corresponding to reality in existing federations does provide a somewhat neat analogy for the Community experience.

Pauly (1973) also argues in favour of decentralized provision of interpersonal redistribution. He argues that redistribution is a local public good, i.e. that the altruistic benefits of redistribution diminish with distance, hence people are more concerned with equity in their own locality than in distant areas. Uniform central provision of redistribution policies would suppress local preferences and be suboptimal from a welfare viewpoint. In the Community, there are strong, deep-rooted reasons for believing that distribution preferences are more homogeneous within Member States than between them, militating against EC-wide interpersonal redistribution.

In addition to Tresch's and Pauly's arguments, there are efficiency and managerial question marks over EC involvement with the principal instruments of interpersonal redistri-

1 In effect, the destination regime will continue with respect to the assignment of VAT revenues; all that will change is the point of collection of revenues.

2 Two individuals with equivalent incomes living in different economies where identical redistribution policies are pursued will have different net incomes if the tax base is different.

bution, i.e. direct taxation and social security. These issues are discussed in greater detail in *European Economy* No 53, 'Stable money, sound finances'. Clearly, when interpersonal redistribution is a concern for the central authority, intergovernmental grants are not their main policy instrument, since direct transfers are required for individual economic agents, e.g. through the social security system.

5.3.2. Grants to remedy interpersonal income inequities

Despite the arguments of Tresch and Pauly listed above, there may nonetheless be some cases when the centre should provide grants to subcentral authorities to cope with interpersonal income disparities. For example, as well as from equity considerations, allocation problems can emerge from wide income disparities, through the distortion of resource allocation and the inducement of economically inefficient migration. Such migration can occur when residence-based taxes are too high, or due to differential redistribution policies. Intergovernmental grants may also be necessary when cross-border spillover effects occur with respect to distribution policies. As argued by Munk (1993), in a second-best policy environment, governments undertake redistribution through many complicated channels apart from social security and progressive income tax, often involving pricing below marginal cost. Where cross-border spillovers impinge on this redistribution policy (e.g. foreigners taking advantage of prices below marginal cost), a case may exist for interjurisdictional transfers.

These problems can be remedied through interjurisdictional transfers equivalent to the difference between residence-based tax liabilities and the marginal congestion cost, plus the fiscal residuum from redistribution (Boadway and Wildasin, 1984, p. 523). The question here is whether such transfers should occur horizontally between affected jurisdictions or vertically through a central authority. As to the appropriate grant form, if the spillover effects occur because of divergences with respect to a specific area of public intervention, then a conditional matching grant would be preferred.[1] An unconditional lump-sum closed-ended grant would be preferred if differences in aggregate levels of public intervention were at fault; unconditional and lump-sum since subcentral authorities should be allowed to dispose of the funds as they see fit, closed-ended since the transfer should only reduce disparities by the amount desired.

[1] For example, if economically inefficient migration was caused by people in country A moving to country B to take advantage of below marginal cost education, the grantor supplying transfers to country A would wish to ensure that transfers are spent on education, hence he would choose a conditional matching grant.

Where the central government undertakes interpersonal distribution through social security provisions in conjunction with subcentral authorities (i.e. shared competence), a conditional matching grant may be warranted. This would allow the centre to determine minimum living standards/income levels and be involved with policy formulation while leaving implementation to subcentral authorities.

The instances mentioned above when an intergovernmental grant might be justified for interpersonal redistributive purposes do not seem very relevant for the European Community. Primarily this is because cross-border migration is marginal, and secondly, because preferences as to the degree and form of interpersonal redistribution differ greatly among Member States.

5.3.3. Interregional distribution

The above section does not argue that a Community with an ever-increasing integration of product and factor markets has no redistributive role to play: rather that it may be confined to the realm of interregional equity. In this context, Tresch's model seems to fit the Community situation quite well; i.e. the Community's social welfare function is dependent upon income differentials between the Member States and not between individuals.[2] Other authors have referred to 'horizontal fiscal equity' or 'horizontal fiscal balance', i.e. the fiscal balance between governments of the same level. Horizontal equity contains citizenship notions, i.e. that each subcentral government should have sufficient resources to supply a minimum range and standard of public services. Hence, interregional equity concerns two separate albeit related aspects, disparities in the range and quality of public services and income disparities among regions.

Turning first to levels of public services, many federations provide fiscal equalization grants to redress horizontal inequity so that they can provide minimum levels of public services. Equalization schemes must be conducted against a standard which determines what constitutes the minimum acceptable level of public services.[3] One such criterion is fiscal capacity, i.e. the relative revenue-raising ability and relative unit costs of service provision. Fiscal capacity type

[2] An interesting corollary to this point is that the limitation to interregional equity alone would mean the Community has no role to play with respect to regional problems in Member States where per capita income levels are above the Community average. Hence no Structural Fund transfers should go to the Mezzogiorno, *Länder* of the former GDR, France, etc.

[3] For a detailed discussion of the design of fiscal equalization schemes, see Mathews (1975) and King (1984, Chapter 5).

calculations are most frequently based on comparisons with an average of all jurisdictions or with a 'standard' jurisdiction, and try to achieve comparable, rather than minimum, levels of public services. In practice, however, it is extremely difficult to define needs and revenue-raising ability and once established, these definitions may enter the strategic behavioural parameters of authorities, resulting in perverse effects. An alternative to a fiscal capacity measure is a fiscal performance criteria, which determines the level of grants to subcentral authorities as a function of their revenue-generating efforts and successes in meeting expenditure objectives *vis-à-vis* guideline estimates set by the central government. The fiscal capacity approach is beneficial in that it results in horizontal equity; however, it may be allocatively inefficient by favouring excessive public expenditure in recipient jurisdictions. The fiscal performance approach is attractive in that allocative efficiency is achieved, but at the cost of inequity. The choice of criteria is a value judgment dependent upon one's trade-off between equity and efficiency objectives.

Although public service provision plays an important role in promoting economic growth, the development of EC fiscal equalization schemes complete with minimum Community-wide standards may not be the appropriate course to take for operational reasons. The difficulties in determining fiscal capacity, minimum standards and fiscal performance would be greater for the Community than is the case in existing mature federations and unitary States. This is due to the heterogeneous nature of the Member States' economies, wide differences in preferences, the lack of administrative capacity at Community level, and the large information asymmetries among negotiating parties. One area where EC fiscal equalization grants might be required concerns Community-wide networks, the financial burden of which may be excessive for poorer countries, e.g. motorways, high-speed train links. Aside from promoting balanced regional development, Community assistance is justified on the grounds of system economies, i.e. the spillover benefits to all Member States. Grants should be conditional and matching, with the matching rate reflecting the ratio of national to Community interest in the network.

The Community has avoided setting minimum requirements for public services, and has instead chosen to promote 'cohesion' through intergovernmental grants. The choice of cohesion as opposed to (interregional) equity is important, in that it is growth and not the level of regional income that is focused upon. The Community seeks to induce economic growth through increasing investment in disadvantaged regions. On the supply side, fixed-capital formation (investment) is increased and structural constraints on growth are removed. Structural constraints include lack of management skills, social impediments to innovation and change, insufficient human capital, improperly functioning product and factor markets and insufficient infrastructural endowments, all of which reduce marginal rates of return and productivity. The additional induced investment should raise growth rates above the Community average and ensure convergence of incomes towards the Community average.

To maximize the impact on investment, conditional matching open-ended grants should be provided, with an additionality rule containing a built-in mechanism to keep national expenditure efforts growing in line with real GDP. The additionality rule should as far as possible prevent the diversion of the recipient's own-source funds away from capital spending due to the income effect of grants, and also the reduction by third parties of equivalent or substitute transfers. To achieve this, the chosen additionality criteria should be easy to monitor and enforce. In the longer term, equity sentiments among the Member States may increase as a result of integration. Such a move from cohesion to equity would require a change in grant form, i.e. to an unconditional lump-sum grant, since it is the level of regional income one is concerned with and not the purpose on which the transfers are spent.

5.4. Side-payments to compensate losers from EC initiatives, and grants to promote central preferences

Determining the net welfare implications of integration is extremely difficult, with conflicting results depending upon the paradigms employed. Economic literature does not suggest that peripheral and lagging regions will tend to be net losers, hence there is no general case for the Community to provide compensation for integration (Santos, 1993; Emerson et al., 1990). One role for Community grants, suggested by Padoa-Schioppa (1987), is to engender political goodwill among Community citizens which is necessary to smooth the integration course.

A more significant role for EC intergovernmental grants arises when the Community holds policy responsibility in specific policy fields, the initiatives of which directly affect the welfare of market agents. When compensatory side-payments are not possible, the Community is restricted to actions which are Pareto-improving, i.e. at least one party is made better off while nobody is made worse off. In the real world however, Pareto-improving situations are rare. Side-payments would allow initiatives that are potentially Pareto-improving, i.e. overall welfare increases, thus potentially allowing the winners to compensate the losers. Such grants would be conditional lump-sum closed-ended grants.

Central preferences may differ from those of subcentral authorities with regard to quantity and quality of merit goods, minimum standards and macroeconomic objectives. Central intervention must be based on the belief that lower-tier authorities are failing to maximize the welfare of their citizens. Examples might include cases where central authorities feel that subcentral authorities are unaware of consumer preferences or ignore the rights of non-voters and minorities. It is not apparent why this should arise on a significant scale between the Community and the Member States. It might arise in cases where the EC institutions are more aware of Community-wide costs and benefits of policies, which may require demonstration projects to be financed by Community grants.

The most certain way for the central authority to achieve its expenditure objectives is to provide conditional lump-sum grants covering total cost. However, conditional matching grants may achieve virtually equivalent results with far smaller budgetary outlays. Given the size limitations on the Community budget, this is a more likely intervention save where the outlays for demonstration projects are small.

5.5. An overview of the role for European Community grants

The principal purposes for EC grant provision are illustrated in Table 3. It has already been noted that the scope for intergovernmental grants at Community level differs from that at Member State level for a variety of political, economic and social reasons. The principal roles for Community grants currently are the correction of intrajurisdictional spillovers, some measures to reduce interregional income differentials through support for economic and social cohesion and side-payments to compensate the welfare losses incurred by agents as a result of explicit Community interventions. Some expenditure on 'merit goods' determined by Community preference may be required, but there is no apparent reason why this should be large or arise systematically. There are convincing reasons for the Community not to provide grants to correct vertical imbalances and not to become involved with interpersonal redistribution. It is interesting to note that these conclusions do not appreciably differ from those of Oates (1977) in his contribution to the MacDougall Report.

Table 3

Grants at Community level

Objective	Role for the Community	Best form of grant	Comments
Interjurisdictional spillovers and externalities	Yes: where cross-border spillovers are significant, usually for allocative purpose	Conditional matching open-ended: can have variable rates	Can apply additionality principle: in practice they are usually closed-ended if spillover effects vary
Fiscal imbalance	None at present but growing where the mobility of the relevant tax base is increasing	Unconditional lump-sum	Conditionality is often a feature of revenue-sharing arrangements, frequently with a strong redistributive bias
Interpersonal equity	None at present: not necessary as long as migration is marginal and preferences diverge widely among countries	Unconditional lump-sum Conditional matching closed-ended	When centre wants to raise aggregate public consumption When centre wishes to raise a particular area of recipients' public consumption, e.g. when competences are shared, or if migration is induced by a difference in a specific public policy
Interregional equity (fiscal equalization purposes and promotion of economic cohesion)	Some: equity sentiments strengthen as integration proceeds, also for provision of Community-wide networks	Conditional matching; open-ended for cohesion purposes; closed-ended for networks	Additionality principle may be applied, problems arise due to the fungibility of funds, especially with the presence of third parties
Side-payments to losers from central initiatives	Yes: where EC initiative directly affects the welfare of economic agents	Conditional lump-sum closed-ended	May consider conditional lump-sum grants in cases where EC imposes 'merit good' choices

Regarding grant design, the lack of support for large cross-border transfers and the limited size of the EC budget are constraining factors. Given the scope for EC transfers mentioned in the paragraph above (spillovers, cohesion, side-payments), grants according to economic theory should be conditional and matching. This in fact is the case with the Structural Funds, although they are closed-ended. The additionality principle is also applied with respect to the Structural Funds.

The Community however faces great difficulties with respect to the fungibility of transfers, i.e. in preventing Member States from transferring funds to other purposes. This arises not only because of the income effect of grants, but also because of the presence of 'third parties'. Overcoming this problem will require a multifaceted approach, involving the development of more readily testable additionality criteria, a move towards performance and output requirements imposed on recipient authorities rather than expenditure commitments, and strengthening the administrative capacity at Community level.

References

Boadway, R. W. and Wildasin, D. E. (1984), *Public sector economics*, second edition, Boston/Toronto, Little, Brown.

Brennan, G. and Pincus, J. (1991), 'An implicit theory of intergovernmental grants', *Publius*, Vol. 20.

Costello, D. (1993), 'Public interventions to promote economic efficiency: implications for the EC budget' (this volume).

Emerson, M., Gros, D., Italianer, A., Pisani-Ferry, J. and Reichenbach, H. (1990), 'One market, one money', *European Economy* No 44.

Gordon, J. (1991), 'Structural Funds and the 1992 programme in the European Community', IMF Working Paper, 91/65, June.

Hewitt, D. and Heffley, D. (1989), 'Unfolding the flypaper: the effects of intergovernmental grants in an open local economy', IMF Working Paper, 89/58.

King, D. (1984), *Fiscal tiers: the economics of multilevel government*, London, Allen & Unwin.

Mathews, R. (1975), 'Mechanisms for fiscal equalization in an integrating European Community', in MacDougall Report, Commission of the European Communities (1977), 'Report of the study group on the role of public finance in European integration', published in *Studies, Economic and Financial Series*, Nos A 13 and B 13.

Munk, K. J. (1993), 'The rationale for the common agricultural policy and other EC sectoral policies' (this volume).

Niskanen, W. A., (1973), *Bureaucracy: servant or master?*, London, Institute of Economic Affairs.

Oates, W. (1972), *Fiscal federalism*, New York, Harcourt, Brace & Jovanovich.

Oates, W. (1977), 'Fiscal federalism in theory and practice: applications to the European Community', in MacDougall Report, Commission of the European Communities (1977), 'Report of the study group on the role of public finance in European integration', published in *Studies, Economic and Financial Series*, Nos A 13 and B 13.

Padoa-Schioppa, T. (1987), *Efficiency, stability and equity*, Oxford, Oxford University Press.

Pauly, M. (1973), 'Income redistribution as a public good', *Journal of Public Economics*, Vol. 2.

Santos, P. (1993), 'The spatial implications of economic and monetary union' (this volume).

Spahn, P. B. (1993), 'Consequences of economic and monetary union for fiscal federal relations in the Community and the financing of the Community budget' (this volume).

Tresch, R. (1981), *Public finance: a normative theory*, Texas, Business Publications Inc.

Walsh, C. (1993), 'Fiscal federalism: an overview of issues and a discussion of their relevance to the European economy' (this volume).

II — Lessons from existing federations

Reflections on Canadian federalism: Are there implications for European economic and monetary union?

Thomas J. Courchene

School of Policy Studies, Queen's University, Kingston, Ontario, Canada

Contents

It is a pleasure to acknowledge the helpful comments I received from the other contributors of this volume and from Horst Reichenbach and Marc Vanheukelen of the Directorate-General for Economic Affairs, Commission of the European Communities. Conversations with and comments from John McDougall and Bob Young were also very valuable. Given the subjective nature of this paper, particularly in comparison with other contributions to this volume, all will presumably be relieved to note that I bear full responsibility for what follows.

Tables

Graph

Summary

This paper is more in the nature of a country 'case study'. Are there lessons for economic and monetary union (EMU) from the operations of federal Canada? This paper suggests that there probably are. The first of these lessons is that the very generous level of federal-provincial and interprovincial transfers has created a version of 'transfer dependency' that among other things has rigidified the processes of natural economic adjustment within the Canadian federation. Some ways in which the European Community can avoid falling into its own version of this 'Canadian disease' are suggested. Second, because there is no deficit control at the provincial level, the Canadian experience can also shed some light on whether deficit control over fiscally aberrant Member States is a sufficient condition on the fiscal side to ensure that the goal of price stability is not compromised. The answer given in this paper is intriguing. Prince Edward Island is far too small to affect Canadian monetary policy and in any event the bond-rating services essentially serve as the 'fiscal policeman'. The real problems arise from the fiscal behaviour of the economically powerful provinces even if they were to adhere to EMU-type guidelines for debts and deficits. In other words, deficit control must be accompanied by some degree of fiscal coordination. The final lesson draws from the many problems that Quebec would have if it became independent. With reference to Europe, the view given in this paper is that the Community is putting too much emphasis on the possibility of EMU 'exit' by countries (which will be very difficult if Quebec is the comparison) and not enough emphasis on ensuring successful 'entry'.

The remainder of the paper focuses on a series of reflections on European issues from a Canadian vantage point. Mention is given to only one: the manner in which 'social Europe' is integrated with EMU. In this paper, Courchene offers the joint suggestion that (a) Member State growth under EMU is likely to be less 'convergent' than was the case post-Treaty of Rome, and (b) the Social Charter will become the effective cross-Member State regulatory instrument for monitoring any such imbalanced growth.

Finally, this paper salutes the architects of EMU. They are embracing major institutional, economic and political arrangements without a preconceived set of policies as to how this evolution will proceed. What this means is that the European Community retains the fiscal and political flexibility to react to virtually any sort of outcome and at the same time ensures the flexibility to provide appropriate incentives for any future political integration of Europe.

1. Introduction

From a European perspective, Canada and Canadians are devoting what must appear to be an inordinate amount of research, analysis and discussion to the European economic and monetary union (henceforth EEMU, to be contrasted with the potential Canada-Quebec equivalent, namely CQEMU). Like the Americans, we have held our requisite number of seminars and public conferences relating to 'Europe 1992' and, more recently, to EEMU. However, our interest in recent European developments goes well beyond this. Ever since Quebec Premier Robert Bourassa suggested a 'political superstructure' *à la* Europe as an alternative constitutional and institutional arrangement for the upper half of North America, scholars in both Quebec and the rest of Canada have intensified their focus on Europe and, more specifically, on whether EEMU in whole or in part is 'importable'.

Driving this process is the fact that the preferred option of the Parti Québécois (the Official Opposition in Quebec as well as the 'independence' party) appears to be sovereignty coupled with a pan-Canadian economic and monetary union, i.e. CQEMU. More important, perhaps, is that the Allaire Report (the 1991 constitutional position paper of Bourassa's Liberal Party, but not necessarily of the Bourassa Government) argues that if Canada does not agree to a restructured (and highly decentralized, at least for Quebec) federalism, then the default option would be a referendum in Quebec before the autumn of 1992 that would 'propose that Quebec assume the status of a sovereign state [and that] in this case Quebec [would] offer to arrange an economic union [essentially CQEMU] with the rest of Canada, managed by institutions of a confederal nature' (Allaire Report, 1991, p. 59).

In this process of attempting to rethink Canada along European lines, we have become quite creative. Specifically, we have begun to familiarize ourselves with the European concepts of 'subsidiarity' and 'parallelism' and to translate these into language that is more familiar to Canadians. Consider, for example, the following excerpt from the Community's *draft Treaty* (Commission of the European Communities, 1990a, pp. 8-9):

'The coordination of economic policies, which is already an area for which the Community has responsibility, will have to be re-enforced ... The instruments required for the conduct of economic policy will remain the prerogative of Member States.'

In my own research (Courchene 1991a and 1991b) I have assumed that 'the coordination of economic policies' is closely aligned to the European principle of parallelism and to some extent to the economic union principle, while the 'instruments' (which remain with the national governments) are synonymous with the principle of subsidiarity. How does one translate this to a federal nation where not all provinces want the powers of a France or a United Kingdom or, closer to home, a Quebec? The answer that I and others have adopted is 'concurrency with provincial paramountcy', subject to an economic union override, in other words, subject to ensuring the free flow of labour, capital, goods and services across provincial boundaries. Concurrency means that both levels of government can legislate in these areas. Provincial paramountcy means that in so far as legislation conflicts, the provincial legislation will prevail. In practice, this would mean that provinces that want to exercise enhanced powers (for example Quebec) can assert their paramountcy. Others may be quite happy to allow federal legislation to stand (a variant of parallelism). In any event, the point should be clear: the European experience and proposals are playing a substantial role in the rethinking and reconstituting of Canada.

Notwithstanding this influence of Community initiatives on the future of the Canadian federation, the purpose of this paper is, in a sense, exactly the opposite: are there lessons from the Canadian federation that are applicable to Europe as it moves towards EEMU? Thus far there have been several informative and valuable papers dealing with American lessons for Europe, particularly in terms of the proposed monetary union (Eichengreen, 1990 and Sachs and Sala-i-Martin, 1989). Yet the Canadian experience may be of much more relevance for Europe and EEMU than the US experience since the Canadian reality can more readily shed light on at least two of the critical issues that are now playing centre-stage in Europe. First, what are the challenges in mounting a monetary union across a series of provinces (nations) that adhere to a European-style social contract replete with substantial interregional transfers? Second, what are the challenges to the achievement of price stability if the provinces (nations) are unfettered in terms of their ability to run deficits? On these two issues the Canadian story is much more pertinent for Europe than the American story. Of course, much of the ensuing analysis of these and other aspects of the Canadian experience may carry implications more for what the EC should avoid than what it should attempt to be striving toward. This should hardly be surprising since one of the reasons for our current institutional and constitutional crisis is that our nation is no longer 'working' economically.

1.1. Outline of the study

Section 2 provides some conceptual and empirical background to the ensuing analysis. The first section focuses on the differences between economic unions run through federal systems and economic unions run through legal/administrative arrangements like Europe 1992. The second section presents data relating to both east-west (interprovincial) and north-south (Canada-USA) trade. To anticipate the analysis, north-south trade is becoming increasingly dominant. In other words, Canada may no longer be an optimal currency area in the Mundell sense. This background is necessary in its own right but more importantly because it will allow the reader to assess the degree to which the Canadian experience is relevant to the evolution of EEMU.

Section 3 adopts various analytical perspectives to focus on what might be called the 'Canadian disease', namely that the system of interregional and federal-provincial transfers in Canada has effectively jammed up the processes of natural economic adjustment, so much so that several provinces have become veritable 'wards of the State'. The section concludes with some preliminary speculation in terms of whether and under what conditions EEMU might fall prey to this same disease.

In section 4 attention turns to the degree of automatic regional stabilization in Canada. The first section focuses on the very comprehensive system of provincial revenue stabilization while the second assesses the nature of the transfer system as it impacts individuals in a region hit by a region-specific shock. Again the question arises as to whether the European Community would want to engage in the degree of insulation from economic shocks that Canada has put in place for its less-prosperous provinces.

Is deficit control for fiscally aberrant Member States a sufficient condition on the fiscal side to ensure that the price stabilization goal of a Eurofed is not compromised? Based on Canadian evidence over the last decade, the message in section 5 is no: overall fiscal coordination, not only deficit control, is essential.

Section 6 has a mischievous title — 'Will Portugal leave the EEMU?'. The point of the analysis is to focus on the myriad of problems Quebec will be likely to have if, on separation, it attempts to adopt its own currency. This is relevant to EEMU in the sense that it is my personal view that far too much concern is being devoted in the design of EEMU to the probability that Member States may 'exit' EEMU. If there is a problem here, it may have more to do with ensuring successful 'entry'.

The last two sections take leave of Canada and direct attention to the European Community. Section 7 is designed to highlight the range of pressures that may come to bear on the evolution towards EEMU and beyond. The focus here, albeit very speculative, is on aspects of the underlying dynamics of monetary union and the implications for both policy and structure in the European Community. Attention is directed first to the differing dynamics associated with negative and positive integration, where positive and negative integration are used in the Tinberger (1954) sense. The following section deals with the principle of subsidiarity and addresses the issue of whether it will fall prey to what I call the 'expansionist bureaucratic dynamic'. Taxation dynamics comprises the third of the challenges. The message here is that the Community will have a comparative advantage over Member States in collecting those taxes whose bases are increasingly mobile or subject to externalities. Much of the concern relating to the public finances of the Community is currently cast in terms of a revenue shortfall: the underlying message of this section is that the reverse may be the real problem (or opportunity). However, most of section 7 is devoted to the implications for EEMU of the social dimension of Europe. After focusing on the nature of 'social Europe', the hypothesis advanced is that the Social Charter could well end up as a regulatory instrument for ensuring reasonably balanced growth across Member States. At the very least, any discussion of adjustment funds and the like cannot be independent of the nature of the social dimension of EEMU. The section ends with a brief commentary on the potential for wage demonstration effects as part of EEMU.

Section 8 presents some tentative implications and conclusions relating to EEMU and beyond.

2. Background issues

The purpose of this section is to provide some conceptual and empirical background to the ensuing analysis. The first of the two sections will focus on the inherent differences between economic unions in federal nations (or at least in Canada) and economic unions run through arrangements like the Treaty of Rome and Europe 1992. The second will present data relating to the scope and nature of interprovincial and international trade across Canada's 10 provinces. Of course, this may present readers with more information about Canada than they would, in normal or perhaps any circumstances, desire. The rationale has to do with ensuring that the nature of the Canadian economic union is put in appropriate perspective so that any potential inferences for Europe are also filtered through this perspective.

2.1. Administrative vs. political economic unions

Federal constitutions are first and foremost political blueprints. The Treaty of Rome and Europe 1992 are basically economic blueprints. Thus, it should hardly be surprising to find that the resulting economic unions or internal common markets will likely differ and differ markedly. Two sources of difference are immediately apparent. First, federal economic unions, unlike the Treaty of Rome or even Europe 1992, are also monetary unions. Indeed, the common currency aspects of federal nations probably play a far greater role in delivering efficient or effective economic unions than is generally recognized. Second, the monitoring and supervising of economic unions in federations is inevitably filtered through the political system, whereas this same function under Europe 1992 will, equally inevitably, be filtered through an administrative/legal system. One result of this is that in certain areas the European Community probably has a more effective internal market than does Canada. Moreover, until Canada and the USA work out the necessary subsidy pact (under the provisions of the Free Trade Agreement (FTA)), the Community may also be ahead of us in this area as well.

On the other hand, there are aspects of internal mobility where Canada is, and will presumably remain, well ahead of Europe. Foremost among these areas is labour mobility and, more generally, the full portability of social programmes across provinces. Intriguingly, however, this is an area where Canadian policy measures have played a significant role in terms of erecting 'implicit' barriers to impede this natural mobility. To see this, it is instructive to note than when one mentions internal barriers to mobility of goods, services, capital and labour within Canada, the focus is typically directed to the high-profile barriers — marketing boards, provincial purchasing preferences, provincial beer and liquor monopolies, some licensing differences for professions across provinces which inhibit labour mobility, etc. These are problem areas, of course, but many of them will eventually be resolved externally, as it were: for example, the opening of the Canadian-US border will likely spell the end of the marketing boards and the provincial beer fiefdoms. Thus, external economic discipline (particularly in the form of the operations of unfettered decentralized markets, although GATT comes into play as well in terms of provincial policies with respect to beer and wine) can overwhelm these transparent barriers. Much more difficult to resolve, much less transparent and, in my view, much more deleterious to an effective internal market are the implicit internal market barriers. These are the result of Canada's generous and comprehensive interregional and federal-provincial transfer system which, among other things, dramatically alters the 'tax-price' of public goods, the labour/leisure trade-off and the wage/rental ratio across regions and provinces. Much of the analysis in section 3 is devoted to detailing the nature of these implicit barriers. For present purposes, the point to be made is that in the absence of these massive transfers and their accompanying distortions, the equilibrium exchange rate for Atlantic Canada (Newfoundland, Nova Scotia, New Brunswick and Prince Edward Island) under existing wages in these regions would, at best, probably be 75% of the existing Canadian dollar exchange rate.

The message for Europe is very clear. With Europe 1992 and the creation of a single market, most 'explicit' barriers will fall. And with the move toward a single currency and a Eurofed, Europe will reap the transactions and related benefits of a single currency. However, as I interpret the ongoing deliberations relating, for example, to the necessity of adjustment funds to accompany a single currency as well as to the possibility for moving some way towards a version of a 'mature federalism' (replete with a more powerful European Parliament and an emphasis on enhanced social cohesion), Europe may be headed, inadvertently perhaps, toward the Canadian approach of introducing rather dramatic implicit barriers to the economic union.

However, the underlying dynamics are clearly different: Canada mounted its comprehensive interregional transfer system in an era (the 1950s and 1960s) where we were comfortably nestled among the top two or three Western nations in terms of GNP per capita and where we were living off our cushion of natural resource rents and behind tariff walls. In this prosperous environment, we accommodated the desires of the Atlantic provinces (and Quebec!) to deploy the federal transfer system to stem potential outmigration, even though the language and psychological barriers to such labour mobility (except for Quebec) are minimal in comparison with those in Europe. If EEMU develops a version of a pan-European social contract and if the assumptions of the MacDougall Report (Commission of the European Communities, 1977, p. 62) still obtain (namely, an emphasis on redistribution between Member States of the Community in order to avoid an excessive level of general migration from the poorer areas) or, alternatively, if the implicit assumption is that, other things being equal, the Portuguese ought to remain in Portugal, then the stage is set for potential implicit barriers that could well serve to unwind the fruits of the single market on an even greater scale than exists in Canada. How Canada managed to get into this predicament will be detailed later, as will considerations relating to how Europe might avoid this scenario. However, if Europe wishes, via interregional transfers, to keep the Portuguese in Portugal, we Canadians can clearly show you how to do this!

There is a second aspect of comparative economic unions that is worthy of highlight. Despite the fact that the FTA is not an economic union and despite the fact that Canadian-US labour mobility is generally limited under the FTA, the reality is that Canada is linked socially, culturally and economically to the USA to a degree that goes well beyond any conceivable linkage between, say, Germany and Italy, even with EEMU. Setting aside the obvious influence of the world's longest shared border as well as the 10 to 1 size differential, on the economic front this has to do with the high degree of US direct investment in Canada and the resulting high incidence of parent-subsidiary relations. Not surprisingly, this has also come to affect profoundly the nature of Canada's socio-cultural and professional subsystems. The important structural characteristics of most of these subsystems (of course, there are some exceptions) are that, rather like subsidiary firms, they are typically a marginal extension of the relevant US subsystem. This is true not only of private service and trade associations, but also of numerous branches of the entertainment industry, the arts, professional sports and the media. The problem (or depending on one's perspective, the opportunity) for Canadians is that at some point on the 'way to the top', rising stars must leave the country because the centre of their respective subsystem is located in the USA. Thus, while American subsystems are cumulative and socially integrative, in Canada they may be disintegrative and fragmentary. And where they are integrative in Canada, they tend as often as not to be integrative continentally rather than nationally (see Courchene and McDougall, 1991).

Two implications may be derived from all of this. First, Canadians tend, as noted, to look to Europe 1992 as an example to be imitated. No doubt this is true in terms of the various explicit and high-profile barriers that fragment our economic union. However, in terms of an economic union broadly designed to encompass social, cultural and economic flows, Europe 1992 will not come close to replicate either the internal Canadian market nor the Canadian-US relationship, even though the latter involves only a free trade agreement rather than an economic union.

The second implication is perhaps more relevant, namely that the economic integration of the various provinces is also progressively north-south (Canadian-US trade) rather than east-west (interprovincial trade). This will be documented below. For present purposes, what this means is that the glue that binds, east-west, has more to do with a distinct social policy or social contract conception than with an economic or trade-flow interdependence. In a sense, the Canadian challenge is whether we can maintain an east-west social contract in the face of not only a progressive north-south economic or trading reality, but also the 'leaner and meaner' social contract south of the border. Transferred to Europe, where intra-EC trade is bound to mushroom, the challenge becomes one of how, in the face of much wider divergences in Member State wage rates and social contracts than is the case between Canada and the USA (at least for wage rates), and in the face of the announced preferences against substantial intra-EC migration, Europe can avoid a 'race to the bottom' in terms of its social dimension. In EC circles, this concern is reflected in the on-again, off-again relationship between the EC Social Charter and EEMU. This relationship will be pursued in considerable detail in section 7.

2.2. Interprovincial and international trade

Table 1 presents exports of goods, classified as primary, manufacturing and others, from each province to every other province, as well as internationally. The data relate to 1984, the latest date for which these comprehensive flows are available. The table is self-explanatory and the task of sorting out the cross-province flows will be left largely to the reader. Some summary comments are, however, in order.

First, six provinces (Quebec, Prince Edward Island, Nova Scotia, Manitoba, Saskatchewan and Alberta) rely more heavily on interprovincial trade than on international trade. Second, focusing on the three largest manufacturing-producing provinces (Ontario, Quebec and British Columbia), only Quebec is more dependent on trade with other provinces than on international trade. Third, Ontario is the largest 'internal market' for seven of the other nine provinces and is the second largest customer for the remaining two. Quebec also plays a key role as a destination for other provinces' exports. That the populous centre should represent the east-west hub for interprovincial trade is hardly surprising.

What is, perhaps, surprising is the evolving nature of this cross-province and international trade. Utilizing data for 1989 for Quebec and Ontario and comparing them to 1974 (Tables 2a and 2b) reveals the following patterns:

(a) for Quebec, interprovincial shipments in 1974 as a percentage of total shipments (including those within Quebec) were 37% while international shipments were 13,59%. By 1989, these two percentages were 24,8 and 25,9 respectively;

(b) for Ontario, the 1974 shares of total shipments were 27,9% interprovincial and 20,7% international. By 1989 the interprovincial share had fallen to 19% and the international component mushroomed to 34%.

These temporal trends are what led to the earlier assertion that economic integration is progressively north-south rather than east-west. Presumably, the FTA, which came into effect on 1 January 1989, will further enhance north-south commerce. What this likely implies is that the optimal currency area for Canada's regions is less and less a national currency area and more and more a cross-border, north-south, regional exchange rate. However, since it is not possible politically or constitutionally to have separate currency areas across the Canadian nation, the default option, as it were, is greater exchange-rate fixity with the USA or perhaps an eventual monetary union. But this is more in the nature of what Canada can learn from the European Community

With these background observations now out of the way, I turn to the distributional features of the Canadian federation and in particular to the manner in which our generous interregional and intergovernmental transfer system has served, if not to trigger regional disparities, then certainly to entrench and institutionalize them.

3. Transfer dependency: a macro-view of Canadian federalism

3.1. The gold standard analogy

Assume for present purposes that Canada is the 'world'. In this stylized world, there are 10 'countries' (provinces), linked together by a single currency — the Canadian dollar (CAD). By definition, exchange rates between these countries are fixed, irrevocably, at parity (i.e. one Nova Scotia dollar trades for one British Columbia dollar). This is, in effect, the gold standard (or Canadian dollar standard) model.

Now assume that the Atlantic region runs a balance-of-payments deficit on current account. Actually the trade account deficit for the Atlantic region *vis-à-vis* the rest of Canada was CAD 6,4 billion in 1984 (Proulx, 1991, p. 128) and roughly CAD 7 billion if one adds in the rest of the world, so that this assumption is entirely realistic. Under the gold standard equilibrating mechanism, gold (dollars) has to flow out in order to pay for this deficit. The resulting decrease in the Atlantic money supply would trigger declines in wages and domestic prices. In reality while wages are lower in the Atlantic region, they are not falling on an annual basis. Indeed, the opposite is true over the last decade — Atlantic wages are moving toward the national average. The question at issue here is what mechanism is at work to allow the Atlantic provinces to run these substantial balance-of-payments deficits year in and year out.

Table 1

Exports of goods by destination — selected aggregates, 1984

(as % of total exports)

	Destination												Memo items	
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Total province	Total foreign	Exports/ GDP (%)	Value (million CAD)
Originating province: Newfoundland														
Goods	—	0,27	4,49	0,79	7,36	11,07	0,02	0,03	0,07	0,10	24,22	75,78	30,92	1 839
Primary	—	0,00	3,65	0,32	0,05	15,31	0,00	0,00	0,00	0,00	19,34	80,66	13,97	831
Manufacturing	—	0,54	5,81	1,32	3,24	8,47	0,04	0,07	0,14	0,20	19,88	80,12	15,15	901
Other	—	0,00	0,00	0,00	98,42	0,00	0,00	0,00	0,00	0,00	98,42	1,58	1,81	107
Originating province: Prince Edward Island														
Goods	5,67	—	11,13	7,87	9,31	21,33	0,35	0,09	0,33	0,23	56,56	43,44	33,03	428
Primary	3,31	—	8,60	9,30	10,06	26,80	0,58	0,00	0,06	0,00	58,55	41,45	13,26	172
Manufacturing	7,25	—	12,83	6,90	8,81	17,67	0,19	0,16	0,51	0,39	55,23	44,77	19,77	256
Other	0,00	—	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	—
Originating province: Nova Scotia														
Goods	7,56	3,04	—	12,95	14,49	20,08	0,79	0,47	1,41	1,10	61,99	38,01	38,94	4 167
Primary	5,54	0,91	—	6,79	2,03	60,23	0,00	0,00	0,00	0,00	75,56	24,44	8,01	857
Manufacturing	8,15	3,62	—	13,85	17,87	9,77	1,00	0,59	1,79	1,40	58,18	41,82	30,65	3 280
Other	0,00	0,00	—	90,94	0,00	0,00	0,00	0,00	0,00	0,00	90,94	9,06	0,28	30
Originating province: New Brunswick														
Goods	2,99	3,32	9,36	—	16,98	11,52	0,46	0,39	0,86	0,62	46,60	53,40	47,41	3 970
Primary	0,16	1,28	4,60	—	23,25	3,27	0,00	0,00	0,00	0,00	32,57	67,43	7,27	609
Manufacturing	3,99	3,37	11,50	—	18,01	14,81	0,62	0,52	1,16	0,84	54,93	45,07	35,27	2 954
Other	0,00	6,06	0,98	—	0,10	0,00	0,00	0,00	0,00	0,00	7,17	92,83	4,86	407
Originating province: Quebec														
Goods	2,61	0,45	2,86	3,34	—	28,78	1,81	2,67	5,87	4,57	53,66	46,34	37,66	38 033
Primary	3,60	0,21	1,56	2,26	—	28,99	0,00	0,00	0,03	0,00	42,64	57,36	2,12	2 142
Manufacturing	2,60	0,53	3,00	3,12	—	28,89	1,96	2,67	6,34	4,93	54,58	45,42	34,86	35 203
Other	0,19	0,00	0,00	18,09	—	22,48	0,00	0,00	0,00	0,00	40,75	59,25	0,68	687
Originating province: Ontario														
Goods	1,26	0,30	2,14	1,54	14,94	—	2,87	2,35	6,58	4,69	37,10	62,90	46,16	79 160
Primary	0,23	0,34	2,80	0,52	33,90	—	3,20	1,26	0,67	0,53	43,45	56,55	2,31	3 962
Manufacturing	1,32	0,30	2,11	1,61	14,03	—	2,87	2,43	6,94	4,94	36,99	63,01	43,58	74 732
Other	0,02	0,02	0,00	0,02	0,04	—	0,00	0,00	0,00	0,02	0,11	99,89	0,27	466
Originating province: Manitoba														
Goods	0,65	0,06	0,75	0,66	8,85	23,81	—	8,75	10,15	4,27	58,41	41,59	34,28	5 663
Primary	0,03	0,01	0,17	0,14	11,92	34,04	—	1,38	7,00	1,44	56,14	43,86	10,52	1 738
Manufacturing	0,93	0,08	1,01	0,89	7,55	18,75	—	12,01	11,63	5,57	59,10	40,90	23,58	3 895
Other	0,00	0,00	0,00	0,00	0,00	87,04	—	12,96	0,00	0,00	100,0	0,00	0,18	30
Originating province: Saskatchewan														
Goods	0,01	0,01	0,20	0,13	10,61	12,62	4,96	—	5,32	1,24	35,31	64,69	54,52	8 936
Primary	0,02	0,01	0,16	0,12	11,19	12,21	2,78	—	3,51	0,56	30,58	69,42	38,23	6 266
Manufacturing	0,00	0,00	0,29	0,16	9,40	13,08	9,51	—	9,55	2,87	45,54	54,46	16,02	2 626
Other	0,00	0,00	0,00	0,00	0,00	42,15	43,05	—	11,88	0,00	97,09	2,91	0,27	45

Table 1 *(continued)*

Exports of goods by destination — selected aggregates, 1984

(as % of total exports)

	Destination												Memo items	
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Total province	Total foreign	Exports/ GDP (%)	Value (million CAD)
Originating province: Alberta														
Goods	0,06	0,02	0,21	1,39	10,25	26,26	3,74	6,55	—	9,95	59,62	40,38	51,52	30 368
Primary	0,00	0,01	0,17	1,99	12,81	33,50	0,76	3,82	—	7,45	60,88	39,12	34,07	20 079
Manufacturing	0,17	0,05	0,28	0,22	5,07	12,04	9,57	11,94	—	14,89	56,97	43,03	17,38	10 243
Other	0,00	0,00	0,00	0,00	49,67	34,59	10,64	0,00	—	0,00	100,00	0,00	0,08	45
Originating province: British Columbia														
Goods	0,12	0,06	0,21	0,25	2,28	6,80	1,19	2,24	10,09	—	24,87	75,13	27,71	14 164
Primary	0,01	0,01	0,02	0,00	1,17	14,08	0,37	1,84	7,14	—	26,34	73,66	6,00	3 066
Manufacturing	0,15	0,08	0,27	0,32	2,63	4,87	1,45	2,39	9,78	—	23,57	76,43	21,34	10 909
Other	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	76,18	—	76,18	23,82	0,37	189

NFLD: Newfoundland
PEI: Prince Edward Island
NS: Nova Scotia
NB: New Brunswick
QUE: Quebec
ONT: Ontario
MAN: Manitoba
SASK: Saskatchewan
ALTA: Alberta
BC: British Columbia

Table 2a

Ontario's manufacturing shipments, 1989 in comparison with 1974

	Value of shipments (billion CAD)	Share distribution of Ontario's shipments (%)			
		Ontario	Quebec	Other provinces	International exports
1989					
All manufacturing	166,3	46,63	5,87	13,22	34,28
Food and beverage	18,1	64,75	9,41	20,37	5,47
Clothing	2,0	53,16	13,32	31,02	2,50
Paper and allied	7,7	42,29	10,53	12,54	34,64
Transport equipment	44,0	12,89	1,79	2,56	82,76
1974					
All manufacturing	40,6	51,31	11,45	16,51	20,73
Food and beverage	5,9	69,21	10,42	15,28	5,09
Clothing	0,4	50,77	14,53	33,5	1,20
Paper and allied	2,4	53,86	11,94	6,52	27,68
Transport equipment	7,8	25,25	6,37	9,67	59,71

Table 2b

Quebec's manufacturing shipments, 1989 in comparison with 1974

	Value of shipments (billion CAD)	Share distribution of Quebec's shipments (%)			
		Quebec	Ontario	Other provinces	International exports
1989					
All manufacturing	80,7	49,22	14,51	10,33	25,94
Food and beverage	10,8	74,04	10,31	7,41	8,24
Clothing	4,3	57,26	23,89	15,61	3,24
Paper and allied	8,1	24,69	16,78	2,55	55,98
Transport equipment	7,5	20,77	8,82	4,85	65,56
1974					
All manufacturing	22,6	49,11	19,17	18,13	13,59
Food and beverage	3,9	70,96	12,29	12,2	4,55
Clothing	1,4	41,05	22,75	32,51	3,69
Paper and allied	2,4	39,32	18,67	6,62	35,39
Transport equipment	1,4	19,84	11,33	23,45	45,38

Source: Statistics Canada, No 31-522130; reproduced from Donner (1991).

To a degree, the current account deficit could be financed by rest-of-Canada purchases of Atlantic assets, by a drawing down of savings of Atlantic residents or by borrowing on the part of Atlantic governments and citizens. No doubt all of these come into play from time to time. But they cannot come anywhere near to accounting for the magnitude of these annual current account deficits.

Hence, one cannot escape the conclusion that the (dis-)equilibrating mechanism at work here is the federal tax, expenditure and transfer system. Ottawa effectively rechannels these funds back into the Atlantic region via the comprehensive interregional and intergovernmental transfer system (equalization, unemployment insurance, the operations of the personal income tax system, etc.). In effect, this sterilization of the gold (dollar) outflows allows the Atlantic region to run deficits in perpetuity. It is as if the Atlantic region has latched on to the fabled 'widow's cruse' or, equivalently, has an annuity from the rest of Canada that permits it to escape the rigours of the gold standard adjustment mechanism.

Table 3 presents some data relating to the federal tax-transfer system (or in Table 3 terminology, 'federal net spending benefits') for 1974 and for 1988. Line 3 of each of the panels contains the 'gross' transfers by province. (Note that 'gross' is defined as the excess of inflows over outflows. Normally one would call these 'net' transfers. Table 3 uses 'net' to refer to the excess of inflows over outflows including an allocation for the federal deficit, i.e. the last row of each panel). In the Atlantic region, these range from a high of CAD 5 026 per capita for Prince Edward Island to CAD 3 304 for New Brunswick (line 3). Converted into nominal 1988 dollars, this amounts to roughly CAD 9 billion of net transfers to the Atlantic region. Line 5 of each panel presents the net transfers, i.e. after taking into account the deferred taxes associated with the federal deficit (line 4). These line 5 figures are obviously lower but they still generate a transfer of over CAD 7 billion — enough to cover the balance-of-payments deficit alluded to earlier (although this latter figure related to 1984 rather than 1988).

A final observation is relevant here: in 1988 GDP per capita for Prince Edward Island was CAD 13 712 so that gross (line 3) transfers represented roughly 37% of its GDP, for example. I might add that 'personal income', as defined by the system of national accounts, *exceeds* GDP for Newfoundland and Prince Edward Island!

Table 3 also provides an overview of how these net transfers have increased from 1974 to 1988. Dividing line 3 (gross current benefit) by per capita GDP in nominal dollars yields the following temporal patterns for the four Atlantic prov-

Table 3

Federal net spending benefits by province, 1970 and 1988

(nominal Canadian dollars per capita)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1970										
Federal governement services	805	1 154	1 044	844	528	719	750	658	607	644
Less taxes paid	350	340	481	425	510	886	627	426	716	796
Equals gross current benefit	455	814	563	418	18	− 168	122	232	− 109	− 152
Less taxes deferred	19	18	26	23	27	48	34	23	38	43
Equels net current benefit	436	796	537	395	− 9	− 215	89	209	− 148	− 195
1988										
Federal government services	6 020	7 528	7 680	6 042	4 220	5 331	5 667	5 627	4 031	4 435
Less taxes paid	2 277	2 502	3 054	2 738	3 049	4 798	3 229	2 938	4 453	3 955
Equals gross current benefit	3 743	5 026	4 626	3 304	1 171	532	2 438	2 689	− 422	480
Less taxes deferred	647	711	868	778	867	1 364	918	835	1 266	1 124
Equals net current benefit	3 095	4 315	3 758	2 526	304	− 831	1 521	1 854	− 1 688	− 645

Source: Horry and Walker (1991), Table 3.7.

inces — Newfoundland (12,6% in 1974 and 27,2% in 1988), Prince Edward Island (22,1% and 36,7%), Nova Scotia (13,0% and 27,5%) and New Brunswick (9,6% and 20,1%). Transfer dependency begets further transfer dependency!

Thus far, attention has been focused on the Atlantic region. However, Saskatchewan and Manitoba are also the recipients of significant net transfers which, for Saskatchewan, could be even higher in, say, 1990, given the federal payments triggered by the collapsed grain economy.

The message in all this is very clear. What no doubt began as a series of short-term measures to combat a disequilibrium situation has mushroomed into a massive transfer and converted aspects of the Atlantic region into a 'ward-of-the-State' status. Phrased differently, what we now have is no longer a disequilibrium but rather a policy-induced equilibrium, where the use of the term 'equilibrium' in this context obviously carries with it no assumption that it is in any way 'appropriate'.

Of course, considerable caution has to be exercised in interpreting these data. Some of the temporal trends relate to the fact that overall government spending on public services has risen and that all Canadians, no matter where they reside, have as a right of citizenship (or at least the way Canadians, as distinct from Americans, view the privilege of citizenship) access to some national average level of public goods and services. This said, however, there exist alternative ways to deliver these common public services other than to condemn Atlantic Canada to the status of supplicant to Ottawa (and the rest of Canada).

Is there a message for Europe here? Perhaps not, as I shall argue later. But if there is, it is along the following lines. If, with the advent of a single currency and the necessity of mounting some version of adjustment grants or, more generally, some version of an equalization programme for public goods and services (as recommended by many commentators, including the MacDougall Report), how does the European Community ensure that it avoids the Canadian transfer dependency route for a significant number of the Member States? Matters will obviously become more complicated if decisions are made to proceed along the social coherence, let alone the political union, route (replete with a more powerful European Parliament) and the inevitable emergence of a philosophy that being European requires more equal access to selected aspects of European public goods and services.

This issue will be addressed later. The following section deals with an alternative way of viewing the Canada-Atlantic region interface, one that is suggestive in terms of how the Atlantic 'currency' came to be progressively overvalued.

3.2. A geometry of the regional problem

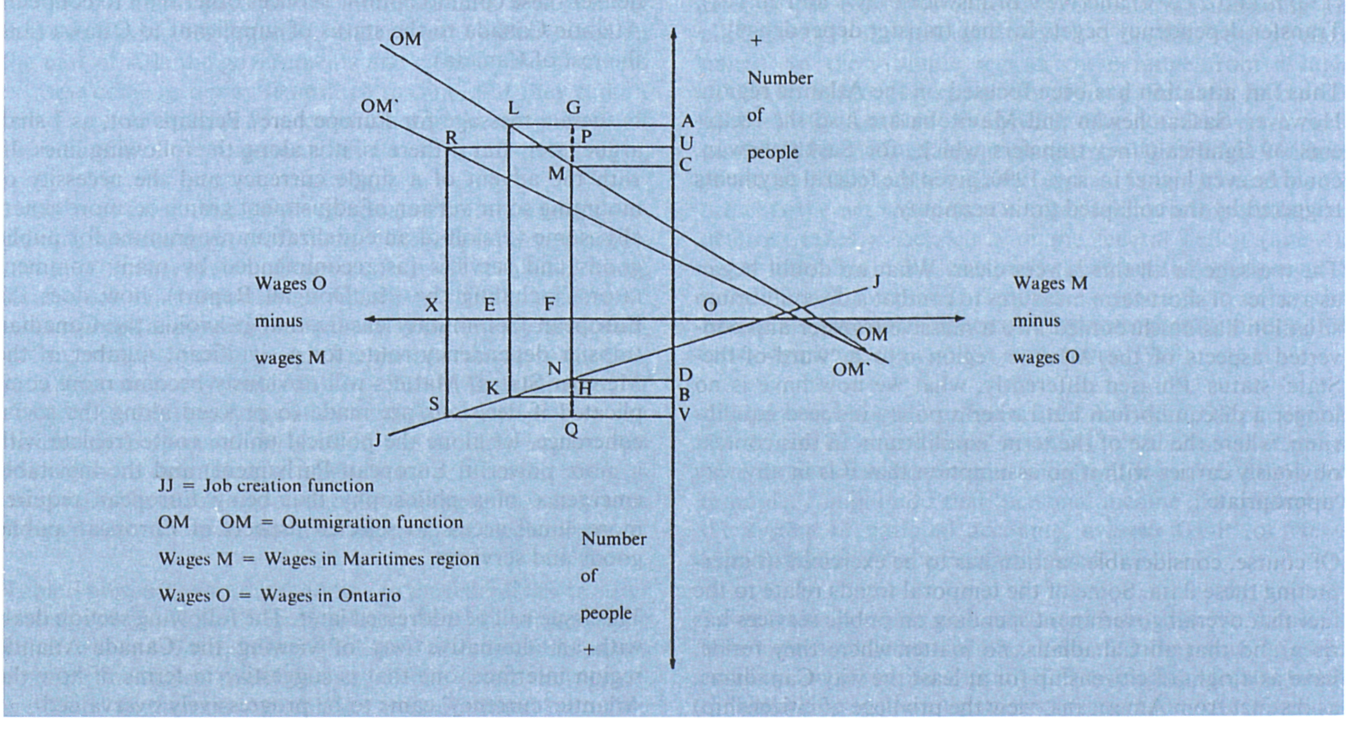
The starting point of the analysis is the assumption that the federal government's goal is to minimize the variation in unemployment rates across regions. This is not quite Ottawa's goal, but it is close enough to reality that the analysis will yield useful implications. For convenience, Canada is viewed as being composed of two regions — the Maritimes and Ontario. The diagrammatic representation of the analysis is presented in Graph 1. The vertical axis represents the number of people. Equal distances along this axis, whether above or below the origin (or, for that matter, straddling the origin) represent correspondingly equal numbers of people. The horizontal axis depicts relative wage rates. To the right of the origin, wages are higher in the Maritimes than they are in Ontario; i.e. $W_m - W_o$ is positive and increasingly so the further right one goes, where the symbols are self-explanatory. To the left of the origin, the opposite prevails: $W_o - W_m$ is positive, i.e. wage rates are higher in Ontario. Obviously, at the origin $W_o = W_m$.

Curve JJ represents new jobs created for the Maritimes. For convenience, it is drawn as a straight line. The positive slope of JJ is intuitively plausible — the lower wages are in the Maritimes (relative to Ontario), the greater will be the number of new jobs created there. For example, where $W_o - W_m$ equals OF, the number of new jobs in the Maritimes will be OD. At a relatively lower Maritime wage (OE), job creation will rise to level OB. Curve JJ is drawn so that even when relative wages are equal (at the origin) there is still some positive Maritime job creation.

Curve OM is designed to represent the probability of outmigration from the Maritimes. An increase in Ontario wages relative to Maritime wages will lead to a greater outflow of persons to Ontario — for differential OF, the outmigration flow is OC, and for wage differential OE, it is OA. The OM function is drawn so that even where wage rates are identical there is some outmigration, but this is of no special significance to the analysis.

The starting assumption is that the two economies are currently in equilibrium, and the task at hand is to allocate the new entrants into the Maritime labour force between new jobs and outmigration. Let the number of new entrants in the Maritime job market be equal to the vertical distance AB in the diagram. (Note that this is an exogenously determined number of people. While it is represented thus far by the vertical distance, AB, it can also be represented by any other equivalent vertical distance in the diagram, for example UV.)

GRAPH 1: **Analysis of the Maritimes region and Ontario**



3.2.1. The separate currency area solution

If the Maritimes had a separate currency the system would, in the absence of government intervention, settle down at an effective wage differential equal to OE in Graph 1. This effective wage differential is obtained by taking the vertical distance representing the numbers of new entrants into the labour force and sliding it between the curves OM and JJ until it fits exactly, i.e. distance KL equals distance AB. At this effective wage differential, OA new entrants would migrate and OB new entrants would find jobs in the Maritimes. Since OA plus OB equals AB, this takes account of all the new entrants. If the actual wage differential were only equal to OF, then OC persons would migrate, OD would get new jobs, and the remainder (AC plus DB) would be unemployed, which would put downward pressure on the effective wage rates and move the differential back toward OE.

The analysis has been conducted in terms of what I have referred to as the effective wage rate. What would presumably generate this effective wage differential is a movement in the exchange rate between the Maritimes and Ontario (we are assuming for the moment that the regions have their own currencies). If the actual wage differential is, say, OF, the Maritimes' currency would depreciate until the effective wage differential equals OE.

Even though regions and provinces do not have their own currencies, there is some value in using this as the starting point for the present analysis since it provides a useful benchmark for comparing other solutions to the regional problem. In particular, the next section will demonstrate that this flexible exchange rate solution to Graph 1 can be reproduced by means of a set of subsidies. This suggests that even though the two levels of government in a federation are normally constrained in certain actions by, say, the provisions of the constitution, there are frequently other policy instruments which can accomplish much the same result. For example, provinces are not allowed to mount tariffs against goods from other provinces. However, provincial purchasing preferences have the same impact as a tariff for the goods in question. Indeed, these purchasing preferences can be viewed as altering the province's exchange rate for the protected goods.

3.2.2. The optimal subsidy scheme

Let us breathe a bit of reality into Graph 1 and assume that the Maritime region does not have its own currency. Moreover, let us further assume that while wage rates are lower in the Maritimes, the differential is only OF, which is less than the separate currency effective wage differential OE. As noted above, associated with wage differential OF is outmigration of OC and job creation OD, leaving DB and AC Maritimers unemployed. One obvious solution would be for Maritime wage rates to fall relative to those in Ontario so that wage differential OE is reached. But suppose that there are sufficient rigidities in the system (minimum wage laws, nationwide wage bargaining, uniform scale of federal wages across the country, union strength and the like) such that the wage differential remains at OF. Under these circumstances, what is the optimal (or probably more correctly, the least-cost) policy? One answer is that which duplicates the separate currency area solution.

To see this result, assume that the government has full information with respect to the outmigration and job-creation functions and, further, that it can act as a perfect discriminator (i.e. it will pay only what is needed to require the additional migrant to move and to have the additional worker employed). Under these assumptions it will offer subsidies to both outmigration and job creation such that, at the margin, the effective wage differential again becomes OE. Thus, the cost of having the marginal person migrate (GL) is equal to the marginal cost of employing an additional worker (HK), where these costs are measured horizontally (and, ideally, should be expressed in present value terms). The total cost of the subsidy programme is the sum of the two triangles NHK and LGM.

The assumptions underlying this result are very restrictive. If firms and people are able to conceal their preferences, it is possible that all new jobs and all outmigrants will receive a subsidy. In this case the marginal subsidy cost of employing the last person will be BK, not HK. (This assumes that the job-creation function goes through the origin.) Springate (1973) found, using interview techniques, that many recipients of regional development grants would have invested in the Maritimes without the grant. Hence, subsidies will often find their way even to those who would not need them to motivate their action. For the present, however, we shall maintain the assumption that governments have full information with respect to these reaction functions.

Therefore, under the assumption that the federal government is committed to a policy of full employment and that it takes the existing relative regional wage rates as given, an optimal subsidy scheme would involve both outmigration (bringing people to jobs) and job-creation (bringing jobs to people) subsidies. What should be clear, however, is that the cost of achieving this goal will be increased substantially if the provinces mount development policies of their own.

3.2.3. Provincial strategies

Suppose that the Maritime provinces know that the federal government is committed to absorbing any and all new labour force entrants. This sets the stage for the provinces to take advantage of Ottawa's commitment, or to hold the federal government to ransom, as it were. One obvious strategy for these provinces is to attempt to shift the outmigration function downward, for example from OM to OM' in Graph 1. One way in which this might be accomplished is to allow the provinces the right to select the training or retraining programmes for their citizens. If these programmes are designed to train people for intraregional skills rather than skills which would equip them better for employment in other regions, the result will be to tilt the outmigration curve downward. Similarly, these provinces can lobby the federal government to incorporate regionally differentiated benefits within unemployment insurance (as is now the case, since beneficiaries can collect unemployment insurance for longer periods of time if they reside in high-unemployment regions), which will also move the OM curve in the direction of OM'.

What happens if the outmigration curve shifts from OM to OM' in Graph 1? The new equilibrium is at X — i.e. the effective equilibrium wage differential now becomes OX. Outmigration equals OU and job creation equals OV, where by construction UV (i.e. OU + OV) is equal to AB or, likewise, RS = LK. The marginal cost of employing or moving the last labour force participant is now equal to QS (which equals PR) compared to the previous marginal cost of HK. The net result is that the federal government is enticed to devote more resources to the regional problem and in the process to shift its policy mix in the direction of bringing jobs to the Maritimes rather than sending people to jobs in other regions.

Obviously, the policies of the other provinces can also influence the cost to the federal government of achieving this regional goal. Were the richer provinces to mount barriers to internal migration (via provincial licensing of skill accreditations, for example), this policy would be equivalent to the previous example — i.e. a downward shift in the outmigration function in Graph 1. Were the richer provinces to counter the federal initiative by offering competing job-creation subsidies, this policy would shift the job-creation function upward in Graph 1. Not only would this result in larger overall costs (as in the previous case), but now more of the adjustment arising from the imposition of an optimal set of subsidies would be thrown on outmigration from the Maritimes and less on job creation in the region.

With a little bit of creativity it is not difficult to envision scenarios where the effective wage rate in the Maritimes falls relative to Ontario (i.e. the equilibrium exchange rate *vis-à-vis* Ontario falls) but where the actual wage rate relative to Ontario rises. In terms of Graph 1, this implies that the separate currency area solution moves leftward from E but the actual wage differential moves rightward from F. This is, of course, the classic case of transfer dependency where regional wages are progressively patterned after national wages and where the population is enticed to stay via a comprehensive set of distortive transfers. (With some degree of misrepresentation perhaps, this corresponds to what in European circles is referred to as 'wage demonstration effects'). One example will suffice here. Because of the operations of Canada's unemployment insurance in 'have-not' regions (i.e. the number of weeks needed to qualify are less and the number of benefit weeks for each week worked is enhanced) unemployment insurance in the Maritimes has become more of a work-sharing programme. Specifically, for 11 or 12 weeks of work, a person can collect benefits for the rest of the year. Not surprisingly, the moral hazard element here is close to overwhelming. The last time I checked the figures, working for 10 weeks' wages of CAD 5 000 will trigger benefits in the order of CAD 13 000 to 14 000. In effect, this is a lottery ticket with a guaranteed payoff — the only lottery element here is to get the 10 weeks of work in the first place. Not surprisingly, stories are making the rounds of persons actually borrowing from banks or credit unions in order to help 'pay for' their 10-week jobs. Compounding this is that unemployment insurance is now becoming an important income-support system for communities. Immense pressure is frequently placed on workers to 'pass on' their jobs to other community members after 10 weeks so that they can also be part of the lottery.

The European response to all of this is surely that this is simply foolish policy and it has nothing to do with the operations of an EEMU, especially since there is no European equivalent of Canada's national unemployment insurance system and, in any event, the principle of subsidiarity implies, in the first place, that the Community will never play the redistributive role that Ottawa plays within Canada.

Is this likely to be the case? I readily admit that there was and still is a healthy dose of policy error here, induced initially by an incredible fiscal cushion arising from high and steady growth in the 1960s and early 1970s (when the unemployment insurance programme was reconstituted into its current generous format), on the one hand, and a genuine but clearly mistaken belief on the part of policymakers that they were effectively combating regional disparities, on the other. However, almost from the beginning the unemployment insurance programme came to be referred in the Ottawa corridors of power as the 'stay option' — a reference to the fact that it would help keep Maritimers (or at least low-skilled Maritimers) in the Maritimes. In this sense, perhaps Europe is immune.

Yet, there is another feature worth being concerned about. Some aspects of our regional policy fiasco came into being precisely because the economically strong provinces or regions wanted to move ahead in certain areas and, in order to bring the poorer provinces along, some compensatory programmes had to be introduced. This already has a parallel in Europe and several Member States are already lobbying for compensation as the quid pro quo for signing on to a single currency. However, as long as the Community's approach to the underlying social contract across Member States remains relatively passive, this analysis is once again probably largely irrelevant. Matters become quite different if Europe moves towards a more 'Canadian' conception where EC citizenship carries with it certain social policy rights. Under such a scenario, Europe would be foolish to ignore the dynamics of the Canadian economic and monetary union. Finally, given that Canada's competitive position is visibly deteriorating and that, to a considerable degree, our comprehensive transfer system has been unwound in two recent federal budgets, this is further evidence that this is a route along which Europe should tread carefully. If the road must be travelled, then the obvious lesson is to mount policies which have as their principal goal to privilege 'people, not place'. One view of Canada's policies towards its regions is that they have focused on 'place prosperity' with the all-too-frequent result that this has been at the expense of 'people prosperity'.

3.3. Some data on regional disparities

One approach to focusing on regional disparities is to express GDP per capita in terms of the following identity:

$$\frac{GDP}{P} = \frac{WAP}{P} \cdot \frac{EP}{WAP} \cdot \frac{GDP}{EP} = \frac{GDP}{P} \quad \dots (1)$$

where:

P = population

WAP = working-age population

EP = employed persons

$\frac{GDP}{P}$ = nominal GDP per capita (represented in Table 4 as line 1)

$\frac{WAP}{P}$ = working-age population as a percentage of total population; this is the inverse of the dependency ratio (see line 3 of Table 4 for the relevant data)

$\frac{EP}{WAP}$ = this variable is a product of the employment rate (E/LF) and the participation rate (LF/WAP), where LF = labour force; Equation (1) could be disaggregated further to reflect each of these factors separately

$\frac{GDP}{EP}$ = GDP per employed person

As already alluded to, Table 4 presents data for this equation for Atlantic Canada (relative to the national average) for 1966, 1973, 1981 and 1988. Focusing only on 1988, GDP per capita is low in the Atlantic region because all three components of Equation (1) are below the national average. GDP per employed person is 82,3% of the national average but GDP per capita is mired at 67,8% largely because EP/WAP is also about 83% of the national average — a ratio lower than it was in 1966.

Nonetheless, regional disparities on a per capita basis have narrowed from 1966 to 1988. Commenting on this narrowing of regional disparities, the Canadian Labour Market and Productivity Centre (CLMPC) (from whose publication Table 4 is extracted) notes that a very significant factor in this narrowing relates to the role of the federal government:

'... discretionary federal government expenditure policies contributed significantly to Atlantic Canada's greater growth, and in particular to the reduction of income disparities with the rest of Canada. A rough estimate of the contribution can be made by assuming that per capita federal expenditures on transfers to governments, transfers to persons, and goods and services increased over the 1961-88 period at the national rate, not the actual rate of increase experienced in Atlantic Canada. Per capita GDP in 1988 would then have been CAD 14 550 instead of CAD 15 769, or 62,7% of the national average, instead of the actual 67,8% [as per Table 5]. By this calculation, increased federal expenditure would have directly accounted for 4,9% of the 8,6 percentage point improvement in Atlantic Canada's relative income position (over 1961-88, from Table 4). The contribution of the federal government to the reduction of income disparities would be even greater when indirect effects are factored into account.' (CLMPC, 1990, p. 36).

More generally, this explanation is fully consistent with the geometrical analysis presented earlier — increased federal monies can improve the overall income position of depressed regions at the same time that its wage structure becomes increasingly offside with the underlying economics. In terms of the latter, average weekly wages for 1988 were, as a percentage of the national average, 96% (Newfoundland), 86% (Prince Edward Island), 90% (Nova Scotia) and 91% (New Brunswick).

Table 4

Trends in determinants of per capita GDP in Atlantic Canada

(% of national average)

	1966	1973	1981	1988
Nominal per capita GDP	59,2	62,0	58,1	67,8
Nominal GDP per employed person	72,7	76,3	73,2	82,3
Employment/working-age population ratio	86,3	85,6	82,6	83,6
Working-age population/total population ratio	94,5	95,0	96,0	98,4
Actual average weekly hours	—	100,6 (1975)	100,3	101,1

Source: Reproduced from CLMPC, *Quarterly Labour Market Productivity Review* (spring summer 1990), Table IV. 24.

One final set of numbers is revealing. The ratio of per capita incomes in the richest and poorest regions (typically Ontario and the Atlantic provinces) for 1988 are: for GDP, 1,66; for personal income, 1,45; for personal disposable income, 1,38 (CLMPC, 1990, pp. 25-57). Given that access to public services is relatively equal across provinces and regions (while this has been implicit in the above analysis, it will be made explicit later), regional disparities across provinces essentially reflect unequal access to market incomes. As the above numbers suggest, the transfer system reduces the overall impact from a 1,66 high-low GDP differential to a personal disposable income differential of 1,38. This latter differential is relatively minor in terms of the high-low differentials in the European Community.

3.4. Intergovernmental gaming

To conclude this section on transfer dependency it is important not to overlook the potential for a range of perverse interactions between the two levels of government. Elsewhere, I have referred to this as 'intergovernmental gaming', but others may have more appropriate labels. To a substantial degree, these intergovernmental games arise because of the nature of the incentives embedded in the intergovernmental transfers. But they can also go beyond this and reflect the quite different preference functions of the two levels of government. More generally, if these transfers are large it is probably impossible to avoid some aspects of this intergovernmental gaming although, as I shall point out, Canada as usual has perfected it into a fine art.

To begin with, section 3.2.3 above on provincial strategies reflects in part at least the differing preference functions of the two levels of government. The area where this has become most problematical relates to social insurance. In turn, this results because the provinces pay 50% of welfare but none of the cost of unemployment insurance. Hence, it is rational for a province (in terms of its fiscal position) to come up with 10 or 12-week work programmes for welfare recipients, after which they can fall back on federal unemployment insurance. As noted, this has now become institutionalized in several provinces where 10 or 12-week jobs are the norm in certain industries. This is the ultimate in terms of putting 'place' above 'people'.

However, it can also lead to a series of vicious circles, as it were. Consider Quebec in the 1970s. This province had the highest minimum wage not only in Canada but on the continent. It could afford to do this because the bulk of the cost of such a policy was transferred to the rest of Canada (via the federal transfer system). For example, to the extent that unemployment increased, the unemployment insurance programme would contribute and when the unemployment insurance benefits ran out, Ottawa would absorb 50% of any welfare payments. And if the effect was to decrease Quebec's revenues, equalization would come to the rescue. The story does not end here. Because of its deteriorating employment situation, Quebec could and did lobby Ottawa successfully for tariffs and quotas to protect labour-intensive industries (textiles, clothing, etc.). Thankfully, driven by cultural and perhaps sovereignty goals and aspirations, Quebec has in recent years largely weaned itself from the bulk of this intergovernmental transfer dependency.

Incentives within the intergovernmental transfers can also have a profound impact on allocation. Part of this relates to the well-known issue of separating the locus for revenue-raising from the locus of spending. In Canada's case this emerged in the form of '50 cent dollars' for all expenditure on health and post-secondary education — Ottawa paid the other 50 cents from general revenues. Because these 50 cent dollars could, for health, only be spent on doctors' fees (not paramedical) and on accredited hospitals (not convalescent homes etc.), Canada became locked into high-cost and institutionalized health care, the problems with which are only now beginning to surface.

Again, these are not limited to Canada, nor to federations for that matter since transfers from central to local governments in the United Kingdom and Sweden, for example, no doubt embodied the same range of problems and concerns.

There is another, quite different, set of concerns here that relate in part to what can be referred to as the general 'democracy deficit'. Federal parliamentarians, in voting appropriation for these massive intergovernmental transfers, have become increasingly concerned about: (i) the 'lack of accountability' to Parliament in terms of how these funds are spent by the provinces, and (ii) the 'lack of visibility' among citizens of the federal contribution, since citizens view medical care, for example, as a provincial service. This latter concern has intensified in the context of the Canadian unity debate because Ottawa feels that this lack of visibility tends to mask its important role in the eyes of citizens and, by extension, tends to diminish the perceived importance of Ottawa in their daily lives. Of course, this aspect should be much less of a concern for an essentially confederal system such as the European Community

4. Automatic regional stabilization in Canada

Concerns relating to the appropriate degree of intercountry stabilization play a major role in current European thinking, particularly in the context of a monetary union. This issue is usually broached by noting that in the face of a country-specific shock there is precious little that the policy authorities of the country in question can do. Exchange-rate changes are, by definition, ruled out. Europe 1992 will prevent both subsidization and protection. Even running deficits may be ruled out if the country is already running up against the Eurofed deficit guidelines (see below). Labour adjustment strategies remain a possibility, but there may be a limited short-term impact of, say, wage restraint if the problem is structural rather than aggregate-demand triggered. And, as already noted, outmigration as an approach to adjustment has not as yet crossed the threshold of acceptability in the European Community. But it is clearly an important option and will likely play a more significant role than most analysts expect. This scenario has led Europeans to think in terms of what might be put in place by way of automatic intercountry transfers, fiscal or otherwise, to ensure that the affected country will not be tempted to opt out of the currency union. Among the possibilities here are adjustment grants with IMF-type conditionality, equalization payment schemes and EC-wide unemployment insurance. In order to assess the nature of the challenge, it is important to establish the degree of interregional stabilization in other monetary unions.

Sachs and Sala-i-Martin (1989) have investigated the automatic stabilization characteristics of the US monetary union. Under the assumption that, *ceteris paribus* a US region is hit with a one-dollar decline in income, their findings point to a rise in federal transfers of 6 to 10 cents. However, the more powerful economic stabilizers operate on the tax side — of the order of a 30 cent decline in the affected region's outpayments. Thus, Sachs and Sala-i-Martin conclude that, in tandem, tax-transfer adjustment eliminates as much as 40% of any decline in regional incomes.

Since there are, at present, no Community-wide taxes that play the same role in Europe as do personal and corporate taxes in the US economic and monetary union, the scope for automatic intercountry stabilization in the European Community is minimal. Indeed, Eichengreen (1990, p. 142) suggests that in terms of the three principal Community revenue categories (VAT, customs duties and agricultural levies) a one-dollar fall in national (Member State) income would reduce taxes paid to the European Community by no more than one cent (in contrast to the 30 cents for the USA, as indicated earlier).

What is the nature of the Canadian system of automatic stabilizers? While the ensuing analysis will largely be descriptive, with some rough guestimates in terms of the potential for interregional offset, the object is to assess the Canadian system in relation to the methodology that Sachs and Sala-i-Martin have adopted for the USA. However, as the paper (in this volume) by Charles Goodhart and Stephen Smith argues, the methodology underpinning these US numbers and, therefore, the numbers themselves, may be quite far off the mark. In particular, Goodhart and Smith would define variations in the levels of fiscal expenditure and taxes that are functions of the level of economic activity as being essentially redistribution, not stabilization. In contrast, stabilization would involve variations in fiscal expenditure and taxes that are functions of the rate of change in economic activity. The equations estimated by Sachs and Sala-i-Martin focus on levels. This issue is dealt with *inter alia* in the following analysis.

4.1. Interregional stabilization: Impact on provincial revenues

In the fiscal year 1990-91, federal transfers to the provinces amounted to CAD 36 billion, with roughly two thirds of this in the form of cash transfers and one third in the form of a transfer of income tax points under Canada's shared (federal-provincial) income tax systems. These direct cash transfers account for 22% of total federal programme spending with total transfers (including tax points) accounting for 33% of federal programme spending. Three programmes account for the bulk of these transfers — equalization (CAD 8 billion), health and post-secondary education (CAD 20 billion, of which roughly CAD 8 billion is in the form of cash transfers) and welfare (just under CAD 6 billion).

4.1.1. Equalization

Canada's system of unconditional equalization payments focuses on the revenue side and includes 33 revenue sources. For each of these revenue sources, a representative base (representative of average taxing practice across the provinces) is chosen. This base is then multiplied by national average rates of taxation for this revenue source. These representative revenues from the 33 sources are then summed to arrive at an aggregate total for each province. This aggregate is then put on a per capita basis.

The equalization standard since 1982-83 has been the so-called five-province standard. The five provinces are Ontario, British Columbia, Quebec, Saskatchewan and Manitoba. Excluded from the standard is the province with the highest per capita revenue-raising capacity (Alberta) as well as the four provinces with the lowest per capita revenue-raising capacity (the Atlantic provinces). Both Alberta and the Atlantic provinces have roughly 9% of the total population. The value of the standard is simply the estimated per capita revenues from these 33 sources for the five provinces that make up the standard.

If a province has per capita revenues above the standard (as measured by applying the national average tax rates to the representative tax bases in the province), its equalization is set at zero. In other words, rich provinces do not pay into the equalization system, i.e. payments come from Ottawa's consolidated revenues. Thus, this is not the German-style equalization which involves direct transfers from rich to poor *Länder*. On the other hand, if the revenue-raising capacity of a province falls below the five-province standard, it receives equalization payments to bring it up to this standard.

Table 5 presents estimates of fiscal capacity before and after federal transfers for the fiscal year 1987-88. Newfoundland has a fiscal capacity from its own-source revenue equal to 61% of the national average. With equalization, Newfoundland's fiscal capacity rises to something like 91% of the national average. This is not shown in Table 5. Rather, the second column in Table 5 includes equalization as well as other federal-provincial transfers such as payments for 'established programmes' financing (post-secondary education and health) and the Canada Assistance Plan (welfare). The net result is that Newfoundland ends up with a fiscal capacity equal to 96% of the national average. Indeed, if one excludes resource-rich Alberta from the comparison, the fiscal capacities of the remaining provinces range from a low of 93% for Manitoba to 99% for Ontario.

Table 5

Indices of provincial-local fiscal capacity, 1987-88

(% of national average)

	Provincial-local own-source revenue	Provincial-local own-source revenue plus all federal transfers
Newfoundland	61	96
Prince Edward Island	65	96
Nova Scotia	76	94
New Brunswick	71	96
Quebec	85	95
Ontario	108	99
Manitoba	83	93
Saskatchewan	91	95
Alberta	144	129
British Columbia	103	98
National average	100	100

Source: Ministry of Treasury and Economics, Ontario, *Economic outlook and fiscal review: Ontario 1988*, from Department of Finance figures; McMillan (1991), Vol. 2, Table 1.1.

All this is by way of backdrop to the issue at hand. Suppose that income falls by 1% in a given province, what will this imply for the province's revenues? If the province in question is one of the Atlantic provinces (i.e. a province not included in the five-province standard), the answer is that the province's overall revenues will be unaffected because the five-province standard is unaffected. In other words, equalization will ensure full compensation for any loss in the province's revenues. However, the citizens of the province will have to help pay for this extra equalization. For Newfoundland, for example, which accounts for 1,3% of all federal taxes, each additional dollar of equalization the province receives will cost its citizens 1,3 cents (and it would cost Ontario taxpayers 44,8 cents for each additional dollar of Newfoundland equalization).[1] This is, in effect, a guaranteed annual income

[1] The estimated percentage allocation, by provinces of Ottawa's revenues in 1988 is as follows: Newfoundland (1,3), Prince Edward Island (0,3), Nova Scotia (2,7), New Brunswick (1,9), Quebec (20,0), Ontario (44,8), Manitoba (3,5), Saskatchewan (2,9), Alberta (10,5), and British Columbia (11,7). See Horry and Walker (1991, Chapter 3) for more details.

for the poorer provinces which, of and by itself, probably represents an offset in the range of the overall Sachs and Sala-i-Martin total offset for the USA. However, along Goodhart-Smith lines, it is not obvious that these changes in equalization should be viewed as interregional stabilization. If, for example, there is an adverse shock to the Atlantic region then the maintenance of overall Atlantic revenues via equalization should be viewed as interregional stabilization. But if there is no change in the rate of economic activity in the Atlantic region and its equalization increases because of a positive economic shock in one or more provinces making up the five-province standard, then this increase in equalization ought to be viewed more as a redistributive (social cohesion) measure.

The story is quite different for a larger province that *is* included in the standard. Consider a 1% fall in Quebec income. As a result, the standard itself will decrease somewhat (and on this count all provinces' equalization will fall). Second, Quebec's revenues will be brought up to this new (albeit somewhat lower) standard. Third, Quebec taxpayers would pay 20 cents in federal tax for each additional dollar of equalization received by the Quebec Government (see footnote 1). Quebec would still benefit, overall, but by nowhere near as much as would Newfoundland in the previous example. Note that the taxpayer offsets assume that the federal government keeps its budget balanced at all times. If Ottawa runs deficits then these taxpayer offsets would be more in the nature of deferred taxes owing.

Were Ontario to suffer a collapse, the five-province standard would fall. Given Ontario's population weight in the five-province standard (45%), a 1% fall in Ontario government revenues would trigger a 0,45% decrease in equalization for all receiving provinces. Ontario would receive no compensation since it is a 'have' province. However, its residents will benefit to the extent of 45 cents of every dollar that equalization falls (or does not rise) as a result of Ontario's downturn.

Thus, in terms of provincial revenues in the face of an unexpected negative shock, the direct compensation essentially runs from 100% to zero. As noted, however, for the typically vulnerable provinces (e.g. the Atlantic region), the offset is close to 100%.

There is, however, another facet of Canada's equalization programme that is not normally highlighted, even in Canada. This is the so-called stabilization compensation, namely that if a province's revenues, at unchanged tax rates, fall from one year to the next, the province is eligible for compensation from the consolidated revenue fund. Under current arrangements, the first CAD 60 per capita is to be in the form of a grant and anything above this is an interest-free loan. The thinking at the time of its inception was that this provision would not likely ever be used, but it was valuable to the richer provinces largely for credit-rating purposes. For poorer provinces, the regular equalization programme would almost surely dominate this provision. However, all three rich provinces have now drawn substantial payments under this provision — British Columbia in the 1981-83 recession, Alberta for the collapse of energy prices in the mid-1980s and Ontario which, in late 1991 requested close to a billion dollars (roughly CAD 550 million in terms of a grant and the remainder in terms of an interest-free loan). Note that this has some of the desirable features of a stabilization programme as laid out by Goodhart and Smith in that: (i) it is triggered by changes in the rate of economic activity and can even go to rich provinces, and (ii) it is timely; for instance, Ontario's budget of April, 1992 would have assumed that these moneys were forthcoming from Ottawa.

4.1.2. Established programmes financing (EPF)

In terms of the federal-provincial transfers for health and post-secondary education (PSE), referred to as the 'established programmes', the system in place ensures that all provinces have access to something in the order of CAD 750 per capita. These transfers are unconditional — the moneys need not be spent on health or PSE — although there are conditions placed on the provincial health programmes, for example, portability, universality, etc. Some of this transfer takes the form of a transfer of personal and corporate income tax points (which are incorporated into the provincial component of the shared personal income tax and corporate tax systems and which the provinces view as their own revenues). Ottawa then makes up the difference between the value of these tax points by province and the EPF ceiling. For 1991-92, the total value of these EPF transfers is about CAD 20,5 billion, with CAD 12,5 billion accounted for by tax-point transfers and CAD 8 billion in the form of cash transfers.

Since these personal and corporate tax-point transfers are equalized (see the previous section), a negative shock in a 'have-not' (equalization-receiving) province should not lead to increased EPF cash transfers because the decline in the value of the tax points is already compensated for by the equalization programme. There is no double-dipping here. For provinces that are not eligible for equalization, however, any fall in the value of their tax-point transfer would be fully compensated by an infusion of federal cash up to the overall EPF cash and tax-point ceiling. Since the ceiling is effectively frozen in nominal terms as a result of the last two federal budgets, this is unlikely to come into play, although the severity of the ongoing recession in Ontario and its impact on Ontario revenues might mean that this province will witness an increase in these EPF cash transfers. In general, then, EPF would probably fall into the Goodhart-Smith category of a largely redistributive transfer.

4.1.3. The Canada Assistance Plan

The federal government shares the cost, on a 50-50 basis, of all provincial payments for social assistance (welfare) and social services. As a result, the recent two federal budgets, the absolute value of payments under the Canada Assistance Plan (CAP) to the rich provinces (Ontario, British Columbia and Alberta) can increase by a maximum of 5% per year. In effect, this equalizes Canada's federal-provincial transfer system for welfare. What triggered this was the fact that during the 1983-88 Ontario boom this province substantially enhanced the nature of its social envelope, so much so that the growth rates of federal welfare transfers to Ontario were well above those to the less-fortunate provinces. Presumably these 'have-not' provinces could not come up with their own share of welfare spending, whereas fiscally-flush Ontario had no problem in this regard. The essential point is that the Canada Assistance Plan has effectively been equalized in true Canadian fashion. What this implies, for the poorer provinces at least, is that if a negative shock throws more residents on welfare or social assistance, the federal government stands ready to share equally in the cost. This is in addition to the fact that these provinces' provincial revenues are fully sheltered from any decline by virtue of the equalization formula.

The following section deals with the operation of the interregional transfer system as it applies to persons rather than provinces.

4.2. Interregional stabilization: Impact on persons

4.2.1. Unemployment insurance

As already alluded to, Canada's system of unemployment insurance (UI) is an integral part of its interregional transfer system. Recent amendments to the programme have served to reduce the degree to which the scheme is really an interregional redistributional instrument, including the fact that the federal government has withdrawn entirely from the financing of the programme (except to fund temporary deficits). However, as Table 6 reveals, the revised programme still bears little resemblance to insurance. The left panel of Table 6 indicates that the required number of weeks worked in order to qualify for benefits depends on the regional unemployment rate — 20 weeks for low-unemployment areas to 10 weeks for high-unemployment areas. The right panel relates weeks worked to weeks of benefits. Thus, 10 weeks of work in a high-unemployment region like Newfoundland can trigger 39 weeks of benefits whereas 52 weeks (or 152 weeks for that matter) in a region where the unemployment rate is less than 6% will only lead to maximum benefits of 35 weeks. Two other features of the programme are worth noting at this juncture. The first is that the number of weeks of benefits are determined by *where* the person files for UI, not the region where the weeks worked took place. What this means is that the UI system encourages 'back migration', i.e. movement to regions where unemployment is high. Second, Table 6 does not incorporate the fact that self-employed fishermen are eligible for UI, another redistributional (and moral hazard) element in favour of the Atlantic region.

Table 7 contains estimates of the interprovincial redistribution associated with UI for the 1988 calendar year. By way of backdrop, maximum insurable earnings are now (1990) CAD 640 per week and the UI premium for employees is CAD 2,25 per CAD 100 or CAD 14,40 per week for maximum insurable earnings. Employers contribute more than employees (CAD 3,15 per CAD 100 of insured earnings).[1] Weekly benefits are set at 60% of insured earnings. UI benefits begin to be clawed back at income levels above CAD 50 000. A comparison of contributions and benefits by province in Table 7 reveals dramatic interprovincial transfers. Ontario's contributions are almost exactly double its benefits, for an interprovincial transfer of roughly CAD 2,5 billion. From column 3, Newfoundland's benefit/contribution ratio is 4,16 and from column 6 its ratio of beneficiaries to contributors is almost 30%. More generally, the four Atlantic provinces as well as Quebec are clear beneficiaries from the operations of the programme. Intriguingly, the pattern in western Canada does not follow the 'have/have-not' pattern — Manitoba and Saskatchewan are net contributors while 'have'-province British Columbia is a net beneficiary. This has to do with the fact that self-employed farmers are not eligible for UI, on the one hand, while British Columbia's economy is resource-based and highly seasonal (triggering UI in the off-season), on the other. As a final comment on Table 7, the average weekly benefit (last column) does not vary much by province even

[1] As of 1 July 1991 (in the depths of Canada's current recession), unemployment insurance premiums have increased by 24% — employee contributions rose from CAD 2,25 to CAD 2,80 (per CAD 100 of insured earnings) while employer contributions rose from CAD 3,15 to CAD 3,92.

Table 6

Canada's new unemployment insurance programme

Variable entrance requirements

Regional unemployment rate	Weeks of insurable employment needed in qualifying period
6% and under	20
Over 6 to 7%	19
Over 7 to 8%	18
Over 8 to 9%	17
Over 9 to 10%	16
Over 10 to 11%	15
Over 11 to 12%	14
Over 12 to 13%	13
Over 13 to 14%	12
Over 14 to 15%	11
Over 15%	10

Proposed amendment to UI benefit schedule: Number of weeks claimant can receive benefits

Weeks of work	Unemployment rate in claimant's region										
	6% and under	Over 6 to 7%	Over 7 to 8%	Over 8 to 9%	Over 9 to 10%	Over 10 to 11%	Over 11 to 12%	Over 12 to 13%	Over 13 to 14%	Over 14 to 15%	Over 15 to 16%
10											37
11										36	38
12									35	37	39
13								34	36	38	40
14							33	35	37	39	41
15						30	34	36	38	40	42
16					27	31	35	37	39	41	43
17				24	28	32	36	38	40	42	44
18			21	25	29	33	37	39	41	43	45
19		19	22	26	30	34	38	40	42	44	46
20	17	20	23	27	31	35	39	41	43	45	47
21	18	21	24	28	32	36	40	42	44	46	48
22	19	22	25	29	33	37	41	43	45	47	49
23	20	23	26	30	34	38	42	44	46	48	50
24	21	24	27	31	35	39	43	45	47	49	50
25	22	25	28	32	36	40	44	46	48	50	50
26	22	25	28	32	36	40	44	46	48	50	50
27	23	26	29	33	37	41	45	47	49	50	50
28	23	26	29	33	37	41	45	47	49	50	50
29	24	27	30	34	38	42	46	48	50	50	50
30	24	27	30	34	38	42	46	48	50	50	50
31	25	28	31	35	39	43	47	49	50	50	50
32	25	28	31	35	39	43	47	49	50	50	50
33	26	29	32	36	40	44	48	50	50	50	50
34	26	29	32	36	40	44	48	50	50	50	50
35	27	30	33	37	41	45	49	50	50	50	50
36	27	30	33	37	41	45	49	50	50	50	50
37	28	31	34	38	42	46	50	50	50	50	50
38	28	31	34	38	42	46	50	50	50	50	50
39	29	32	35	39	43	47	50	50	50	50	50
40	29	32	35	39	43	47	50	50	50	50	50
41	30	33	36	40	44	48	50	50	50	50	50
42	30	33	36	40	44	48	50	50	50	50	50
43	31	34	37	41	45	49	50	50	50	50	50
44	31	34	37	41	45	49	50	50	50	50	50
45	32	35	38	42	46	50	50	50	50	50	50
46	32	35	38	42	46	50	50	50	50	50	50
47	33	36	39	43	47	50	50	50	50	50	50
48	33	36	39	43	47	50	50	50	50	50	50
49	34	37	40	44	48	50	50	50	50	50	50
50	34	37	40	44	48	50	50	50	50	50	50
51	35	38	41	45	49	50	50	50	50	50	50
52	35	38	41	45	49	50	50	50	50	50	50

though GDP per capita does vary substantially. In other words, UI is part of the overall process that leads to wage convergence even though there has been little in the way of convergence in terms of economic activity, as the earlier tables reveal.

Admittedly, Tables 6 and 7 do not address the issue of what happens to UI payments if there is a province-specific downturn. Rather they are snapshots at one point in time. Table 8 presents some data relating to the behaviour of UI over the 1980s. Nominal payments rose from about CAD 4 billion in 1980 to CAD 10 billion in 1983 at the depth of the recession. They remained at this level throughout most of the 1980s and then increased to new highs during the current recession. In real terms there is a discrete jump in the early 1980s reflecting a corresponding jump in unemployment rates. When unemployment fell back to the 7,5% rate in 1989, real benefits declined only slightly. As the data for the month of January in each of the years 1989-91 indicate, the recent rise in the unemployment rate has triggered another jump in UI benefits. More recent data indicate that, for the first four months of 1991, UI benefits are running 37,7% above the corresponding period in 1990 — CAD 6,78 billion vs. CAD 4,92 billion. Therefore, while these payments do respond to declines in economic activity, it also appears that they have substantial hysteretical characteristics. This relates to the earlier point that UI is much more than an insurance programme — it is part and parcel of Canada's permanent interregional redistribution system.

Table 7

Operations of unemployment insurance, 1988

	Contributions by province([a]), ([c]) (million CAD) (1)	Benefits by province([b]) (million CAD) (2)	Benefits contribution ratio([d]) (3)	Number of contributors([e]) (1 000) (4)	Monthly average number of beneficiaries([f]) (1 000) (5)	Ratio of beneficiaries to contributors (%) (6)	Unemployment rate 1989 (%)	Average weekly payment([g]) (CAD)
NFLD	180,5	751,7	4,16	247,7	71	28,7	16,4	197
PEI	41,0	151	3,68	59,9	12,7	22,4	13,0	199
NS	338,5	567	1,67	406,1	50	12,3	10,2	193
NB	258	628	2,43	326	57	17,5	12,0	197
QUE	2 838,5	3 727	1,31	3 162	322	10,1	9,4	199
ONT	4 932,7	2 469	0,50	5 142	216	4,2	5,0	211
MAN	436	380	0,87	490	35	7,1	7,8	195
SASK	378,5	315	0,83	384	29	7,5	7,5	197
ALTA	1 086,7	898	0,83	1 200	78	6,5	8,0	209
BC	1 326	1 521	1,15	1 404	135	9,6	10,3	206
Canada	11 815([c])	10 852([c])					7,8	202

NB:

([a]) Table 26, *Unemployment insurance statistics* (*Statistics Canada*, 1990, supplement to No 73-001). These data are employee contributions grossed up by the employers' share.
([b]) Table 9, op. cit.
([c]) Contributions exceed benefits by roughly the cost of administration of the plan. In 1988 the federal government contributed a substantial amount CAD 2,764 billion but this was almost exactly the 'surplus' of the fund's operation for the year so that this contribution is ignored.
([d]) Column 2 divided by column 1.
([e]) Table 25, op. cit.
([f]) Table 21, op. cit.
([g]) Table 13, op. cit.

Table 8

Cyclical aspects of unemployment insurance

Year month	Number of beneficiaries (1 000 CAD)	Benefits paid (million CAD)	Real benefits paid (1981) (million CAD)	Number of weeks paid (1 000 CAD)	Average weekly benefit (CAD)	Real GDP growth (%)	Unemployment rate (%)
1979	2 332	4 008	4 966	36 896	108,63	3,9	7,4
1980	2 274	4 393	4 941	36 333	120,92	1,5	7,5
1981	2 432	4 828	4 828	37 011	130,45	3,7	7,5
1982	3 123	8 575	7 739	60 441	141,88	3,2	11,0
1983	3 396	10 169	8 676	66 585	152,72	3,2	11,8
1984	3 221	9 985	8 164	61 862	161,42	6,3	11,2
1985	3 181	10 226	8 039	59 788	171,05	4,8	10,5
1986	3 136	10 513	7 940	58 063	181,07	3,3	9,5
1987	3 079	10 440	7 554	54 875	190,26	4,0	8,8
1988	3 016	10 852	7 546	53 526	202,75	4,4	7,8
1989	3 025	11 528	7 634	53 399	215,88	3,0	7,5
1990	3 260	13 189	8 336	57 052	231,18	0,9	8,1
1989 January	1 233	1 179		5 447	216,58		7,6
1990 January	1 256	1 286		5 543	232,07		7,8
1991 January	1 492	1 788		7 319	244,29		10,2[1]

[1] February 1991.

4.2.2. The tax-transfer system

Marginal tax rates for the federal income tax are 17% on the first CAD 28 275 of taxable income, 26% on the next CAD 28 275, and 29% for incomes above CAD 56 550. For the nine provinces (all but Quebec) that 'piggy-back' on the federal system the overall (federal and provincial) marginal rates are in the region of 26, 39 and 44%. In addition, Canada has some refundable tax credits that are fully clawed back beyond some income threshold — for example the child tax credit of CAD 575 per child (1990) is clawed back at a 5% rate beginning at CAD 24 769. Beyond this there is the whole range of direct transfers to persons — old-age security, guaranteed income supplements for the elderly, spouses' allowances, family allowances, veterans' pensions, etc. Excluding unemployment insurance, these amount to about CAD 25 billion. While some of these are in the nature of demogrants and, therefore, largely independent of the cycle, others are not. Family allowances and old-age security are not only taxable but fully clawed back for incomes above CAD 50 000 or thereabouts. And the guaranteed supplement for the elderly has a 50% tax against other income.

If the comparison is made with the USA, the Americans tend to finance much of their social security via dedicated payroll taxes whereas Canada relies more on consolidated revenue (i.e. general taxation). Moreover, the Americans do not have an equivalent to the Canadian goods and services tax (GST, i.e. VAT). Finally, about one-third of total personal income taxes in Canada go to the provinces which is probably a higher percentage than goes to the American states. This provincial proportion does not contribute to interregional stabilization.

This paper does not attempt to reproduce the Sachs and Sala-i-Martin calculations for Canada. As already noted, they estimate that on average the fall in disposable income as a result of the operations of the federal tax-transfer system is between 61,6 and 65,1 cents on the dollar. Or, in other words, the federal government absorbs somewhere between 35 and 40% of the interregional cyclical income imbalances via the tax-transfer mechanism.

4.3. Recapitulation

While hard figures are not provided here, it is apparent that the Canadian interregional stabilization (redistribution?) system is not only far more generous than that in the USA but is also more cyclically sensitive. Under the assumption that the operations of the federal tax-transfer systems are roughly similar to those in the USA, we then have to add the generous UI transfer system as well as the federal-provincial transfers. Recall that the equalization component of the latter implies that the provincial revenues of the four Atlantic provinces cannot fall relative to the five-province standard. Moreover, any increases in welfare are shared 50-50 by Ottawa. There are, however, considerable differences across provinces, driven largely by the operations of the federal-provincial transfer system.

In an important sense, the precise numbers are beside the point, at least from the perspective of this paper. Rather the issue is one of trading off interregional stabilization, on the one hand, and transfer dependency, on the other. Canada has gone way too far in terms of the latter. The penultimate section of this paper attempts to draw some implications for Europe. The following section deals with another concern of the European Community as it moves toward economic and monetary union, namely the fiscal freedom of Member States.

5. Member State deficits and price stability

5.1. Independence of the Eurofed

Price stability is the '*sine qua non* for economic and monetary union' (Commission of the European Communities, 1990b, p. 12). Accordingly, the Europeans are taking rather drastic measures to ensure that the proposed Eurofed will be unconstrained in its pursuit of price stability. Towards this end, the first measure that the Europeans propose is to break completely the link between the existing national central banks and their respective governments. Once this occurs, the European Community will create a new institution — the Eurofed — which would have a federal structure. Specifically, the Eurofed would be placed under the 'authority of a Council composed of the 12 governors of the Community central banks and of a smaller number of members from the Eurofed itself' (ibid.). Once again, the emphasis is on independence. From Article 106a of the draft Treaty (Commission of the European Communities, 1990a, p. 10):

'2. In performing their duties, the European Central Bank, a central bank of a Member State and members of their decision-making bodies shall neither seek nor take instructions from the institutions of the Community or its Member States or from any other body.

The Community and the Member States shall not seek to influence the European Central Bank, the central banks of the Member States and the members of their decision-making bodies in the performance of their tasks and shall respect their independence. To that end, the Member States shall amend, where necessary, legislation governing relations between their central banks and their national governments'.

Another aspect of this independence relates to the prohibition of 'bail-outs': 'the European Central Bank may under no circumstances grant to the Community or to any one of its Member States or to any public body a loan or any other credit facility intended to make good a budget deficit' (ibid.). However, the constraints go beyond the severing of the Eurofed-Member State relationship. In the case of imbalances, a Member State would not even be allowed to benefit from an unconditional guarantee with respect to its public debt either from the Community or from another Member State (Commission of the European Communities, 1990b, p. 26).

5.2. Deficit constraints

In principle, Member States remain fiscally autonomous. In practice, however, this freedom will be subjected to the Community goal of price stability. Apart from measures already alluded to, the principal way that this will occur is via deficit control:

'Excessive [Member State] budget deficits may endanger the stability-oriented monetary policy. As a matter of principle, excessive budget deficits therefore must be avoided and this should be stated in the Treaty [it *is* stated in the draft Treaty]. In practice, the judgment whether a deficit is excessive is related to the sustainability of the fiscal position, which cannot be evaluated in isolation from an overall assessment of the economic situation and development, and should therefore be an integral part of multilateral surveillance. Nevertheless, some yardstick would seem necessary for the identification of excessive deficits. Despite its definitional shortcomings, the golden rule of public finance, i.e. that public borrowing shall not exceed investment expenditure, appears the most satisfactory from an analytical point of view and is the only one widely applied in existing federations. Complementary to this rule, other objective criteria, such as deficit and debt to GNP ratios might prove helpful in this context. These rules and criteria will have to be laid down in the Council regulation covering multilateral surveillance' (Commission of the European Communities, 1990b, p. 25).

This is not mere rhetoric. All member nations would be borrowing in the new European currency, not their own currency. The fear is that this removal of currency risk from country debt obligations might encourage even more borrowing on the part of several nations. And in 1989, five of the 12 member countries had fiscal deficits of more than 5% of GNP, with Greece (17,6%) and Italy (10,2%) leading the way. Thus, national fiscal flexibility, at least in terms of deficit freedom, will be constrained to ensure that these actions do not compromise the actions of the Eurofed in terms of pursuing price stability. The economic and monetary union Treaty signed at Maastricht effectively embodies these principles — countries will be required to bring their debt/GDP ratios down to 60% (or be committed to a credible schedule that will bring the ratio down to this rate) for eligibility to the monetary union. Moreover, the deficit/GNP rate cannot exceed 3%. Currently, countries such as Italy run foul of both of these provisions, while German unification temporarily puts this country offside *vis-à-vis* the deficit/GDP target.

Second, Member States would be constrained (or at least closely monitored) when it comes to external borrowing in a currency other than the European Community currency.

Can the Canadian experience lend any insight here? The answer is a qualified 'yes'. In particular, Ontario's fiscal behaviour over the 1980s and the early 1990s is especially instructive.

5.3. Ontario budget and price stability

Thanks to the surge in the North American motor vehicle industry, Ontario pulled out of the early 1980s recession well before the other provinces. Over the 1983-88 period the Ontario economy was booming. Real GDP growth (deflating by the consumer price index) averaged about 4% per year. Wage inflation in Ontario and particularly public sector wage inflation was running consistently ahead of the rest of the country. Consider the following data for public sector wages, where the first percentage figure for each year relates to Ontario and the second to the rest of Canada — 1983: 6,2 vs. 4,5%; 1984: 5,4 vs. 3,1%; 1985: 5,2 vs. 2,5%; 1986: 5,0 vs. 2,9%; 1987: 4,9 vs. 3,7%; 1988: 5,0 vs. 4,2%; 1989: 6,5 vs. 4,9%, and 1990 (first quarter): 7,9 vs. 4,9%. The fear on the part of the Bank of Canada was that the very costly 1980-82 recession (Canada was hardest hit among the Group of Seven (G7) countries by this recession) may not have wrestled inflation to the ground. In the light of this concern about the resurgence of inflation, appropriate policy for Ontario would have been to take some steam out of its boom. However, rather than 'saving' its fiscal dividend, Ontario 'spent' it. For example, over 1986-89 welfare spending in Ontario increased annually between 14 and 17% per year, largely because Ontario chose this occasion to enrich its system. In the event, the Ontario inflationary pressure spilled over to the rest of Canada and this is one of the reasons that Canadian interest rates came to be 500 basis points above US rates.

Setting aside the issue of whether our macro-authorities were pursuing appropriate policies, the fact is that Ontario was clearly and severely complicating their task. What is relevant for Europe here is that throughout this period Ontario would not be violating any European-style deficit or debt limits: in the early boom its deficits as a percentage of GDP were slightly above 2%, falling to just over 1% in the mid-boom and to rough balance at the end. Thus, the European conception that high-deficit Member States are the sole concern on the fiscal front is, in my view, misplaced. Indeed, were Prince Edward Island intent on running 10% deficits through this period, this would not be particularly constraining in terms of pursuing price stability. Of course, Prince Edward Island would be in trouble — or perhaps not, since the bond-rating agencies would have jumped on the province immediately.

The second Ontario episode is even closer to the concerns of the European Community. In the 1991 federal budget, the Department of Finance and the Bank of Canada struck an accord of sorts. After nearly a decade of budgetary deficits in the CAD 30 billion range, the Department of Finance finally bit the bullet — the federal deficit will fall (according to its estimates) from CAD 30,5 billion in fiscal 1991-92 to CAD 6,5 billion in 1995-96. There were two other initiatives associated with the budget. First, the Department of Finance proposed legislated spending limits, and second, it bought into the Bank of Canada's inflation targets.

Again the issue is not whether one agrees with the macro-policy thrust. What is relevant is that after the better part of a decade where the Department of Finance and the Bank were effectively working at cross-purposes, they have finally reached a consensus. Part of the federal strategy is to shift some of the deficit to the provinces. For the most part, the provinces reacted with cuts and freezes of their own. For example, Quebec froze civil service salaries (including academic salaries) for six months, with guidelines for wage increases beyond the freeze.

Ontario did not cooperate. In one fell swoop, as it were, this province effectively overturned the shift in the policy mix at the federal level. Ontario projects a deficit for the fiscal year 1991-92 of CAD 9,7 billion (Table 9). Moreover, this deficit is structural in that by the fiscal year 1994-95 the shortfall will still be above CAD 7 billion. Including the current deficit of CAD 3 billion plus, this amounts to an increase in Ontario's debt of nearly CAD 40 billion over the next four years, or roughly CAD 4 000 per Ontarian. As the figures for Ontario in Table 9 indicate, this represents a doubling in this province's debt. All bond-rating agencies have already lowered Ontario's credit rating one notch (from the ratings in Table 9), with the likelihood of more to come.

Underlying this move is a bitter philosophical battle between Ontario and Ottawa which need not concern us here. The point is that Ontario is compromising the inflation targets and federal macro-policy in general. This is particularly true in terms of public sector wages where the earlier data extended to 1992 will reveal a gap in the order of 5% or

Table 9

Provincial deficits and debt, 1989-91

Province	Budgetary deficits (+) or surplus (−) (million CAD)			Net debt (1991-92) (million CAD)	Debt/GDP (1991-92) (%)	Bond ratings	
	1989-90	1990-91	1991-92			Moody's	Standard & Poor's
Newfoundland	175	377	295	3 916	42,5	Baa1	A−
Prince Edward Island	8	22	9	229	11,0	A3	—
Nova Scotia	398	393	455	4 850	27,6	A2	A−
New Brunswick	154	328	311	3 366	24,5	A1	A+
Quebec	1 659	2 795	3 480	39 761	24,4	Aa3	AA−
Ontario	−90	3 045	9 726	48 180	16,7	Aa2	AAA
Manitoba	119	369	469	5 635	22,7	A1	A+
Saskatchewan	378	358	265	3 938	18,7	A2	AA−
Alberta	2 324	1 086	−33	−1 801	−2,4	Aa1	AA
British Columbia	−358	689	1 192	12 322	5,4	Aa1	AA+
All provinces	4 767	9 462	16 169	120 396	16,1		

NB: Deficit run figures for 1990-91 are preliminary estimates; data for 1991-92 are forecasts from provincial budgets.

more. More to the point, this fiscal expansion will raise interest rates and crowd out some of the intended Ontario gains. This is doubly ironic because a major part of Ontario's concern has been the Bank's pursuit of a high interest- and exchange-rate policy.

It is clear that something has gone seriously awry on the macro-front in Canada. One of the measures that appears to be gaining support is to break the parliamentary link between the Bank and the Department of Finance and to reconstitute it along US Federal Reserve lines, replete with regional directors. This would give the Bank full independence including the ability to speak out against fiscal excesses at both levels of government. (It is important to note that the Bank never commented on Ontario's fiscal policy during the 1983-88 boom nor in advance of Ontario's recent budget, even though it was widely anticipated that the province would run up its deficit. Part of this silence relates to the current parliamentary relationship.) Once the Bank is fully independent and presumably committed to inflation targets it will become more obvious to Ottawa and the provinces that some coordination of fiscal policy is in the nature of a public good. Indeed, mechanisms for enhancing federal-provincial fiscal coordination are an integral part of the federal government's set of constitutional proposals.

Prior to focusing on implications for Europe, it is probably useful to direct further attention to Table 9 which presents a profile provincial deficit and debt figures over 1989-91. The sum of provincial net debt as of 1991 is CAD 120 billion compared with some CAD 400 billion for Canada's national (federal government) debt. However, this is about to change quite dramatically as a result of the last two federal budgets which, as noted, will serve to 'shift' some of the federal deficit to the provinces. As also already noted, Ontario's own forecasts are that its debt will more than double over the next four years. The nature of the cuts in federal-provincial transfers are such that all provinces will experience substantial fiscal pressure over this period. While most provinces will not follow Ontario's deficit strategy, aggregate provincial debt could easily be close to the CAD 200 billion range by 1995 which would be likely to put it at more than one third of the then-likely federal debt.

What has this to do with Europe? Again, perhaps not much. The Ontario-Ottawa split is not easily transferred to Europe. Perhaps the early Mitterrand years come closest. But the analogy is strained because France had its own central bank. (It may well be that Ontario will, *à la* Mitterrand, also be forced into a U-turn, but this is beside the point.) While former Bundesbank President Karl Otto Poehl has admitted that the unification of Germany has been a disaster (largely because the unification took place at an inappropriate rate for the East German mark), this example is also quite different. However, were the Eurofed already in place at the time of German unification, the analogy would obviously be closer.

The general point here is that the Eurofed (or Bank of Canada) inflation targets are more likely to be put in jeopardy when a superpower like Germany (or Ontario) strikes off on its own than when a lesser Member State (or province) runs up deficits. This is not meant to downplay the EC concern with respect to the level of deficits in certain countries. However, the credit-rating agencies will be likely to play a key role for these countries or provinces.[1]

More difficult to cope with in terms of pursuing price stability is the potential for errant fiscal behaviour on the part of a powerful country. For example, what is surprising is that Ontario's credit rating only dropped one notch in spite of a proposed doubling of the province's debt over four years. Presumably economically powerful Germany could flex its fiscal muscle quite widely without any reaction from bond-rating agencies. In other words, what is essential is fiscal coordination in general and not merely deficit control over the budgets of lesser Member States.

Indeed, this is what I always thought the operations of the European Monetary System (EMS) were all about. (What follows may reveal the impact of distance on understanding.) Specifically, suppose that as a result of an export boom in Germany there is upward pressure on the EMS *vis-à-vis* the dollar. The German mark will not appreciate enough to offset the boom because the operations of the 'snake' will overvalue other EC currencies. Thus, part of the tendency toward an export surplus in Germany will be transferred to a tendency toward current account deficits in the rest of the European Community. Coordinated Member State fiscal policy (and particularly the need for Member State fiscal policy to temper booms) is the ideal way to address this problem, not only in Europe but in Canada as well.

I recognize that in spite of the safeguards built into the institution, the proposed Eurofed may be more subject to political pressure than is the Bundesbank. This in turn sets

[1] At a working session in June 1991, previewing drafts of these papers, this point was discounted. The argument was that all the major countries in Europe have triple-A ratings from Moody's Investors Service Inc. However, on 1 July 1991, Moody's downgraded Italy's credit rating to double-A1 from triple-A. This will not only create problems for Italy if and when it attempts to access international capital markets but it also provides ammunition for other Member States for their criticism of Italy's financial policies. More to the point, once a Eurofed is in place and countries no longer have access to their central banks as a source of money finance, then the role of these credit-rating agencies will increase in importance. In other words, the position of Italy in this regard will not be much different than that of a Canadian province.

the stage for an Ontario-Ottawa type clash in Europe over appropriate macro-policy. Hence, the fiscal policy framework must, in my view, go beyond whether Greece or Portugal are running deficits above some acceptable level. Indeed, the question that arises in this context is whether there is a need for a European fiscal authority (a 'Eurofisc') as a stabilization counterpart to the Eurofed. I think that there is. This can be important in its own right since fiscal policy alters any potential production/absorption gap in a manner quite different from monetary policy. More to the point, this flexibility may be necessary to offset the combined fiscal policies of Member States.

Finally, I believe, but cannot document, that public choice theory would suggest that this fiscal coordination is easier to achieve in an oligopolistic, confederal Europe than in similarly oligopolistic, but parliamentary federal, Canada.

6. Will Portugal leave the European economic and monetary union?

At this juncture, it seems appropriate to introduce another aspect of the Canadian experience into the analysis, namely how easy is it to 'exit' from a monetary union? The general thrust of much of the EC literature appears to be that certain policies have to be put in place so that country-specific shocks will not trigger an exit from the single European currency. And as the paper by Goodhart and Smith (in this volume) notes, 'our prior beliefs would be that an area as large, culturally diverse, and geographically differentiated as the Community is bound to continue to receive sizeable asymmetric shocks'. I agree. The purpose of this section is not to argue that such policies should not be put in place, but rather to fall back on Canadian experience to make the point that exit will be very difficult. Obviously, the reference to Portugal in the title of this section is intended to be representative of any Member State.

Not surprisingly, the Canadian experience relates to the potential break-up of the country and the emergence of a sovereign Quebec. Once again, any comparison to Europe is a bit strained because of the existence of a CAD 400 billion federal debt, Quebec's 'exit share' of which, on a population-share basis, would be in the range of CAD 100 billion. Presumably there would be no EC equivalent to this Canadian debt overhang, so that on this score exit would be easier in Europe. Even setting this critical aspect aside, it will be difficult for Quebec to break away from the Canadian political and monetary union and to establish its own currency. In this context, it is my view that one of the reasons that the international capital markets have not come down harder on the Canadian political crisis is that no Quebec politician (of any stripe) has ever suggested that Quebec should establish its own currency in the event that it opted for independence. However, if Quebec does become sovereign, a full-blown Canada-Quebec economic and monetary union along the lines of the EEMU is probably not on the cards (see Courchene, 1991b). Thus, recent thinking in Quebec has evolved in the direction of simply using the Canadian currency in the event of a break-up. Intriguingly, Quebec could end up with a monetary union with the rest of Canada, but not an economic union. Presumably, trade would be secured via a series of FTAs with the rest of Canada (ROC) and the USA or, failing this, along GATT lines.

There is some disagreement in the ROC as to whether it would be possible to prevent Quebec from using the Canadian dollar — the issues revolve around access to the clearing system, the availability of currency, and various technical considerations. There is even more disagreement with respect to the desirability of this. It is clear why it is in Quebec's interest — it can latch on to the credibility of the Bank of Canada in terms of price stability. Moreover, all assets and liabilities in Quebec are now denominated in Canadian dollars. If Quebec were to go to a separate currency these liabilities would presumably remain in Canadian dollars or else there would be a massive flight of capital out of Quebec (including by Quebecers) in order not to get stuck in a new currency which would be likely to be devalued. Hence the attraction of using the Canadian dollar.

The question of desirability from the ROC's vantage point is less clear. Of course, ROC would garner seigniorage from Quebecers (although Quebec wants to claim this, either directly or in terms of compensating concessions). Beyond this, the typical analogy suggested is that of Panama or Liberia which use the US dollar. But these analogies are not very relevant because there is precious little that Panama, for example, can do to compromise the operations of the US Federal Reserve. Not so with respect to Quebec, since 25% of the Canadian currency would be outside the control of the Bank of Canada. Suppose that Quebec were to run substantial current account deficits in Canadian dollars. This would put pressure on the Bank's foreign exchange operations with no ability on the part of the Bank or the ROC government to alter Quebec's policies.

On the other hand, an attempt by the ROC to stymie the use of the Canadian currency may simply drive Quebec to use the American dollar. Over the long term, this may well be the better choice for Quebec, since trade flows are increasingly north-south. But if Quebec opts for the US dollar this may weaken the Canadian currency area to the point where Canada may also have to lock onto the US dollar.

Finally, there are ways that Quebec might finesse all of this. For example, suppose that the equilibrium level for a new Quebec currency is 10% less than the Canadian dollar exchange rate once all federal-provincial and interregional transfers between Quebec and the ROC come to an end. The degree of social cohesion in Quebec (which is more like continental Europe in this regard than the USA or the rest of Canada) may be such that the province can engineer an 'internal' devaluation either by decree or by ensuring that over a short time period the pace of wages falls 10% below that in the ROC. Then Quebec could denominate these wages and prices in terms of its new currency which it would then fix one-to-one with the Canadian dollar. This would not only minimize transaction costs (since parity would prevail) but it would give Quebec a competitive advantage *vis-à-vis* both Canada and the USA. In order to maintain external confidence in the new currency, Quebec could initially operate a version of a 'currency board' where the new currency would be backed fully by the Canadian currency. This would be a convenient half-way house toward an eventual full-fledged Bank of Quebec. I have painted a rosy picture of this possibility — far too rosy since it likely implies a very acrimonious break-up. The point of all of this is that it is very difficult to withdraw from a currency union. As already noted, while there is continuous discussion in Quebec about sovereignty there is no discussion about a separate Quebec currency, even though I believe this to be highly probable if Quebec becomes sovereign.

On the surface, the situations of Portugal or Greece or Spain would appear to be quite different from Quebec. For example, these countries have their own currencies and central banks so that exit from an EMU would really be a return to the present status quo in this regard. Moreover, as noted earlier, Brussels is unlikely to acquire the debt overhang that Ottawa has accumulated so that the 'bonds that tie' aspect of the Canadian scene is absent in the European Community.

Nonetheless, my view is that exit from the EMU will still be very difficult. To see this, assume that the EEMU is in place for at least a decade. Among other things, at this point all assets and liabilities will presumably be dominated in terms of ecus. This will complicate any attempt to reintroduce a separate currency, since the expectations of capital markets will be, correctly, that the real intent is to eventually devalue the separate currency. Here the Quebec analogy is relevant. If the reason for withdrawal has to do with the desire to mount various barriers to the economic union, the exiting country may simply attempt to 'use' the ecu. My view is that the European Community will take a very dim view of this since other nations may then follow suit. None of this even addresses the real costs of exit, namely the loss of access to the single European market, particularly since these very countries are likely to be substantial winners under an EEMU (even accounting for Dornbusch's loss of seigniorage concerns (1988)).

The message here for Europe is that too much weight can easily be placed on the likelihood of exit and, as a result, the Community might be driven too far in the direction of Canadian-style regional policy and equalization. Were this to occur, there may well be a problem relating to exit — but it will then likely come from the more powerful European states.

6.1. The 'entry' issue

There is, however, another facet of all of this that comes quite naturally to a Canadian. If Quebec will have 'exit' problems because of inheriting a debt/deficit overhang, will not Italy have 'entry' problems with its enormous national debt/deficit overhang? I think it will. So does the European Community, as reflected in the entry requirements (debts, deficit, inflation) formalized at Maastricht. Some way will no doubt be found — part via increased discipline and part via creative off-loading (or privatization) of the Italian debt to subnational entities — to set Italy on a credible path that will lead to the required 60% debt/GDP ceiling for EEMU entry. But then what? Two separate sorts of problems will arise. First, suppose that the excess debt/GDP ratio of Italy (albeit appropriately camouflaged in some way) is, for illustrative purposes, still 50 percentage points above that of neighbouring Member States. At interest rates of 10%, this means an extra tax burden of 5% of GNP. How and where does one find room for this tax in a combination of Europe 1992 and EEMU, particularly given that their traditional sources of 'captive' Italian domestic debt placement will begin to erode under the single market? Significant tax differentials will be highly problematic, particularly in the initial years of the single market where footloose industry will search for locational vesting, although admittedly some taxes are better candidates than others in terms of preserving competitive advantage. Alternatively, and essentially equivalently for purposes of the point I am trying to make, Italy could embark on an austerity/tax-hike programme in an attempt to put its fiscal house in order.

The general issue is that this is a very difficult transition process and, just as Quebec might have to devalue if it opted for a separate currency once its share of the debt was absorbed and the existing Canadian transfer system no longer applied, so too Italy would presumably make a case that, given its new circumstances, it should enter EEMU at a lower exchange rate for the lira. In the long run, the entry level exchange rate will presumably be irrelevant because competitiveness under EEMU will be driven by productivity and the pace of wages. But it is an obvious transitional advantage to offset the transitional disadvantage or burden of bringing its debt and deficits into the range to qualify for EEMU entry. Presumably, concerns such as these led Spahn (in this volume) to raise the option of having excessive parts of national debt of a member nation transferred into wind-up funds where the Community could play some role in terms of rescheduling and perhaps even in terms of redemption. Of course, this sort of scheme has some potential for all the incentive-distorting and moral hazard problems as the earlier analysis with respect to the transfer system. Conditionality or, in the European parlance, 'additionality' (i.e. additional discipline on the part of the Member State) features would be critical aspects of any proposed scheme.

Apart from any entry problems, there may also arise a stabilization concern. Most debt/deficit-ridden countries that succeed in entering EEMU will presumably do so close to their debt and deficit targets. What happens when one of these countries is hit by a country-specific shock? The likely answer is 'perverse' fiscal or stabilization policy — as their revenues fall as a result of the shock they are forced to pare back expenditure as well, since they are (assumed to be) up against the debt/deficit limits. Other countries with a lot more fiscal flexibility have correspondingly a lot more options open to them. For high deficit/GDP countries it is clear that labour market solutions — outmigration, social dumping, etc. — are among the key elements of what flexibility does remain. (See section 7.4 for more on 'social Europe'.) Maastricht has attempted to anticipate this by its staged guidelines for entry. However, it would be the ultimate irony if what began with the Treaty of Rome in 1957 ended up with an EEMU that excluded Italy! This is part and parcel of the general point that current EC thinking appears to place too much emphasis on designing redistributive schemes to minimize the possibility of exit and insufficient emphasis on ensuring successful entry. Given the inherent difficulty of predicting *ex ante* the distribution of benefits and costs across Member States, concerns about the sustainability of EEMU from the vantage point of 1992 would seem to argue for more focus on policies designed to address entry.

7. Challenges to European economic and monetary union

Among the conclusions of the above analysis as they relate to Canada is that we have gone too far in terms of interregional stabilization. The result has been to generate a comprehensive and entrenched system of implicit barriers to the economic union — barriers that in the final analysis serve neither place nor people. Of course, these policies may contribute to what the Europeans refer to as 'social cohesion and interregional solidarity' but they do so in a manner that leaves social cohesion unintegrated with, and frequently running counter to, economic imperatives. The EEMU will turn out to be a pyrrhic victory if in the process it emulates these aspects of the Canadian experience.

The principle of subsidiarity, the low level of Community spending and the current situation where interregional redistribution is, except for agriculture, rather minimal would seem to auger well in terms of avoiding the Canadian disease. Nonetheless, the purpose of this part of the paper is to wave some warning flags in terms of areas or policies that have the potential for overwhelming the benefits that will come with Europe 1992. Others (van Rompuy *et al.*, 1990, and van der Ploeg, 1990) have also raised concerns along similar lines. I shall endeavour to focus on yet other problem areas but where there is overlap the perspective will be different because my filter is the Canadian experience.

Of course, this will be a very subjective exercise. Up to this point, the analysis has focused on the Canadian experience in terms of some of the issues that are now playing centre-stage in Europe. In the remainder of the paper the approach is reversed — what appear to be the evolving European trends and what insight, if any, can a Canadian perspective lend to these emerging trends?

7.1. From negative to positive integration

Europe 1992 basically strives to remove the barriers to the single market or to enshrine the 'four freedoms' — 'creating a market without internal frontiers which entails the removal of all barriers to the free movement of goods, services, labour and capital' (Leslie, 1991b, p. vii). In European parlance, 1992 is largely an exercise in 'negative integration' — integration brought about by market agents as a result of the removal of official constraints on economic interactions (Teague and Grahl, 1991, p. 209). For the purposes of this paper, 'positive integration' means both 'integration via common and unified public policies' (Teague and Grahl, 1991, p. 209) as well as measures designed to enhance social cohesion and interregional solidarity.

As Purvis (1992) has emphasized, at each stage along the process of integration from autarky to a free trade association to a customs union to economic and monetary union ... through to political union (some version of a nation

State), it is likely that aspects of both negative and positive integration will be present. However, in the earlier stages of integration, negative integration will likely dominate while in the later stages much greater emphasis will be placed on positive integration. Thus, one expects and does find aspects of positive integration as part of Europe 1992. For example, the increased scope for common decision-making and the coordination or at least harmonization of certain EC-wide policies is a case in point. From Leslie (1991b, p. 34):

'Community competences have been extended into new areas such as environmental protection and worker safety. Common or harmonized "framework policies" such as laws on takeovers and mergers, patents and intellectual property, fraud, bankruptcy and even corporate taxation have been judged necessary or desirable in order to dismantle internal frontiers.'

It is possible to argue that the principle of 'mutual recognition' of another Member State's regulatory authority (e.g. as reflected in the 'home-country rule' approach to financial regulation) represents a major initiative in the direction of positive integration. Perhaps it does. But Leslie (1991b, p. 10) offers an alternative view:

'In order to avoid massive centralization of regulatory activities within the Community, through the compulsory "approximation of laws", the Single European Act provided for an alternative mechanism to accomplish the same purpose. The Act required the Commission to draw up, in 1992, an inventory of national laws, etc. which had not yet been harmonized and empowered the Council — by qualified majority — to decide that the provisions in force in a Member State must be recognized as being equivalent to those applied by another Member State (Article 100b).'

Consistent with this view, in an earlier paper Leslie (1991a) labelled the Europe 1992 integration process as 'centralizing without federalizing'. It is in this sense that I view Europe 1992 as predominantly an exercise in negative integration. Thus, there is little scope for erecting implicit barriers *à la* Canada.

But there is still some scope. For example, the more that a 'fortress Europe' mentality pervades the 1992 process, whether in terms of cars or semiconductors or whatever, the more general will overall rent-seeking become and the less able will one be able to counter it. Moreover, this rent-seeking will clearly be heightened the more that EC industry evolves around a 'national champions' approach rather than a 'Europeanization of industry' approach (Commission of the European Communities, 1990e, p. 5). Countries without champions will demand compensation or, worse still, aid or protection to create their own champions.

The move beyond Europe 1992 toward a monetary union also carries with it some further aspects of negative integration — separation of central banks from their respective national governments, and prohibition of bail-outs, etc. However, a monetary union begins in earnest the process of positive integration or 'social cohesion and interregional solidarity'. Thus, the greater focus in the literature on adjustment funds, on interregional stabilization, on the provision of some minimum standards of European public goods and on the role of the Social Charter. As integration deepens, this trade-off between negative and positive integration initiatives becomes more acute. As it turned out, Maastricht maintained much of the 'centralizing without federalizing' philosophy, in the sense of providing not much more than lip-service to the Social Charter, for example. However, if and when integration begins to evolve in the direction of a political Europe, the dynamics alter quite dramatically since this phase will focus almost entirely on positive integration. In a sense, this is the social cohesion and interregional solidarity phase. In this event, the European Community will of necessity begin to put in place a set of policies designed to facilitate the notion or conception of European citizenship. In Canadian terms, citizens will increasingly be urged to view themselves as Europeans first, and French or Irish second. Of necessity, success in the phase implies a set of common goals in the areas of security and foreign affairs, a set of common aspirations in the economic and social policy domains as well as measures designed to enhance equality of opportunity. On the political front, the so-called democracy deficit will come to the fore and the pressures to move away from a confederal governance superstructure and toward some version of a mature federation (with an enhanced role for a European Parliament) will intensify.

While all of this is rather obvious, it is nonetheless a critical background observation to the ensuing analysis. The challenge involved in avoiding the Canadian disease is to ensure that the economic benefits to be derived from a single European market and a single currency are not dissipated in pursuing the accompanying political (social cohesion) goals. Obviously, the challenge becomes more daunting as Europe decides to travel further along this integration spectrum.

With this as backdrop the remainder of this section will focus on a series of areas where the inherent dynamics might lead to situations where Europe could follow Canada in going overboard in terms of (inadvertently) introducing pervasive implicit barriers to the single market.

7.2. Subsidiarity in the context of an expansionist bureaucratic dynamic

'Subsidiarity' is among the core principles underlying EEMU. Box 1 lists selected aspects of the principle of subsidiarity. Most discussions of Europe 1992 and beyond treat subsidiarity as a version of what Canadians would refer to as a 'sacred trust'. In other words, subsidiarity will prevent any significant Community encroachment on national competences. Indeed, recently the German *Länder* have taken the position that the principle of subsidiarity should be interpreted to ensure that competences can remain at the subnational (*Länder*) level.

Box 1: The principle of subsidiarity

The economic meaning of the principle of 'subsidiarity': assigning tasks to the (European) Community on efficiency grounds.

Two economic criteria can be used as necessary conditions for assigning on efficiency grounds a particular policy function to the Community:

(i) assigment of a policy function at the national level is inefficient because of the existence of cross-country spillovers giving rise to externalities; since national governments do not take fully into account the consequences of their actions on the rest of the Community, they are bound to take suboptimal decisions;

(ii) the management of a policy function involves indivisibilities and/or economies of scale, which imply that productivity and effectiveness are improved when it is performed at a higher level.

For both criteria it is essential that externalities or economies of scale are significant at the Community level. Environmental effects (for example acid rain) provide classic cases of externalities; other examples can also be found in macroeconomic policy. Community-wide economies of scale are apparent in certain R&D investment (for example space programmes).

For the assignment to the Community level to be an adequate response, it is however necessary that two additional conditions are met:

(a) the assignment is demonstrated to yield net benefits after administrative costs and the balance of government versus market failures are taken into account, and

(b) *ad hoc* coordination among national governments is not sufficient to correct for inefficiencies.

Other motives of assignment of tasks to the Community level can stem from distributional or citizenship considerations.

Source: Quoted verbatim from Commission of the European Communities, Directorate-General for Economic and Financial Affairs, 'One market, one money', *European Economy* No 44 (October 1990).

I think that this will prove to be wrong. In my view, subsidiarity will fall prey to an expansionist bureaucratic dynamic at the EC core. Part of this relates to a perceptive letter to The Economist (Huxham, 1991). Huxham notes that the principle of subsidiarity is quite different from the earlier concept of 'compétence d'attribution' or, roughly, the principle of derived powers whereby the 'Community can act only where it is specifically empowered to by the treaty, and only then within the limits specifically laid down by the treaty' (ibid.). As Box 1 indicates, national autonomy can give way in the face of economies of scale and externalities, let alone considerations relating to citizenship or distributional concerns. As Huxham further notes: 'It would no longer be only a question of testing whether a piece of legislation fell within the scope of the treaty, as at present, but rather whether that piece of legislation were better enacted at Community or national level' (ibid.). Of course, several conditions have to be met (as Box 1 points out) but, given that virtually all activity in this increasingly integrated global economy is subject to one or both externalities or economies of scope or scale, the Eurocrats should have a field-day here.

There is, however, a quite different perspective with respect to subsidiarity that will likely also come into play, namely that as European integration proceeds, agents other than national governments will begin to come to the fore as powerful economic and political forces. Setting aside the obvious special interest groups such as the environmentalists, Canadian experience points toward an emerging set of actors — our three international cities (Montreal, Toronto and Vancouver). As a result of globalization, nothing much has changed in terms of the relationship between Ottawa and Bonn, for example (except that it will soon be Berlin). However, much has changed in terms of the relationship between Toronto and Frankfurt. Montreal, Toronto and Vancouver represent the domestic hubs in an international network of global cities. They provide the critical links outward toward New York and London and Frankfurt and inward to Trois Rivières and Kingston and Victoria. Of more relevance is that, despite their increasing economic role, driven by the economies of scale and scope accompanying the information and telecomputational revolution, these cities are 'constitutionless'. Even more intriguing, Saskatchewan's international city (Vancouver) is not in the province and the Maritimes' international cities (Boston/New York) are not even in the country!

Presumably, this will come to the fore in Europe as well. Already, we in Ontario refer to the 'four motors' of Europe — Catalonia, Lombardy, Rhône-Alpes and Baden-Württemberg. These motors are already beginning to develop rather close working relationships with each other in order to press their interests with their respective governments. Not only are these regions in different nations but it is likely that the hinterlands of some of them will begin to cross national boundaries. If and when this occurs, it is likely that some of the traditional power bases in Europe, and especially the nation States, may begin to become eclipsed; i.e. it may become easier for the 'four motors' to press their concerns at Community level (for either or both positive Community legislation or the elimination of certain Member State constraints) than within their respective nations. In selected areas, a pan-European business lobby is likely to be able to exert as much political clout as any Member State, even if decision-making remains largely confederal. Thus, in addition to any 'expansionist bureaucratic dynamic' at the EC core, there will likely also be increasing 'external' pressures on Eurocrats and the Community to play a more dominant role.

It is not my role to render any value judgments with respect to these likely developments. However, it is within the purview of this paper to note that the existing conceptions of a minimal Community presence and the current confederal European governance structure are probably not very robust under these developments. Current European thinking along these lines, as I interpret it at any rate, seems to point in the direction of posing problems for confederal (i.e. non-legislative) decision-making as the Community broadens (i.e. brings in new members, west and east) because the process becomes increasingly unwieldly and/or as it 'deepens' (moves toward political union) because the 'democracy deficit' becomes more serious. This section points to two other, quite distinct, avenues by which Brussels may grow in importance and, in the process, may challenge the structures of existing governance.

7.3. Taxation dynamics

The area of taxation dynamics, particularly Community taxation dynamics, provides a convenient example in terms of amplifying some of the issues raised in the previous section. To introduce this topic, I want to draw on a perceptive article by University of Toronto's Albert Breton (1990). The question that Breton poses is the following: why would a socialist like François Mitterrand and a conservative like Margaret Thatcher both be attracted to Europe 1992? Breton's answer is that they support Europe 1992 for quite different reasons, at least in part. In particular, he argues that Thatcher would look at 1992 largely in terms of the potential gains from trade, whereas for Mitterrand the attraction would be one of enhancing the opportunity to tax capital. More generally, one of the implications of globalization is that tax bases (especially corporate tax bases) have become more mobile, so much so that it is increasingly difficult for any single nation to subject them to taxation. It is much easier to conceptualize some version of an EC corporate tax. Similarly, there is increasing discussion in Europe of Community-wide eco-taxes (ecological taxes) which, the argument goes, make more sense at the Community level than in an uncoordinated fashion at the national level. And as Box 1 suggests, the environment is a likely candidate for Community action. In his paper (in this volume), Spahn speculates that the removal of internal frontiers in the Community will eventually tilt VAT toward uniform taxation under an origin-based principle and likely as well toward a full-fledged tax-sharing scheme with horizontal equalization effects. Within this context, Spahn foresees two options for the Community:

(i) decentralized tax collection with horizontal tax cooperation through the clearing mechanism — with the central government participating in the proceeds from taxes; and

(ii) centralized tax collection with vertical tax-sharing — according to the German arrangements for sharing VAT among the federal government and the *Länder* — together with an apportionment formula for the regional redistribution of proceeds from VAT.

Thus, VAT may well be another source (actually, an enhanced source since the Community now gets some revenue from VAT) for EC finance. Finally, but not exhaustively, many commentators view the seigniorage from the proposed Eurofed as an ideal Community revenue, Member State expectations notwithstanding.

The point of all this is the following. While it is relatively easy to make the case that the optimal jurisdiction for raising revenue within the Community is moving to the EC level, there is no similar presumption that the optimal jurisdiction for spending money has shifted from Member States to the Community. Of course, in terms of the latter, the Community will likely play an increasing role in areas such as the environment, but these are likely to be more regulatory than spending roles. Likewise, there is an obvious 'public goods' role for the Community (e.g. research and development expenditure) but again the spending is likely to remain predominantly at the Member State level. Beyond this, the scope for enhanced Community expenditure relates principally, in my view, to areas that fall under the 'social cohesion and interregional solidarity' rubric, e.g. foreign policy, interregional stabilization, various redistributional schemes designed, for example, to equalize opportunity or the provision of 'European quality' public goods and services.

Suppose that I am correct in assuming that the European Community has a greater comparative advantage in collecting various sorts of revenues than it has in the spending areas. The issue then becomes: whose revenues are they? An extension of the Mitterrand conception would be that these are Member State revenues and that the EC role is simply one of providing a more effective and efficient collection mechanism. How this issue plays out over time will be critical in terms of the evolution of the Community.

Human nature being what it is, however, the potential influx of tax revenue at the Community level will surely tempt the Eurocrats to argue for all sorts of Community-level spending along the lines suggested above. An underrated maxim of public finance is that some of the tax 'buck' tends to stick with the level of government that has first access to it (a revenue version of the flypaper effect?). This is one example of how the expansionist bureaucratic dynamic would work. It is also a force that could move Europe more towards a federal structure since it will exacerbate the democracy deficit and since it will represent a move toward enhanced positive integration.

In summary, I differ with the view that the constraints on the future role of Brussels will come from the revenue side. Rather, they must come from the expenditure side since it is likely to be fairly easy to rationalize, on externality or efficiency grounds, greater own revenues at the centre, if there is an enhanced sphere of responsibility for the centre. It is in this area that confederal decision-making breathes life into the principle of subsidiarity. Even so, I suspect that the internal dynamics alluded to above will eventually win out.

I now turn attention to what is, in my view, by far the most neglected element in the analysis and discussions relating to the EEMU, namely the social dimension of the EEMU, variously labelled as 'social Europe', the 'European social contract' or the 'European Social Charter'.

7.4. The social dimension of European economic and monetary union

Welfare states everywhere are undergoing rethinking. Part of this relates to the fact that the policies and practices of welfare states were geared to their corresponding 'national production machines'. As production becomes progressively international, welfare states have to wrestle with the following challenge: what is the nature of an optimal national social contract in a globalizing world? Europe is grappling with an even more challenging question: what is the nature of an optimal international (i.e. EC-wide) social contract under an EEMU?

There is a further relevant perspective. As knowledge and knowledge intensiveness increasingly become the competitive cutting edge or, roughly equivalently, as human capital formation increases in importance relative to physical capital formation, the so-called social dimension of Europe has less and less to do with the traditional conception of social policy and more and more to do with the essence of economic policy. This is particularly the case for institutional arrangements like the EEMU which, by design, constrain the deployment of traditional economic adjustment levers like exchange rates, subsidization, tariff protection, and perhaps even deficit financing. Much, if not most, of what remains in terms of national flexibility in the face of a country-specific shock falls under the rubric of the 'social contract'. Unless and until one specifies some of the parameters of this social dimension of 1992 and beyond, it is difficult to discuss meaningfully any other types of adjustment policies such as IMF-type grants to depressed countries or equalization payments, whether of the Canadian variety or the horizontal 'Länderfinanzausgleich' of the Federal Republic of Germany. For example, if the implicit conception of social Europe favours keeping the Portuguese in Portugal (i.e. prevents people from moving to jobs, or more generally does not embrace outmigration as a mechanism of adjustment) then the argument for some version of EC-wide redistribution (bringing jobs, or at least income, to people or more generally investing in human capital) becomes more compelling.

The purpose of this section is, first, to elaborate briefly on the dimensions of 'social Europe' and, second, to spell out some implications for EEMU.

7.4.1. Creating the European social area

In the EC publication, '1992 — The social dimension' (Commission of the European Communities, 1990d), the Commission describes its attempts to create what it refers to as a 'social base' to accompany Europe 1992 although there is clear recognition that, given the existing divergences among Member States in this regard, harmonization and convergence will not be easily or quickly attainable. The first part of this document outlines some of the concerns that will be addressed as part of the social complement to Europe 1992. I shall focus briefly on two of the four designated areas.

The first of these is entitled 'Social policy measures for the achievement of the internal market'. Among the areas that have attracted the Commission's attention in this regard is the freedom of movement in the public service. A strict interpretation of the EEC Treaty would indicate that civil servants should always have the nationality of the country in which they work. However, the European Court of Justice has interpreted this provision narrowly to include only those civil servants whose employment is connected with the exercise of sovereignty. Accordingly, the Commission intends to liberalize immediately employment practices in areas such as public transport, gas works and electric power, postal and telecommunications services, and broadcasting and it also envisages the extension of this liberalization to areas such as public health services, schools and universities. The second sub-area relates to migrant workers and cross-border commuters. Current Community law stipulates, for example, that unemployed persons must remain in the country of their last employ in order to receive benefits, since these are not transferable across boundaries. The Commission desires to ensure full transferability of entitlements in this and other areas.

Although this section is designed to be descriptive, some observations are warranted at this juncture. The underlying presumption relating to 1992 is that labour will remain relatively immobile with respect to national boundaries. In my view this assumption or presumption is unwarranted and, indeed, is likely to be wrong. The above provisions will clearly enhance mobility although not nearly as much as would European-wide schemes for pensions and unemployment insurance. But even without these latter initiatives EEMU will likely result in far more labour mobility than the architects of 1992 are banking on. This is a crucial parameter in the policy framework since, for example, migration is an alternative, to a degree at least, to a system of equalization payments. More to the point, this underscores my earlier assertion to the effect that the proposals relating to adjustment cannot be decided in isolation from what is occurring on the social policy front.

To a substantial degree the second general area ('social policy measures with regard to economic and social cohesion') recognizes this link between social and economic policy. In 1988 the resources for both the Regional Fund and the Social Fund were doubled which, the document notes, will help improve economic and social cohesion in the Community. Included under this general category are measures to enhance the level of education, particularly among the youth, and also a range of measures designed to harmonize aspects of working conditions and industrial relations. Finally, the Community is going to take a hard look at the financing of social security since some States (Denmark) rely on general taxation while others finance much of the social envelope via employee and employer contributions.

Running in parallel with these social concerns relating to 1992 is the European Social Charter which was adopted by the Commission in 1989. Box 2 contains an overview of the broad headings. It is instructive, for present purposes, to focus only on articles (ii), (iii) and (iv) where, for further elaboration, article (iv) 'aims at ensuring all citizens of the Community, whatever their status, adequate social protection by guaranteeing a minimum wage to workers and appropriate social assistance for persons excluded from the labour market and those who lack adequate means of subsistence' (Commission of the European Communities, 1990d, p. 86). While implementation of the Charter depends mainly on the Member States, the principle of subsidiarity enables the Community to act when the aims to be achieved may be more effectively attained at the Community level.

With this brief description of social Europe as backdrop, I now turn to the potential implications arising from the interaction between the social and economic dimensions.

7.4.2. The relationship between the social and economic dimensions

The (admittedly subjective) hypothesis that will be advanced here is that social Europe has the potential for becoming a regulatory fine-tuning device not only for ensuring reasonably balanced growth across the Member States but also for ensuring that the European social contract does not deteriorate into a 'race to the bottom', as it were. To see why this is likely to emerge, it is convenient to draw upon the excellent 1990 survey article by Van Rompuy, Abraham and Heremans.

Box 2: The European Community Social Charter

(i) Freedom of movement. The right to freedom of movement would be restricted only on grounds of public order, public safety or public health: It would give workers from one Member State, working in another Member State, the freedom to work in any occupation or profession on equal terms and with the same working conditions as nationals of the host country.

(ii) Employment and remuneration. In each Member State, workers would receive fair remuneration, sufficient for a 'decent' standard of living. Protection would be given to part-time workers. There would be limits on the withholding of wages, and workers would have free access to job placement services.

(iii) Improvement of living and working conditions. There should be an improvement in working conditions, particularly in terms of limits on working time such as minimum annual paid leave and a weekly break from work. Particular mention is made of the need for improved conditions for those not on open-ended contracts (for example part-time or seasonal workers).

(iv) Social protection. Workers, including the unemployed, should receive adequate social protection and social security benefits.

(v) Freedom of association and collective bargaining. This involves the right to organize trade unions and to choose whether or not to join them, to organize trade unions and to choose whether or not to join them, to conclude collective agreements and to take collective action. Such action includes the right to strike, except where existing legislation stipulates exceptions (including the armed forces, the police and government service).

(vi) Vocational training (which includes most university courses and some secondary education). Workers should be able to train, and retrain, throughout their working lives.

(vii) Equal treatment for men and women. Action should be intensified to remove discrimination and provide support to prevent a clash between responsibilities in the home and at work.

(viii) Information, consultation and participation for workers. This should apply especially in multinational companies and in particular at times of restructuring, redundancies or the introduction of new technology. Worker participation would be developed 'in such a way as to take account' of existing rules and traditions.

(ix) Health protection and safety at the workplace.

(x) Protection of children and adolescents. The minimum employment age should be no lower than the minimum school-leaving age, and in any case not lower than 15 years. The hours which those aged under 18 can work should be limited, and they should not generally work at night. Once compulsory education is over, young people must be entitled to receive adequate vocational training. If they are already working, this should take place during working hours.

(xi) Elderly persons. Workers should be assured of resources providing a decent standard of living in retirement. Others should have sufficient resources and appropriate medical and social assistance.

(xii) Disabled people. All disabled people should have additional help towards social and professional integration.

The final provisions cover implementation of the Charter. Member States are given responsibility in accordance with national practices for guaranteeing the rights in the Charter and implementing the necessary measures. The Commission is asked to submit proposals on areas within its competence.

Source: House of Lords Select Commitee on the European Communities, *Third report, 1989-90,* London, H.L. Paper 6-1; reproduced from Teague and Grahl (1991), Table 1.

Van Rompuy *et al.* begin their analysis by noting that strategic labour cost policies become especially attractive in the context of an EEMU since national economies will have little flexibility other than operating on the labour cost front. While they recognize that centralization of labour cost policy is warranted if and when Member States distort intra-EC competition by manipulating labour costs, solutions are hard to come by. Absolute norms in terms of wages, benefits and the like are not the solution because if they are set too high they will condemn the current low-wage economies to economic oblivion and if they are set to accommodate the low-wage Member States, they will serve to enhance social dumping. More to the point, a uniform policy in this area is inconsistent with Member States exercising their comparative advantage within the EEMU.

Now that the issue of social dumping has been raised, it is appropriate to focus on it in somewhat more detail. Social dumping can be defined as 'recourse to working conditions and social standards which are below the levels which the productivity of the economy could normally justify, with the purpose of increasing market shares and improving competitiveness' (Commission of the European Communities,1990e, p. 93). The presumption is that Member States with better working conditions could be forced to reduce or at least halt progress in terms of their own social contracts for fear of losing economic activity. While social dumping cannot be ruled out, Van Rompuy *et al.* believe that the higher labour costs in the north do in general reflect higher labour productivity. More likely, in their view, is that European integration will benefit the more advanced countries in sectors where human capital and technological know-how are of crucial importance and, correspondingly, benefit the lesser-developed Member States in sectors where labour intensiveness is important. My own view is that while this pattern of economic activity may apply initially, over time, this pattern is likely to break down, particularly if, within Europe, there is a movement in the direction of the 'Europeanization of firms' with the attendant mobility of know-how. More complicated still, foreign investment can now access all of Europe from Portugal. Recall that the Japanese car-assembly investment in the USA went to Tennessee, not Michigan. Anecdotal evidence also suggests that, in selected sectors, a manufacturing enterprise can move from the USA to the Maquilladora region of Mexico and after six months can replicate the productivity levels at the previous US location, all at a fraction of the labour cost. More rigorous, but still exploratory, is the Krugman (1991) analysis that suggests that the combination of increasing returns and transportation costs might imply a post-1992 EC economic geography quite different from the post-1957 balanced growth. Of course, all of this is highly speculative. However, as a very significant aside, this potential uncertainty does lend support to the EC approach of not saddling EEMU with some preconceived system of comprehensive transfers whether stabilization or redistribution oriented. Nonetheless, in terms of the issue at hand, the concerns of social Europe will not go away.

In addressing the potential for a Community approach to social policy as it impacts on labour cost, Van Rompuy *et al.* offer four options. The first is the establishment of relative labour cost norms (instead of absolute norms). This would relate non-wage costs and minimum wages to the wage structure of the particular country. While this would tie the non-wage costs to the evolution of wages, it would leave wage determination itself in the hands of Member States. Somewhat surprisingly, while recognizing the flexibility of this option, Van Rompuy *et al.* do not lend their support to it.

Their second option is particularly intriguing because it is fully consistent with the hypothesis advanced above:

'A second strategy for Europe's social dimension does not rely on the idea of fixed norms. Instead, *the evolution of labour costs is analysed as a part of the regular policy evaluations by the Commission of the individual Member States* [original emphasis]. Policy recommendations on wage and non-wage costs can then be made taking into account the economic performance of each Member State. Strongly performing economies can then be asked to raise wages or social protection. Weaker economies could be advised to restrain labour costs, perhaps in exchange for increased regional aid. This would divide the burden of adjustment between strongly and weakly performing economies. To some extent, this system can be compared to the periodic currency realignments in the European Monetary System. It also fits in nicely with the Delors Report on monetary union. This report foresees periodic recommendations on monetary and fiscal policy, to which advice on labour cost measures could be easily added. Such strategy would be alternative to a comprehensive system of detailed labour cost norms. It would also create the opportunity to incorporate national governments, unions and employer organisations in the actual policy implementation' (Van Rompuy *et al.*, p. 45).

This is regional or Member State 'fine tuning' via the social contract!

The third proposal, which involves promoting a social dialogue between employers and employees on a EC level, seems eminently sensible and is not really in the nature of an option. However, their last approach is more controversial. Essentially Van Rompuy *et al.* recommend that labour cost issues be brought under the umbrella of EC competition policy:

'Except for renewed efforts to bring direct wage subsidies under control, such extension of competition policy is not envisioned in the plans for an EMU. In spite of this, a case exists for Community intervention if national labour cost measures are primarily aimed at establishing a competitive advantage with respect to EC competitors. Member States would be required to inform the Commission on changes in labour cost measures. The Commission would then determine whether the proposed change distorts intra-EC competition on a case-by-case approach' (Van Rompuy *et al.*, p. 45).

From my perspective, the European social contract will likely take on aspects of all four options. What this means is that the potential exists for the social contract to become an incredibly important aspect of European economic integration. Moreover, this is a two-way street. If the social contract becomes an instrument to ensure that growth in the Community does not become unbalanced, some compensation in the way of adjustment funds may be the necessary adjunct. Alternatively, if the Community were to take a hands-off approach to social policy in general, and labour costs in particular, there may be less need for such compensation or equalization schemes.

Since much or all of this is highly speculative, I do not want to carry it too far. Suffice it to note that if the social contract does evolve into this sort of interregional regulatory instrument then Europe is well on the route to embarking on aspects of the 'Canadian way'. This is so because the European Community will have to bear some responsibility for any negative consequences arising from the application or regulation of the social contract. Finally, the fact that social Europe got shunted aside at Maastricht does not mean that it will not re-emerge as a critical element in the evolution of Europe. Indeed, it has to re-emerge since some conception of a level social playing-field is integral to an economic and monetary union, particularly when relative wages differ as much as they do in the European Community. Likewise, these level playing-field issues with respect to social policy and the environment are receiving a high profile in the negotiations relating to the Canada-USA-Mexico Free Trade Agreement, which falls short of an economic and monetary union.

7.5. Wage demonstration effects

German unification has brought the wage demonstration effect to the fore in terms of EEMU. Specifically, the concern is that when the Community adopts a single currency, workers in lower-wage States will expect substantial narrowing in their wages relative to workers in higher-wage States. Presumably, underlying this is more than a straightforward currency illusion (i.e. employees are more willing to accept wage differentials under separate currency areas than they are if there is a single common currency). Part of any such reaction could also relate to being more integrated into Europe and, therefore, becoming entitled to European standards.

As noted, the experience with German unification is triggering this interest in wage demonstration effects. However, there are aspects of the German experience that do not carry over to the Community. First of all, this is a political union. Second, the former East Germans are 'backstopped' by the FRG's welfare system. Third, language poses no barrier. Indeed, the likely alternative to full political union was massive migration from East to West. Nonetheless, there are some relevant lessons from German unification for EEMU and wage demonstration. Specifically, if EEMU is accompanied by some version of EC-wide redistribution or access to European standards in terms of some public goods, a wage demonstration effect is far more likely. Moreover, under a single market and unfettered resource reallocation some degree of wage convergence will presumably occur. Indeed, this is a large part of the rationale for EEMU. Convergence will likely occur sooner if the resulting industrial structure is more along a Europeanization of firms structure than a national champions structure. What this suggests is that convergence will initially be more likely within transnationals and, more generally, for higher-skilled human capital. In turn, this is likely to imply that the skilled-unskilled gradient will vary considerably across nations, particularly since mobility will be more difficult for low-skilled workers. Thus, in my view, the potential for a wage-demonstration effect essentially comes down to the issue of whether countries can or will tolerate these skilled-unskilled gradient differentials. As noted earlier, these have been minimized in Canada by virtue of our social security system, both in its provincial (portable social programmes) and national (for example, unemployment insurance and equalization) dimensions. The challenge for the European Community is to ensure that any convergence in these differentials is conducive to EC-wide economic efficiency. The lesson from Canada here is to direct focus primarily on people (human capital investment) rather than on place. Success in terms of the former is likely to lead to place prosperity. Canada's experience indicates that the reverse does not hold.

These observations relating to the challenges to EEMU are hardly exhaustive. However, combined with the earlier analyses, they provide sufficient background to permit a series of tentative concluding implications and recommendations.

8. Conclusions and implications

8.1. European economic and monetary union

Canada is what the literature refers to as a 'mature federalism'. Even with Maastricht, the European Community remains largely pre-federal or confederal. These are quite different sorts of political entities, best reflected perhaps in the earlier comment that the Canadian Constitution is an inherently political blueprint whereas the constitutional underpinnings of Europe 1992 and Maastricht are inherently economic blueprints. Implications from one may not carry over to the other. Thus, while I can and have railed against some of Canada's excesses on the redistribution front,[1] it is also the case that the generalized transfer system has significantly, if inefficiently, enhanced the degree of Canadian social cohesion and interregional solidarity. Indeed, given the substantial shift from interprovincial to international (largely Canada-USA) trade, increasingly what binds Canadians together, east-west, is a social-policy or values 'railroad', not an economic railroad. At the same time, much of the legislation that underpins our generalized transfer system had its legislative origin in the prosperous 1950s and 1960s. As a nation, we were rich enough, or at least perceived ourselves to be rich enough, to implement 'social Canada' largely in terms of abstract social ideals with little or no attempt to integrate the social and economic spheres. No nation is now rich enough to engage in this luxury (folly?) and Canada is currently in the process of attempting to unwind significant aspects of this generalized transfer and social policy network. Thus, even if the European Community were to embrace the same social policy values as the Canadian federation, it is highly unlikely that it would implement these values by replicating the Canadian system.

For these and other reasons, one must be careful when attempting to draw lessons for Europe from the functioning of the Canadian federation or the Canadian economic and monetary union. Nonetheless, on the basis of the above analysis and, more generally, aspects of the Canadian experience, several observations or implications appear warranted. The first of these hearkens back to the role that the magnitude of, and incentives within, an interregional redistributive or equalization system can play in the development of transfer dependency. What this ultimately means in the context of EEMU, as well as within the Canadian monetary union, is that the notional equilibrium exchange rate for the Member State or province in question, given the levels of remuneration and productivity, is much lower than the actual exchange rate. Once a Member State's notional currency becomes overvalued the options are not only limited but not particularly inviting — one or a combination of: entrenching the overvaluation via entrenching the redistribution system (i.e. the Canadian disease); tolerating outmigration as the adjustment mechanism; forcing an internal wage devaluation; or an exit from the monetary union. Far better to avoid all of this and not to embrace substantial redistribution (or perhaps more correctly, incentive-incompatible redistribution) in the first place, particularly since EEMU does not require it.

The second observation is related. Exit from EEMU will be exceedingly problematical for a Member State. More to the point, potential exit does not warrant the mounting of a substantial redistributive structure, as some of the European literature suggests. The most likely result of this will be currency overvaluation, as elaborated in the first point. Ideally, Member States should bear the lion's share of the economic responsibility for ensuring that their wage rates are consistent with their productivity levels. If there is a problem here, my view is that it relates more to entry concerns. Maastricht has laid down some strict guidelines, but some incentive-compatible schemes may be in order, as outlined above. Failing this, the Community should be prepared for a realignment of 'entry' currencies on the part of countries that are currently way offside the Maastricht entry requirements.

Nonetheless, some interregional stabilization and redistribution measures are clearly inevitable. Despite the substance and the tone of the above analysis, the underlying message related more to what to avoid in terms of inappropriate incentives. On a more positive note, the appropriate nature of a stabilization grant in the face of an asymmetric shock should be one that is (a) discretionary, not automatic (for example, triggered by a request from the Member State, which request could of course be denied), and (b) is conditional (along IMF lines) and is oriented toward adjustment and performance standards. Likewise, the essential characteristics of any redistributive programmes implemented by the Community are those that cater to people or human-capital prosperity rather than place prosperity. Admittedly, this is more difficult to implement in the context of a confederation where direct EC citizen programmes are more difficult to rationalize politically.

Fourth, to a Canadian (or at least this Canadian) the proposed debt and deficit measures, designed to ensure that Member State fiscal policy does not compromise the Eurofed's price-stability goal are inadequate. It is not that 3% limits on deficit/GDP ratios or overall debt/GDP limits are not appropriate. They are. Rather, it is likely that these problem countries will find equivalent discipline exerted by international capital markets and bond-rating agencies. Much more problematical for achieving price stability is a France or a Germany or a United Kingdom, under no pressure from capital markets, striking out on their own in terms of fiscal stances. Two recommendations flow from this. First, specification of debt or deficit ratios is inferior to some attempt, even if informative rather than binding, to spell out an appropriate aggregate Member State fiscal

[1] In order to make this point, I have also no doubt done so to excess — as the paper (in this volume) by Walsh notes, equalization payments can also be effiency-enhancing where jurisdictions rely on residence-based taxes. Indeed, this insight is due to my Queen's University colleagues, Robin Boadway and Frank Flatters (1982).

stance. Second, some independent EC stabilization capacity also seems appropriate, indeed inevitable. My suggestion here is that the traditional nation State policy where the Minister for Finance sits on the board of the Bank should be reversed: the Eurofed should have a prominent say in the policies of any EC final stabilization authority.

My penultimate observation relates to social Europe and its interaction with economic Europe. Thanks to the British, Maastricht probably got it right — do not overload EEMU with a particular preconceived vision on the European social policy or Social Charter front. Flexibility of Member States in this area is about all that is left in terms of adjustment in the event of an asymmetric shock. This is the good news, so to speak: flexibility on the wage and social policy front is a substitute for embarking on a substantive redistributive system and in the process may well forestall wage demonstration effects. The bad news (or, alternative news) is that social Europe will likely come to the fore in any event. It is impossible to predict how Europe 1992, let alone EEMU, will evolve in terms of Member State or regional prospects. Inevitably, the European Community is going to have to integrate social Europe into economic Europe, whether the trigger is preventing social dumping and the 'race to the bottom' with respect to the social contract, or is dealing with substantial inter-Member State migration or is addressing the challenges imposed by unexpected unbalanced growth. Since the economic evolution of Europe cannot be foreseen with any degree of accuracy, it is fully appropriate that, *à la* Maastricht, the social evolution not be locked into a single perception of this evolution. However, social Europe will inevitably emerge, or re-emerge, as a critical interregional economic regulatory device, although how and where it will or should do so is difficult to forecast, because the evolution of economic Europe is equally difficult to forecast.

Finally, and perhaps most subjectively, economic Europe will probably not evolve fully or even largely along nation State lines. Whether the issue is viticulture or the 'four motors', the networks of economic power will no longer be solely along nation State nodes which in turn will begin to alter the locus of influence, if not political power, within Europe. On the surface, the confederal governance structures for EEMU leave the Member States in the driver's seat. However, by eschewing substantial redistribution through the Member States, the stage may be tilted toward the development of pan-European economic loci where it should be much easier to lend emphasis to people prosperity rather than place prosperity. Intriguingly, therefore, the end result of not at the outset locking in a full range of mature federalism policies into EEMU may well imply that the longer term political evolution could well take the form of a more centralized federation than is currently envisaged.

8.2. Beyond European economic and monetary union

In the above analysis, EEMU is assumed to be a goal in its own right in the sense that it has the potential of being the end point of any political evolution. In addition, it is assumed to be largely pre-federal or confederal in nature. This is probably an unrealistic view. Moreover, it probably will not sit well with the architects of the new Europe who no doubt prefer to view EEMU as a critical milestone on the way toward a federal or political Europe. Within this latter framework, much more in the way of EC redistribution and stabilization will be required in order to achieve greater pan-European social cohesion and interregional solidarity. Intriguingly enough, the Maastricht design of EEMU is sufficiently pre-federal that the contours of any future political evolution are flexible rather than pre-ordained. In a sense, this is the genius of Maastricht, particularly since it is far from evident where the single market and EEMU will drive Europe on the economic geography front.

To see this, it is instructive to hearken back to the 1977 MacDougall Report. Much of the above analysis of the Canadian experience was, if not documented, then at least anticipated by this perceptive report. It carefully summarized all the arguments for and against intergovernmental transfers, whether allocation or redistribution or stabilization oriented. More to the point, it was fully aware of the potential for distorting incentives. Hence, its equalization recommendation was limited to providing 65% of the Community's average fiscal capacity; its recommendations on the stabilization side included the possibility for EC participation in the financing of unemployment benefits (which it recognized was a major (and attractive) exception to the principle that the Community's finances in the pre-federal period would mainly involve intergovernmental, not interpersonal, transfers); more generally, while it recognized that conditional transfers were likely to be less efficient than unconditional transfers as instruments of redistribution, it nonetheless opted largely for the former because they implied less in the way of overall spending and because these conditional transfers could be targeted toward improving productivity, employment and competitive policies more so than unconditional transfers which could end up enhancing consumption. Thus, what was, and still is, novel about the MacDougall Report is that it argued, particularly from the perspective of 1977, for an EC government that was far smaller than the federal government of mature federations.

Nonetheless, the MacDougall Report's conception of how large the EC budget would have to be in order to accommodate monetary union is much larger than what is likely to materialize under Maastricht. One reason for this is that the MacDougall Report anticipated a much more powerful European Parliament as a necessary prerequisite for EEMU than that which will actually obtain. A second reason is that the perceived efficacy of comprehensive transfers, and more generally the role of the State, has fallen on hard times since 1977 under the combined thrusts of globalization and the resurgence of neo-conservatism. In other words, there has been a paradigm shift not only in the state of mind of the federalism literature, but also in the 'mind of State', as it were. The third influence is that there has been a convergence of sorts in the economic fortunes of EC Member States since 1977 and this without much in the way of mature federation type redistribution.

I recognize that other contributors to this volume have lamented the fact that the recommendations of the MacDougall Report have not seen the legislative light of day. I view this as entirely salutory. More importantly, I think that, given the arguments in the previous paragraph, the authors of the MacDougall Report, fiscally conservative as they were, would be pleasantly surprised in terms of EC evolution.

The point of all of this is fully captured in Walsh's contribution to this volume, namely that while the fiscal federalism literature has provided fascinating insights as to how mature federations do, and ought to, operate, this body of literature has almost nothing to say about the dynamics with respect to how a group of Member States evolves toward a more federal structure. The evidence from the Community, thus far at least, is that this evolution can proceed without anywhere near the degree of insulation and redistribution that is characteristic of mature federations. To a fiscal federalism scholar this is at the same time both humbling and exciting.

My personal view is that the economic evolution triggered by Europe 1992 and EEMU will not proceed along the balanced growth lines of post-1957. But I am at a loss in terms of suggesting what Europe 2000 will look like. What is probably clear is that there will be a need for stabilization and redistributive transfers. So too will there be a need for greater social cohesion and interregional solidarity. But where these initiatives may be needed and how they ought to be implemented are, I assert, unknown and unknowable.

To conclude, therefore, I salute the architects of EEMU. They are embracing major institutional, economic and political arrangements without a preconceived set of policies and clientele effects as to how this evolution will proceed. What this means is that the European Community retains the fiscal and political flexibility to react to virtually any sort of outcome and at the same time ensures the flexibility to provide appropriate incentives for the further political evolution of Europe.

References

Boadway, R. and Flatters, F. (1982), *Equalization in a federal state, Ottawa,* Economic Council of Canada.

Breton, A. (1990), 'Centralization, decentralization and inter-governmental competition', The 1989 MacGregor Lecture, Queen's University, Kingston, Ontario, Institute of Intergovernmental Relations.

Canadian Labour Market and Productivity Centre — CLMPC (1990), 'A review of regional economic development policy in Canada', *Quarterly Labour Market Productivity Review*, spring/summer, pp. 23-34.

Commission of the European Communities (1990a), 'Draft Treaty amending the Treaty establishing the European Economic Community with a view toward achieving economic and monetary union', Brussels, 10 December.

Commission of the European Communities (1990b), *Economic and monetary union,* Brussels.

Commission of the European Communities (1990c), 'One market, one money', *European Economy* No 44, October.

Commission of the European Communities (1990d),'1992 — The social dimension', Periodical 2/1990 issued as part of *European Documentation,* Luxembourg, Office for Official Publications of the European Communities.

Commission of the European Communities (1990e), 'Social Europe' in *European Economy* (special edition).

Commission of the European Communities (1977),'Report of the study group on the role of public finance in European integration', Vol. 1 (MacDougall Report), *Economic and Financial Series* No A 13, Brussels.

Courchene, T. J. (1991a), *The Community of the Canadas,* Queen's University, Kingston, Ontario, Institute of Intergovernmental Relations.

Courchene, T. J. (1991b), *In praise of renewed federalism,* Toronto, C. D. Howe Research Institute.

Courchene, T. J. (1990), 'Zero means almost nothing: Towards a preferable inflation and macroeconomic policy', *Queen's Quarterly* No 97, pp. 543-561.

Courchene, T. J. and McDougall, J. N. (1991), 'The context for future constitutional options' in Watts, R. L. and Brown, D. M. (eds), *Options for a new Canada,* Toronto, University of Toronto Press, pp. 33-52.

Donner, A. (1991), 'Interprovincial economic links getting weaker', *Toronto Star,* 18 February, pp. C1, C2.

Dornbusch, R. (1988), 'The European Monetary System, the dollar and the yen' in Giavazzi *et al.* (eds), *The European Monetary System,* Cambridge, Cambridge University Press.

Drucker, P. (1986), 'The changed world economy', *Foreign Affairs,* spring, pp. 3-17.

Eichengreen, B. (1990), 'One money for Europe? Lessons from the US currency union' in *Economic policy: A European forum,* April, pp. 117-188.

Freeman, A. (1991), 'Critics question timing of UI premium jumps', *Globe and Mail,* 28 June, p. B1.

Goodhart, C. and Smith, S. (1993), 'Stabilization' (this volume).

Horry, I. and Walker, M. A. (1991), *Government spending facts,* Vancouver, The Fraser Institute.

Huxham, Q. (1991), 'Limiting power', *The Economist,* 1-7 June, p. 4.

Krugman, P. (1991), *Geography and trade,* Leuven, Leuven University Press.

Leslie, P. (1991a), 'Options for the future of Canada: The good, the bad and the fantastic' in Watts, R. L. and Brown, D. M. (eds), *Options for a new Canada,* Toronto, University of Toronto Press, pp. 123-140.

Leslie, P. (1991b), *The European Community: A model for Canada?,* Ottawa, Ministry of Supply and Services.

McMillan, M. L. (1991), 'Introduction' in McMillan, M. (ed.), *Provincial public finances: Plaudits, problems and prospects,* Vol. 2, Toronto, Canadian Tax Foundation, pp. 1-26.

Morici, P. (1991), *Trade talks with Mexico: A time for realism,* Washington, National Planning Association.

Proulx, P. (1991), 'Un examen des échanges commerciaux du Québec avec les autres provinces canadiennes, les Etats-Unis et le reste du monde', *Éléments d'analyse économique pertinents à la revision du statut politique et constitutionnel du Québec,* background volume No 1 to the Report of the

Commission on the Political and Constitutional Future of Quebec, Quebec City, Government of Quebec, pp. 55-166.

Purvis, D. D. (1992), 'The federal proposals and economic union' in Boadway, R. and Purvis, D. (eds), *Economic aspects of the federal government's constitutional proposals,* Queen's University, Kingston, Ontario, John Deutsch Institute for the Study of Economic Policy.

Quebec Liberal Party — Constitutional Committee. *A Quebec free to choose* (Allaire Report), Quebec, 28 January 1991.

Sachs, J. and Sala-i-Martin, X. (1989), 'Federal fiscal policy and optimum currency areas', mimeo, Harvard University Press, June.

Spahn, P. B. (1993), 'Consequences of economic and monetary union for fiscal federal relations in the Community and the financing of the Community budget' (this volume).

Springate, D. (1973), *Regional incentives and private investment,* Toronto, C. D. Howe Research Institute.

Teague, P. and Grahl, J. (1991), 'The European Community Social Charter and labour market regulation', *Journal of Public Policy,* Vol. 11, Part 2, April-June, pp. 207-232.

Van der Ploeg, F. (1991), 'Macroeconomic policy coordination during the various phases of economic and monetary integration in Europe', in 'The economics of EMU', *European Economy,* special edition No 1, pp. 136-164.

Van Rompuy, P., Abraham, F. and Heremans, D. (1991), 'Economic federalism and the EMU', in 'The economics of EMU', *European Economy,* special edition No 1, chapter 6.

Walsh, C. (1993), 'Fiscal federalism: An overview of issues and a discussion of their relevance to the European Community' (this volume).

Community public finance in the perspective of EMU: Assignment rules, the status of the budget constraint and young fiscal federalism in Belgium

Wim A. Moesen

Centre for Economic Studies
Catholic University of Leuven, Belgium

Contents

Tables

Graphs

Summary

Fiscal federalism in Belgium is likely to be atypical in the sense that it involves only two dominant players: Flanders and Wallonia (with Brussels as an honourable third). From the outset it should be stressed that a bi-polar federalism is prone to be sui generis. *Nevertheless, this paper investigates the perennial questions of fiscal federalism. Which economic functions should be assigned to what level of government? Does the Belgian scheme fit standard prescriptions and historical experiences? Which findings may be instructive for an emerging* de facto *federation such as the one created by European monetary union?*

The subsidiarity principle recommends that collective decision-making occur at the lowest possible level in the fiscal hierarchy, consistent with social welfare maximization. Relying on the subsidiarity principle, a set of construction and organization rules is derived. Applying these rules to the Belgian context, it appears that the new intermediate level (regions and communities) deals essentially with allocation and to a minor extent with distribution. Social cohesion is assured by the unitary social security system and the progressivity of the personal income tax. As to stabilization, there is a formal agreement that each fiscal year the budgetary stances should be properly evaluated against the prevailing macroeconomic environment. Sanctions may be enacted by the national Minister for Finance. However, implementation of the golden rule is not fully recognized.

This paper also relates fiscal federalism to fiscal discipline, focusing on the status of the budget constraint. To the extent that seigniorage and fiscal stabilization are reserved for the EC level, national governments will move from a softer (Musgravian-type) budget constraint towards a harder budget constraint, for example of the more Pigouvian type. It is expected that a harder budget constraint will restrain the size of the national budget sector.

1. Introduction

Reporting on young federalism in Belgium has a definite advantage but also suffers from a major drawback. On the positive side there are the historical experiences of established federations. This wealth of practical knowledge may help to inspire the design of any new federalist system. On the other hand, one must state from the beginning that the Belgian case is atypical in the sense that it involves only two dominant players: Flanders and Wallonia (with Brussels as an honourable third). In addition, a bi-polar federalism is prone to be *sui generis*.

This paper investigates the perennial questions of fiscal federalism. Which economic functions should be assigned to what level of government? Does the Belgian scheme fit standard prescriptions and historical experiences? Which findings may be instructive for an emerging *de facto* federation such as the one created by European monetary union?

The paper is organized as follows. Section 2 relies on the subsidiarity principle to articulate a set of construction and organization rules which have shaped the devolution debate in Belgium. Section 3 relates fiscal federalism to fiscal discipline, focusing on the status of the budget constraint. To the extent that seigniorage and fiscal stabilization are reserved for the EC level, the national governments will move from a softer (Musgravian-type) budget constraint towards a harder budget constraint, of the more Pigouvian type, for example. Sections 4 and 5 describe the applications within the Belgian context, dealing respectively with the expenditure competences and the revenue structure. The issue of social cohesion is briefly commented on in section 6. Section 7 concludes with some inferences for economic and monetary union (EMU).

2. Ten rules for fiscal federalism

The subsidiarity principle recommends that collective decision-making occur at the lowest possible level in the fiscal hierarchy, consistent with social welfare maximization. In Belgium the subsidiarity principle has been primarily inspired by Olson's equivalence rule (Olson, 1969). This rule states that jurisdictions should be designed in such a way that the representative citizen fulfils three roles: he should, at the same time, be the consumer of public services, the taxpayer and the voter.

Immediately, the two following restrictions emerge from this statement.

(i) The assignment problem deals essentially with the allocation branch of the budget sector, as it is concerned with the provision of public goods. In this context public goods are viewed as a continuum ranging from pure collective goods in the Samuelsonian sense (absolute non-rivalry in consumption) to merit goods in the Musgravian sense (positive societal effects).

(ii) For any public good it suffices to investigate the benefit area of that provision. Depending upon whether the benefit area covers the whole nation (for example, national defence, cancer research), a local district (for example, a kindergarten) or a broader region (for example, university education), the appropriate level would respectively be central, local or intermediate.

From the outset it should be emphasized that in the public finance literature there is no consensus regarding whether the lower levels of government should also be involved in distribution matters (see, for example, Tresch, 1981). Furthermore, the existence of geographical spillovers between the various jurisdictions requires adequate compensating mechanisms. These amendments will be discussed later.

A brief overview follows of the guidelines which have oriented the devolution debate in Belgium. Olson's equivalence rule constitutes an interesting vehicle, but many other reflections have shaped the federalist scheme in Belgium (see, for example, Club van Leuven, 1990). For purposes of clarity, they have been regrouped into 10 rules (Moesen and Vanneste, 1980). Most of these rules are distilled from the normative literature on fiscal federalism.

2.1. Construction rules

There was virtually universal agreement that stabilization policy, to the extent that it is desirable and feasible, should be conducted at the central level (rule 1). For a small open economy such as Belgium the feasibility problem is prominent. It would not make sense, for example, for each of the three regions (Flanders, Wallonia and Brussels) to pursue an independent monetary policy and control its own money supply. The same applies for an eventual demand management via fiscal policy. Simulations from the Central Planning Bureau show that the numerical value of the multipliers is rather small (often less than 1).

It was agreed that each fiscal year the size of the consolidated budget deficit of the central and intermediate level should be evaluated against the prevailing macroeconomic environment. Within the prestigious High Council for Finance a committee for the financing needs of the nation was installed. To safeguard its independence, the membership of this committee is restricted to academics and top civil servants of the Ministry of Finance and the national bank. The yearly report is to be published before the new budgets are elaborated. The report provides guidelines for the size of the consolidated budget deficit and its breakdown over the various governmental units.

With respect to monetary policy, there is even less elbow room for the intermediate level. At the national bank there is no direct access to a credit line and the associated seigniorage. Public issues of loans on the domestic market are to be approved by the national Minister for Finance. The same applies for borrowing in foreign currency. For private loans on the domestic market the Minister for Finance is to be informed.

Rule 2 follows the traditional view that also redistributive policies should be centralized (Oates, 1972, 1977; Musgrave, 1969). Conventional wisdom points to the problem of adverse selection. Lower levels of government with a more generous redistribution policy are likely to attract those citizens who benefit from these schemes (the poor) and repel those who are primarily net contributors (the higher taxpayers). Apart from the assumption of perfect mobility across jurisdictions, there remains the more fundamental issue of whether social welfare is maximized when preferences for redistribution vary across jurisdictions.

Vertical and horizontal redistribution of personal income and wealth is usually achieved through the complex interactions of the national tax transfer design and the working of the social security system. Until now there has been a consensus in Belgium that the global progressivity of the tax system and the operation of the social security system should be reserved for the central level. However, there is some discussion as to whether in the long run the social security system should, to some extent, be decentralized. On average, Flanders acts as a net contributor to Wallonia, which has an older population and a higher unemployment rate. But demographic factors alone cannot explain all of these differences. So it appears that, *ceteris paribus*, the consumption of medical services is significantly higher in Wallonia than in Flanders.

As it stands now, the dichotomy of allocational and distributional issues is still accepted in Belgium. Only the highest level (the central government and the national social security system) concerns itself with the distributional branch, whereas the intermediate and local levels are only involved in allocational questions.

Concentrating on the allocational branch, there remains the original question of why in a small country like Belgium three levels should be designed. What reason is there to create a new level for the intermediate government, encompassing the different regions and communities? Oates' decentralization theorem (rule 3) provides the usual justification. The argument can be summarized as follows. Let us suppose that the nation can be divided into subgroups of citizens with different tastes for public goods. For the sake of simplicity, let us assume that within each subgroup the citizens have identical tastes so that the preference of the subgroup can be associated with the taste of the representative citizen. Differences in taste may be attributed to differences in language, culture, demographic characteristics, political ideology, etc. In this case, Oates' decentralization theorem shows that in terms of social welfare a decentralized and diversified provision of public goods is superior to a national and uniform supply.

Several considerations mitigate the welfare outcome of Oates' theorem. So far we have only looked at the demand side. It was implicitly assumed that also lower levels of government produce public goods at minimum cost and that economies of scale do not exist. This hypothesis will be elaborated further on. But there remains the more fundamental question of why, in a first-best world with a perfect knowledge of the tastes of the subgroups, the central government should not also provide a diversified basket of public goods. The answer is usually found in the second-best real world circumstances. It is often argued that lower levels of government are better informed about the true preferences of their citizens than a more distant central government. The burden of the proof is then shifted to differences in information costs and the eventual strategic behaviour of the subgroups not to reveal their true preferences.

The articulation of true preferences can be enhanced by Olson's equivalence rule (rule 4). In his seminal article on the division of (allocative) responsibilities among different levels of government, fiscal equivalence is defined as '... a need for a separate governmental institution for every collective good with a unique boundary, so that there can be a match between those who receive the benefits of a collective good and those who pay for it', (Olson, 1969, p. 483).

The perfect mapping of consumers and taxpayers within the same collective decision-making body yields strong incentives to reveal true preferences. It is likely that the fiscal illusion tends to be weaker in a setting where the local public goods are provided by a national government. In the latter case, citizens are tempted to underestimate the true tax price of the local provision as the burden is shared with the whole nation. They seldom realize that through the national tax system they also contribute to the provision of local services in all the other jurisdictions.

This view was reinforced by Wallace Oates' analogous notion of perfect correspondence (1972, pp. 34 and 35): '... the optimal form of federal government to provide the set of *n* public goods would be one in which there exists a level of government for each subset of the population over which the consumption of a public good is defined. This would be sufficient to internalize the benefits from the provision of each good. Such a structure of government, in which the jurisdiction that determines the level of provision of each public good includes precisely the set of individuals who consume the good, I shall call a case of perfect correspondence in the provision of public goods. In the ideal model, each level of government, possessing complete knowledge of the tastes of its constituents and seeking to maximize their welfare, would provide the Pareto-efficient level of output ... and would finance this through benefit pricing'.

A major drawback of the previous unitary regime was the so-called 'waffle-iron practice'. Whenever in one region a major investment project could be justified, the other region enviously demanded equivalent investment outlays. Too often these compensatory projects could not possibly pass the test of a serious cost-benefit analysis. Unfortunately, the country is still endowed with a useless and expensive infrastructure of bridges which lead to nowhere or gigantesque ship elevators (see, for example, Defossé, 1990). It was precisely the aim of the grand constitutional reform of 1988 to allow for differences in policies and programmes between the regions.

2.2. Organization rules

The four principles of the previous section were viewed as construction rules in the sense that they are rather fundamental for the construction and the stability of the fiscal system. Of course, they are to be supplemented by another set of rules which deal with the organization of daily life within the federation. They are primarily intended to reduce potential frictions between the various jurisdictions in the real world.

It is quite obvious that the consistent application of Olson's equivalence rule would call for an enormous number of jurisdictions, as each public service shows a different benefit area. Each citizen would then belong to as many jurisdictions as the number of public services provided. This is not feasible because of the individual costs to participate in so many decision-making bodies. Information and transaction costs would be too high.

As an operational solution most federal systems regroup all the public services into three broad categories to be assigned to the central, intermediate and local levels. It is inherent to this solution that geographical spillovers or externalities exist between the various jurisdictions. It simply cannot be avoided that non-residents will also benefit from particular public services provided by a neighbouring jurisdiction. To internalize these spillovers the standard theory recommends specific matching grants or service-by-service arrangements through cooperation. Anyhow, devices have to be implemented to compensate for outside free-riding behaviour (rule 5) (see also Breton, 1970).

Another area of potential friction relates to differences in the fiscal capacity of the various jurisdictions. Average per capita income and wealth may vary considerably between the jurisdictions. For a given tax effort the poorer districts dispose of a smaller basket of public goods than the citizens of the wealthier communities. To ease the tension of these inequities the standard literature recommends an unconditional block grant (rule 6).

In Belgium, the recognition of this problem has led to a consensus on solidarity between the regions. The solidarity mechanism operates through a standard lump-sum grant per capita to the poorer regions. This sum is paid out of the central budgetary resources. The exact amount of the per capita grant is proportional to the 'fiscal handicap'. If, for instance, in one region the average per capita income is 97% of the national average, then the standard lump sum would be multiplied by 3. Each year the standard lump sum is also corrected for the inflation rate.

Two other considerations have influenced the organization of fiscal federalism in Belgium. Both considerations emerge once in a while in the abundant literature on fiscal federalism but they lack the status of accepted principles.

The paternalistic motive allows the central government to interfere in some competences of the intermediate level (rule 7). Although the Belgian Constitution declares that the laws of the intermediate level (the decrees) have the same status as the central laws, in principle the central State cannot overrule the intermediate level in those domains where the intermediate level has autonomous competences ('Gleichrangigkeit'). As it turns out, some competences of the intermediate level are backed up by a specific grant from the central government. This is a strategy for the central level to influence the public provision at the intermediate level.

A few examples may clarify the issue. In the area of unemployment, unemployment compensation is paid by the national social security system. Additionally, the regions may develop their own re-employment programmes focusing on temporary employment in the non-profit sector. The central government stimulates these programmes through a specific grant for each new employee. This grant is uniform throughout the nation. The same applies to university education which is organized and decided at the community level. As for foreign students the central government awards a specific grant to the university where the foreign student has registered. Again that per capita grant is the same for each community.

In the political debate on fiscal design in Belgium one notices a dominant concern that the two major parts of the country would not drift too far apart. It was feared that a bi-polar centrifugal federalism would eventually lead to a political breakdown of the nation. The legitimate demand for more expenditure competences and tax autonomy was fully recognized. It was felt, however, that the constraints on fiscal autonomy were probably more binding in a game with two dominant players than in a setting with numerous smaller agents. This reluctance led to the rule of non-distortion with respect to the localization of economic activities (rule 8).

Taxes and subsidies alter the relative prices on the output and input markets, which in turn may favour the localization of economic activities. Regional policies for economic development can be constructed following the region's own needs and endowments. However, the room for 'fiscal wars' (concerning tax, in particular) is severely constrained from the outset. This leads to the compromise that fully-fledged tax autonomy is only attributed for some minor taxes. The design of personal income tax, corporate income tax, VAT and other excises is still decided at the central level. However, proper formulas for tax-sharing were negotiated. These will be reported in some detail in section 4.

2.3. Production rule

If the technical production of public goods is characterized by significant economies of scale, then the marginal and average costs will decrease with higher output levels. This implies that in a decentralized system the production cost per unit of output would be higher, which constitutes a classic argument for centralization (rule 9). To the extent that public goods are more of the services type (i.e. immaterial goods), it may be reasonable to assume that economies of scale would be less pronounced. Empirical analysis indeed shows that average costs are rather constant over a wider production range for public services, such as education, police, health care, etc. (see, for example, Hirsch, 1970).

Even if scale economies do exist, they can also be exploited in a decentralized system. The technical production can be dissociated from the public provision, for example by contracting out to a private firm. Also, lower levels of government may voluntarily cooperate on the production side, and still offer a diversified provision to their constituencies.

2.4. Financing rule

Olson's equivalence rule and Oates' principle of perfect correspondence prescribe own taxes and user charges as the 'natural' financing source for the lower levels of government (rule 10). Grants may be recommended in addition in order to correct for geographical spillovers (specific-matching grant, rule 6), to level out substantial divergences in fiscal capacity (block grant, rule 7) or for paternalistic motives (specific grant, rule 8).

As the lower levels have no mandate for macroeconomic stabilization their budget should in principle be balanced. Borrowing is tolerated only for investment projects when the present value of social benefits over costs, discounted at the market interest rate, is at least positive. In other words, the golden financing rule applies to the intermediate and local levels of government.

As mentioned above, in Belgium the reluctance for a fierce tax competition has considerably constrained the tax autonomy of the regions and communities. Nevertheless, a remarkable shift can be noticed. The previous constitutional reforms of 1970 and 1980 relied exclusively on block grants as the single financing source for the intermediate level. Economists rightly drew attention to the damaging outcome of such a 'consumption federalism' (see, for example, Peeters, 1978; Heremans, 1978). Now the intermediate level still shows a low profile with respect to tax autonomy but at least financial responsibility has been imposed.

3. Fiscal federalism and fiscal discipline

3.1. The status of the budget constraint

The call for fiscal federalism was grounded in a second line of reasoning. It was believed that, when a constitution is being developed, the judicious selection of the fiscal arrangements will critically determine the fiscal behaviour in the post-constitutional period. The precarious stance of Belgian public finances required an institutional framework which in the longer run would contribute to a fiscal recovery. Politicians hoped that an accountable fiscal federalism would check the propensity to spend public resources, so that the overall size of the budget sector would be constrained and that the global deficit would be reduced.

The adverse shocks, related to the oil crises of 1975 and 1981, had led to a substantial deterioration in Belgium's macroeconomic performance. In 1975 alone the amount of unemployed labour doubled. Real growth rates stagnated, whereas the disposable income of households still increased. The burden of adjustment was shifted primarily to the social security system and the central budget, which showed ominous deficits. The international competitiveness of the open sector was badly affected and the current account of the balance of payments plunged into the red. Interest rates were increased and for the first time in a long period the government had to resort once again to foreign borrowing. In 1981 the actual budget deficit amounted to 13,5% of the gross national product (GNP).

Successive government coalitions of the late 1970s and early 1980s lacked political strength and cohesion. On average the length of tenure had diminished substantially. In 1982 a new coalition took office, firmly committed to redressing the profitability of business, the labour market and the budget sector. In February 1982 the Belgian franc was devalued by 8,5%, the start of a long series of measures to strengthen the business sector.

The political decision-makers also began to realize too late that too much energy had been directed towards the constitutional reform, which had dominated the political agenda in the past. The public debate on fiscal federalism was frozen for some years. In the mean time, the idea ripened that a new constitutional reform should at the same time be instrumental for an intrinsic amelioration of the budget sector.

The clear-cut statement of the decentralization hypothesis is attributed to Brennan and Buchanan (1980, p. 185): 'Total government intrusion in the economy should be smaller, *ceteris paribus*, the greater the extent to which taxes and expenditure are decentralized'. The main argument is based on greater political competition between the various fiscal jurisdictions. In a centralized setting the monopoly power to extract resources through tax legislation is less challenged than with a decentralized, multilayer government. Here citizens have access to comparative political 'shopping' which introduces a dimension of contestability on the political markets.

We think that this argument is more valid at the local level (see Tiebout, 1956). At the central/intermediate level we prefer an approach focusing on the status of the budget constraint for different levels of government. All government levels are involved in allocation, but in most Western democracies the mandate for macroeconomic demand management is reserved for the central level (see the previous section). The opportunity for deficit-spending through public borrowing and money creation offers a softer budget constraint when compared with the lower levels of government. These levels are surely not entitled to seigniorage and have only limited borrowing facilities. A central government thus operates under a Musgravian type of budget constraint whereas lower levels of government conduct their fiscal affairs under a harder budget constraint, more of the Pigouvian type for example (Pigou, 1928).

However, a more fundamental issue is at stake. Implicitly it is assumed that each government, as the final decision-maker, is benevolent. In the public choice approach, however, collective decisions emerge from the complex interactions of a variety of agents such as citizens, politicians, interest groups and bureaucrats. Common to all actors is the behavioural postulation that they pursue their own goals rather than (unknown) social welfare. Citizens act as voters, taxpayers and consumers of the public programmes. In a representative democracy it is expected that the legislative representatives, after election, will articulate the fiscal preferences of their voters to safeguard their re-election. However, at the same time these politicians also seek to exploit for themselves the benefits of the office such as power, prestige, income, perquisites, etc. This political leeway can be interpreted as slack resources or budgetary means for discretionary use. The proportion of slack resources will further be increased by the rent-seeking behaviour of interest groups and bureaucrats at the expense of the overall budget.

It seems reasonable to posit that there is a relationship between the fiscal outcome of the political decision-making process and the status of the budget constraint. Under a soft budget constraint it is expected that the political decision-makers will give in more easily to the demands of interest groups and bureaucrats, as only a part of the tax bill has to be presented to the voters/taxpayers. Public programmes are then perceived to be underpriced to the extent that the economic agents are myopic and do not fully discount their future tax liabilities resulting from the present deficit-spending. This means that, *ceteris paribus*, the fraction of slack resources will be larger under a soft budget constraint.

In a centralized scheme more budgetary decisions are taken under a soft budget constraint than in a decentralized structure. Recalling the hypothesized positive relationship between the fraction of slack resources and the softness of the budget constraint, one may expect that in a centralized setting the public sector will be larger, other things being equal.

At the empirical level there is no firm consensus that fiscal federalism can serve as a constraint on the expansion of the public sector (Oates, 1990). However, a preliminary investigation (Moesen and Van Rompuy, 1990) seems to indicate that centralized economies appear to be less resistant to macroeconomic shocks than decentralized countries. This is reflected in a bias towards debt finance and a larger overall budget size.

The investigation of the validity of the decentralization hypothesis is not only relevant for the long-term development of the public sector in Belgium; there may also be inferences for the European Community. As EMU progresses from a narrow-band European Monetary System (EMS) (plus capital market liberalization) towards irrevocably fixed exchange rates (plus a European System of Central Banks (ESCB)), the fiscal role of the national governments is also to be reconsidered. To the extent that the mandate for a macroeconomic demand management will be shifted upwards to the EC level, the national governments themselves will be confronted with a harder budget constraint. They will move in the direction of a budget status which is more typical for the subnational levels. It is therefore appropriate to discuss in some detail the empirical results for the decentralization hypothesis.

3.2. An empirical test of the Saunders specification

There exists a vast literature on the theoretical and empirical explanations of government growth. A comprehensive overview is offered by Lybeck and Henrekson (1987). Some studies introduce the degree of fiscal centralization as an additional explanatory variable, often on an *ad hoc* basis. A typical example is Cameron (1978). Recent studies have investigated more directly the decentralization hypothesis, for example Oates (1985), Nelson (1986) and Marlow (1988). The results are not always conclusive.

In a recent article, Peter Saunders (1988) presents a specification which may constitute an interesting vehicle for further empirical research on variations in public sector size between different countries. His interpretation can be summarized as follows: '... the previous, historical ratio of public expenditure to GDP is interpreted as a taste or preference variable, reflecting those basic historical, social and cultural differences between countries which defy quantification or measurement' (Saunders, 1988, p. 276). This idea is captured by the introduction of the ratio of public expenditure to GDP at the beginning of the sample period as a lagged dependent variable (LDV).

Two additional variables extend the model to take into account an institutional and a political characteristic of the country. A federal dummy takes a value of unity for federal nations and zero elsewhere. The other variable measures the number of elections in the sample period. This paper is less interested in the stability of the government coalition, so it shall restrict its attention to the influence of the federal dummy. For different spending categories this coefficient is significantly negative, thus supporting the view that federal countries have lower levels of public expenditure than unitary States.

In this study the public expenditure data cover consolidated general government current and capital outlays. They include the outlays of the federal, State and local levels and also of the social security system. The TEG variable represents these total outlays as a fraction of GNP. The data are taken from the International Monetary Fund *(Government finance statistics)*. A precise definition of the variables is provided in Appendix A. Two centralization ratios were constructed. CENE registers the relative share of the central government in total expenditure, and CENR is based on the proportion of total revenue collected at the central level.

Table 1 highlights some of the main findings. For each variable, three-year averages were calculated for 1985-87. The size of the public sector, expressed in relation to GNP, varies considerably between the countries. On average the relative size is higher in unitary States (51% of GNP) than in federal States (42% of GNP). Both in terms of expenditure and revenue the centralization ratio is higher in unitary States than in federal States. But here also remarkable differences are apparent. Denmark, for example, has lower centralization ratios than Australia or Austria, which are considered to be federalist nations. We are therefore hesitant to work with a federal dummy, taking a value of unity in federal nations and zero elsewhere, as in the Saunders article. We rather view the different government structures as a continuum, with values between zero and one. The relative degree of centralization is then captured by the centralization ratios as an explanatory variable.

Table 1

Public expenditure and centralization ratios

	TEG[1]	CENE[1]	CENR[1]
Federal nations			
Australia	0,3696	0,7658	0,7670
Austria	0,5152	0,8027	0,7239
Canada	0,3765	0,5061	0,4853
Germany	0,4800	0,6559	0,6391
USA	0,3666	0,7205	0,5938
Average	0,4216	0,6902	0,6414
Unitary nations			
Belgium	0,5702	0,9404	0,9294
Denmark	0,5728	0,6635	0,7001
Finland	0,4255	0,7089	0,6934
France	0,4958	0,8943	0,8883
Ireland	0,5634	0,9479	0,9320
Netherlands	0,6004	0,9583	0,9570
Norway	0,4781	0,6891	0,8554
Spain	0,3925	0,8753	0,8660
Sweden	0,5925	0,7377	0,7346
United Kingdom	0,4528	0,9115	0,8737
Average	0,5144	0,8327	0,8430

[1] See Appendix A for explanation of terms.

This slightly modified Saunders specification is then estimated for these 15 countries. The lagged dependent variable (LDV) refers to the expenditure level averaged at the beginning of the sample period over the years 1978-80. As mentioned earlier, it should be interpreted as a 'historical preference variable'. The regression results are reported in Table 2. All estimated coefficients (except some intercepts) are statistically significant and the explanatory power of the specification is satisfactory. Let us concentrate on the centralization ratios. The numerical impact of the government structure seems considerable. An increase in the degree of revenue centralization with 1 percentage point would expand the public sector size with 0,18 percentage points (equation (A.1)). The effect would be 0,22 percentage points for the centralization ratio based on the expenditure side (equation (A.2)). This finding is consistent with the decentralization hypothesis.

In the previous section it was suggested that the resistance of the political decision-makers against the pressure of rent-seeking by interest groups would be weaker under a soft budget constraint, i.e. in a centralized government structure. We therefore want to investigate a particular category of government expenditure: SEG. This variable covers the transfers and subsidies to the other agents of the economy. Equations (A.3) and (A.4) confirm the positive effect the degree of centralization has on the size of this expenditure category.

It is interesting to note that the coefficients of each centralization variable are about the same size for the transfer expenditure SEG as for the total expenditure TEG. This would indicate that the concentration effect, expanding the budget size, operates mainly through the category of transfer expenditure. This finding is consistent with the contention that the discretionary budget may show up to a greater extent in the outlays for transfers and subsidies to the other agents in the economy.

Subtraction of equation (A.3) from (A.1) and equation (A.4) from (A.2) would yield an outcome where the impact of the centralization variables is reduced to zero. This would imply that the degree of centralization does not matter for the other expenditure, captured by TEG but not included in SEG. The main component of this other expenditure relates to government consumption. Equations (A.5) and (A.6) confirm this contention. Here the consumption expenditure of general government, represented by GEG, is regressed against the lagged dependent variable and the centralization variables. Apparently, the degree of centralization has no significant impact on the size of the consumption budget.

However, further investigations are still required as the regressions (A.5) and (A.6) perform poorly. Indeed, one could argue that the provision of exhaustive government expenditure may be characterized by economies of scale. In that case two opposing forces are at work: the expansionary impact of centralization and the cost savings resulting from a centralized provision. *A priori* it seems difficult to speculate on the final net outcome of these two forces. Further empirical analysis is needed to identify the relative strength of both hypothesized effects.

Table 2

Estimates of the Saunders specification

Equation number	Dependent variable	Intercept	LDV	CENR	CENE	R^2	SER
(A.1)	TEG	0,0017	0,7655[1]	0,1782[1]		0,83	0,0342
		(0,0027)	(7,4726)	(2,6292)			
(A.2)	TEG	−0,0403	0,7767[1]		0,2248[1]	0,88	0,0297
		(−0,6840)	(8,8298)		(3,2638)		
(A.3)	SEG	−0,1265[1]	0,4165[1]	0,1896[1]		0,73	0,0295
		(−2,3084)	(4,7149)	(3,2437)			
(A.4)	SEG	−0,1478[1]	0,4343[1]		0,2056[1]	0,74	0,0288
		(−2,5853)	(5,0946)		(3,4193)		
(A.5)	GEG	0,1443[1]	0,1778	−0,0553		0,09	0,0334
		(2,3250)	(1,7777)	(−0,8368)			
(A.6)	GEG	0,1404[1]	0,1701		−0,0456	0,07	0,0338
		(2,0903)	(1,6986)		(−0,6452)		

NB: t-statistics in parentheses; R^2 = coefficient of determination; SER = standard error of the estimates. For an explanation of the other terms used in the column headings, see Appendix A.

[1] Indicates estimates statistically different from zero at the 5% level.

4. Expenditure competences

4.1. Three constitutional reforms

In 1830 the Belgian State was created somewhat artificially, splitting off from the Netherlands, with the support of the great powers of that time. To reinforce the new identity the French language dominated the upper strata in public and economic life. Historically, the Flemish in the northern part, forming the majority of the Belgian population, felt disadvantaged as their language and culture were largely ignored. In a slow process the Dutch language gradually became the 'official' language in education, the administration, the courts, the army, etc. in the northern part of the country.

Cultural autonomy, essentially a Flemish demand, was granted in the constitutional reform of 1970 and further extended in the reforms of 1980 and 1988. As it stands now there are three communities: the Flemish community, the French-speaking community and the German community. The last one consists of an enclave of some 65 000 people in the eastern part of Wallonia.

The communities have in principle complete authority with respect to:

- cultural matters;
- education;
- health policy;
- welfare aid to individuals.

A comprehensive list of these competences is be found in Appendix C. Their main features will be discussed later on.

The drive towards economic autonomy is more recent and originates primarily from Wallonia, i.e. the southern part of the country. For a long time the backbone of the Belgian industrial networks had been located here (coalmining and steel). After the Treaty of Rome in the 'golden' 1960s, Belgium had attracted a great inflow of foreign investment. This was primarily concentrated in Flanders with its abundant and highly skilled labour force. Transportation facilities (seaports and highways) offered another comparative advantage.

The adverse supply shocks of 1975 and 1981 hit the decaying industries in Wallonia more severely than in Flanders. The conviction grew that for an economic restructuring of the region, Wallonia would be better served by economic autonomy. This view was also shared in Flanders and implemented in the three consecutive constitutional reforms.

Belgium is now divided into three regions: the Flemish region, the Walloon region and the region of Brussels-Capital. The vast competences of the regions are:

- area development planning;
- environment;
- rural redevelopment and nature conservation;
- housing;
- water;
- economic affairs;
- energy policy;
- authority over the local governments;
- employment policy;
- public works and transport.

These competences will be discussed later on. A complete list is offered in Appendix B.

Each community and region has its own legislative assembly (the council) and executive body (the executive). They are invested with legislative power (the decrees) equal to that of the national legislature for their own areas of competence. Conflicts of interest are to be settled by a court of arbitration.

To a large degree there is a congruency between the Flemish region and the Flemish community, and also between the Walloon region and the French-speaking community. A perfect mapping is not feasible because of the bilingual status of the region of Brussels-Capital. Of a total population of 9,8 million, 5,6 million live in Flanders, 3,2 million in Wallonia (including 65 000 in the German-speaking 'east cantons'), and about 1 million in bilingual Brussels. A quarter of the Brussels population are foreigners. Of the Brussels inhabitants with Belgian nationality 80% are considered to be French-speaking and 20% Dutch-speaking. This implies that for cultural matters a solution *sui generis* had to be created for Brussels, which makes the overall structure of the intermediate level rather complex.

4.2. A quantification of the expenditure shifts

Let us now look at the expenditure competences in monetary terms. The grand constitutional reform of 1988 had lifted about 28% of expenditure out of the central budget to assign it to the intermediate level. If one adds the own resources of the intermediate level (exclusive taxes) then the budgetary outlays of the intermediate level amount to one third of the total outlays of the previous unitary State.

Table 3 shows that the expenditure shift is highly concentrated in the area of education, cultural and recreational

Table 3

Functional distribution of expenditure between the central and intermediate levels (1989)

(billion BFR)

Function	Central level		Intermediate level
	Before the reform	After the reform	
1. General administration, foreign affairs and development aid	110,0	109,8	0,2
2. National defence	129,6	128,4	1,2
3. Public order and safety	44,9	43,7	1,2
4. Communications and transport	243,8	183,2	60,6
5. Industry and trade	74,1	53,0	21,1
6. Agriculture	14,4	13,9	0,5
7. Education, cultural and recreational affairs	357,0	63,9	293,1
8. Welfare services and health	460,9	433,0	27,9
9. Housing and area development	1,2	1,1	0,1
10. Not classified	713,4	513,3	200,1
Total	2 140,3	1 543,3	597,0

Source: Ministère des Finances, 'Exposé général du budget 1990', Brussels, 1989.

affairs (item 7). Given the existence of two language regimes it is to be expected that differences in community preferences will show up first in these areas, in which it is difficult to pursue a uniform policy.

Autonomy in cultural affairs is (almost) complete and refers to the defence and promotion of the region's own language, the fine arts, museums, libraries, radio and television broadcasting, and financial support for the press. Cooperation between the communities and international cultural cooperation, including the conclusion of treaties, is granted.

The authority over education covers the whole sequence ranging from preschooling in nursery, to primary schools, high schools and universities. Permanent education and parascholastic training is also included. But the central level is still competent for:

- fixing the age limit for compulsory school attendance;
- minimum criteria for delivering university degrees;
- pension schemes.

Scientific research is more ambiguous. The intermediate level has full authority over scientific research related to the domains of its own competence. It can also participate in international programmes. However, externalities may be so dominant that cooperation is recommended. In these cases the central government will take the lead. Eventually a proper arrangement will be worked out with the intermediate level and international partners.

The recreational competences encompass the classical areas of leisure and tourism, but also physical education, sport and open-air activities.

On average the decentralization ratio for this function is more than four fifths. This is illustrated in Graph 1. The central level is still responsible for the national orchestras, academies, museums and other national cultural institutions. Scientific research is also dominantly in the hands of the central government.

The second largest competence of the communities is captured by the welfare services and health function (Table 3, item 8). However, the regulatory powers of the central government and the use of specific-purpose grants severely constrain the autonomy of the intermediate level. Anti-poverty policy (the definition of the subsistence level and the fixation of the guaranteed minimum income, for example) is still decided and also financed by the central government. The same applies to allowances for the handicapped. The health treatment in hospitals is also subject to national rules, standards and financing. Obviously this function is shared by both levels, with a dominance from the central government (see also Graph 1).

The 'force de frappe' of economic autonomy is found in the industry and trade function together with the communications and transport function (Table 3, items 5 and 4 respectively).

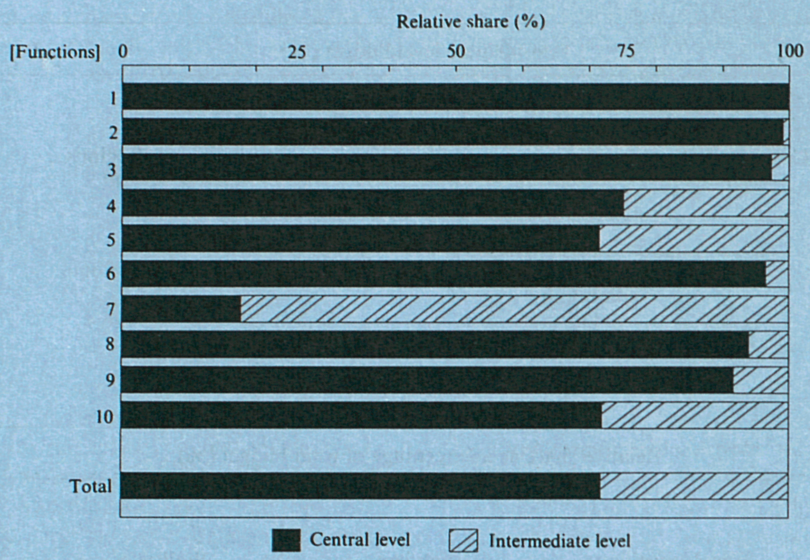
The communications and transport function constitutes the second largest budget at the intermediate level. It covers a broad range of investments and the maintenance of roads, waterways, ports, dykes and embankments, public airfields (excluding Brussels national airport), and city and local public transport. Coastal protection, ferry services and rescue programmes also come under this function. Postal services, railways and the telephone company still operate as a natural monopoly. The first two run heavy operating losses which are financed by the central budget. Some large infrastructure works (for example, Brussels national airport) also remain under the central authority. In relative terms the centralization ratio is still three quarters, as shown in Graph 1.

Infrastructure provision affects the cost structure of firms and thus underpins the potential economic development of a region. The regions are also entitled to direct interventions in industry and trade. Examples are the creation and management of regional credit institutions, and the promotion of exports and public policy with respect to natural resources (Table 3, item 5). In addition to the conventional arguments for economic autonomy, there is the concern to safeguard the economic and monetary union of the nation. This is evidenced by the constitutional constraints (see Appendix B) with respect to the rule of non-distortion. Trade and company law is still uniform and the central government sets upper limits for economic assistance to firms. One often reads the qualification, '... subject to the general and sectoral standards prescribed by the national authorities where no European standards exist'.

Section 2 already mentioned that stabilization policy is assigned to the central level. As a consequence the national authorities have sole power over: monetary policy (both domestic and external); financial policy; prices and incomes policy; labour law and the social security system. On average, 72% of the industry and trade function is still centralized (see Graph 1).

The local authorities remain strategically important bodies within the constitutional system. The new legislation marks an enhancement of the role of the regions *vis-à-vis* the municipalities. They are now responsible for the administrat-

GRAPH 1: **Distribution of expenditure competences between the central and intermediate levels (as a percentage of total expenditure)**



Functions

1. General administration, foreign affairs and development aid
2. National defence
3. Public order and safety
4. Communications and transport
5. Industry and trade
6. Agriculture
7. Education, cultural and recreational affairs
8. Welfare services and health
9. Housing and area development
10. Not classified

Total = Total expenditure

ive supervision of local governments, the allocation of a block grant to each municipality and the design of specific-matching grants for the selective financing of local public works. That key role is hidden under item 10 of Table 3 ('not classified').

The largest fraction of non-classified expenditure relates to the interest changes on the public debt. After a long debate it was agreed that the interest burden on the outstanding debt should be registered in the central budget. Politically and statistically it would have been a tedious exercise to trace back the historical origins of the debt for the different bodies of the new intermediate level. Anyhow, another device aims at some form of burden-sharing between the central and intermediate levels. The engagement is that under the new legislation the regions and communities will not obtain all the budgetary resources needed to pursue expenditure at the same level as in the unitary State. This curtailment is to be interpreted as a contribution of the intermediate level to the huge national debt problem. This point is returned to later in section 6 when the financing mechanism in the 10-year transition period is discussed.

4.3. The repartition of the intermediate level budget over the communities and regions

It has been emphasized that in one stroke some BFR 600 billion of expenditure competences (i.e. about one third of the unitary budget) was transferred to the intermediate level. Graph 2 illustrates the horizontal repartition of this volume over the communities and regions. A basic issue is clarified which boils down to an unequal distribution of government

GRAPH 2: **Repartition of the intermediate level budget (%)**

Intermediate level budget (%)

Communities		Regions		
59,7		40,3		
Flemish community	French-speaking community	Flanders	Wallonia	Brussels
56,5	43,5	51,3	36,4	12,3

Relative share as a percentage of total budget (%)

Flemish community	French-speaking community	Flanders	Wallonia	Brussels
33,7	26,0	20,7	14,6	5,0

Flemish community + Flanders	French-speaking community + Wallonia	Brussels
54,4	40,6	5,0

(%)

Reference data	Flanders	Wallonia	Brussels
Population	57,7	32,5	9,8
Proceeds of personal income tax	58,6	30,1	11,3

expenditure between Flanders and Wallonia in the unitary State. Related to the population size and the revenue-generating capacity, expenditure was considered too high in Wallonia and too low in Flanders.[1]

For the correction of this gap one can follow two strategies. First, a reduction of the expenditure in Wallonia, which was discarded on the consensus of a 'painless departure'. This implies that in the new setting the expenditure (and budgetary means) should at least be equal to the previous level in the unitary State. The other alternative is an upgrading of the expenditure in Flanders with a 'bonus'. This solution would be rather costly in terms of budgetary resources to be transferred from the national budget to the Flanders budget. The poor state of the national budget makes this solution virtually unsustainable. Therefore it was agreed that

[1] The actual share of the Brussels region is somewhat larger than the figures in Graph 2. Of the inhabitants of Brussels, 80% are considered to be French-speaking. For education and cultural affairs they are financed out of the budget of the French-speaking community. The budget of the Flemish community supports the 20% of Dutch-speaking inhabitants.

the bonus would be freed gradually over a 10-year period.

It was rather difficult to make this concept operational, sò the transition financing mechanism is complex and *sui generis*. Only those characteristics which have a general bearing will be reported in the next section.

5. The revenue structure

5.1. The assignment of taxes

The vertical assignment of taxes reflects the concern to minimize locational distortions induced by factor mobility and regional competition. A typical example is the business income tax which remains entirely at the central level. Additionally, the revenue-generating function of taxes is far more dominant at the intermediate level than the distributional objectives, which, in the case of Belgium, are nested in the progressivity of the personal income tax and the national solidarity within the unitary social security system.

Table 4 illustrates the partition of tax income between the central and intermediate levels. The exclusive taxes account for less than 4% of the tax income of the intermediate level. Tax autonomy is deliberately downsized. Apart from inheritance tax, which has some significance, one can safely argue that the other exclusive taxes show a very limited scope. This is the case for the tax on games and bets, on electronic games or on an alcohol licence.

It should be stressed that for these minor taxes the intermediate level has a full tax competence. The intermediate level is entitled to independent tax legislation: it can define the tax base, fix the rate structure and list eventual deductions or exemptions.

For the years ahead, it is agreed that the tax on the sales of property (Table 4, item 10) will become an exclusive tax for the intermediate level. Apparently this move is based on the argument that this tax base is regionally immobile. Vehicle tax is also a candidate for an exclusive tax at the intermediate level. However, the rate structure should remain uniform. Here it seems that the argument of an easy regional perception is useful.

Table 4

Tax income of central and intermediate levels

	Central level		Intermediate level (Regions and communities)		
	A	B	A	B	B
Exclusive taxes	33,8	94,1	3,6	5,9	100,0
1. Tax on games and bets	—	0	0,4	100,0	100,0
2. Tax on electronic games	—	0	0,2	100,0	100,0
3. Tax on alcohol licence	—	0	0,2	100,0	100,0
4. Inheritance tax	—	0	2,7	100,0	100,0
5. Property tax	—	0	0,3	100,0	100,0
6. Vehicle tax	2,3	100,0	—	0	100,0
7. Corporate tax	17,1	100,0	—	0	100,0
8. Excises	13,5	100,0	—	0	100,0
9. Other	0,8	100,0	—	0	100,0
Shared taxes	66,2	54,4	96,4	45,6	100,0
10. Tax on sales of property	2,2	58,6	2,8	41,4	100,0
11. Personal income tax	51,2	67,2	43,3	32,8	100,0
12. VAT (general sales tax)	12,8	30,6	50,3	69,4	100,0
Total	100,0		100,0		

A = Percentage in total tax income of the central or intermediate level;
B = Percentage share of central and intermediate levels in the proceeds of a specific tax category.

Shared taxes constitute the major financing source for the intermediate level. More than 90% of the tax proceeds originate from a joint personal income tax and VAT. It is commonly acknowledged that other mature federal systems rely heavily on the formula of shared taxes. But in Belgium the relative share seems to be significantly higher, which deserves some clarification. Moreover, Olson's equivalence rule, which was restated in section 2, is inherently at odds with the formula of shared taxes. In fact the link between the benefits of the public provision and its tax price is strongly obscured.

At the operational level shared taxes must have some distinct advantages. In the Belgian context they were fully recognized as a minimalization of local distortions, the avoidance of a fierce regional tax competition and an overexploitation of tax bases. At the same time it was believed that the formula of shared taxes would be able to enforce fiscal discipline at the intermediate level.

For the vertical repartition one can imagine several formulas inspired by any possible need indicator. In Belgium the principle of the 'baseline resources' was applied. This means that the intermediate level should be endowed with just enough resources to carry on the programmes and activities of the previous unitary budgets. The vertical repartition frees those resources which are needed to continue in real terms a given existing volume of policies.

The disciplinary concern is clear. If the intermediate level shows other preferences, changing its programmes and priorities, then these changes must be compensated within the budget of the baseline resources. If a new programme is to be started, then existing projects should be curtailed. Additionally, one may also speculate on productivity gains in the new provision at the intermediate level.

It is interesting to note that the joint personal income tax also hides some subtle characteristics of tax autonomy. First of all, it is a returned tax in the sense that the same percentage should be returned to Flanders, Wallonia and Brussels. However, that same percentage is applied to the proceeds of the personal income tax which originate in each of the three regions. As a result, a region that succeeds in stimulating its economic activity can harvest a larger returned personal income tax. Secondly, the regions are entitled to levy a supplementary rate on the personal income tax. This supplementary tax rate may be positive (a surcharge) or negative (a tax reduction). Several restrictions apply:

- the macroeconomic tax burden (of all levels of government) may not increase;
- the central government sets 'la fourchette' (the band) for the supplementary rate;
- introduction from 1993 on.

The joint VAT, on the other hand, shows some characteristics of a block grant. Originally the vertical repartition was calculated on the baseline resources needed for education, the heaviest competence (in budgetary terms) to be transferred to the intermediate level. For the years ahead these baseline resources are then corrected downwards for the projected decline in the school population due to a modest birth-rate. As a consequence, the fraction of the intermediate level in the VAT proceeds will gradually diminish, restraining again the 'marge de manœuvre' for the intermediate level.

The revenues of the VAT are the main financing source for the communities. In principle these resources are not earmarked — they can be used for other purposes. At the level of the French-speaking community this possibility is rather illusory as the outlays for education absorb almost its entire budget. For the Flemish community there is more flexibility as they and the region of Flanders have merged their budgets together.

As a consequence, the scarcity problem already emerges in the French-speaking community. A recent upgrading of the teachers' pay cannot be financed out of the existing repartition. User charges for radio and television, which for semantic reasons are not considered to be taxes, are still shared between the central and international levels. These user charges constitute the second largest revenue source of the communities. They are intended to finance cultural outlays but are not strictly earmarked. The dispute of the French-speaking community results in the claim that the agreed vertical repartition of the user charges can no longer hold. An increase in the fraction of the intermediate level is requested. The Flemish community takes an ambiguous position in this dispute. It is reluctant to renegotiate the complex financing rules after an experience of only two years. On the other hand it is an interested party which would also benefit from an increase of its own share.

5.2. Other revenue sources

The other revenue sources of the intermediate level are:

(i) Non-fiscal income $\begin{cases}\text{fees and user charges}\\ \text{income from government property}\end{cases}$

(ii) Grants $\begin{cases}\text{unconditional block grants}\\ \text{specific-purpose grants}\end{cases}$

(iii) Borrowing.

Non-fiscal income only accounts for some 2% of the total resources of the intermediate level. They cover the user charges for radio and television, environmental fees, fees for hunting and fishing, entrance fees, etc. The income from government property refers to interest on outstanding loans and profits on investments.

The unconditional block grant explicitly highlights the solidarity between the richer and the poorer regions (see rule 6 in section 2). Wallonia, which has a per capita income well below the national average, gets about BFR 12 billion of additional support. The parameters of the block grant were already discussed in section 2. Here it suffices to present the allocation formula for any year *t*. Note that BFR 468 is the per capita reference figure of the base year.

$$RSBG_t = 468\,(1 + \mathring{p})^t \cdot 100 \cdot [1 - \frac{RPCRPIT}{NPCRPIT}] \cdot RPOP$$

where:

RSBG = regional solidarity block grant

RPCRPIT = regional per capita revenue of the personal income tax

NPCRPIT = national per capita revenue of the personal income tax

RPOP = regional population

$\mathring{p}$ = inflation rate

Specific-purpose grants may be used for paternalistic reasons (see rule 7 in section 2). In the Belgian context they refer to a subsidy for regional re-employment programmes and the financing of foreign students at universities.

The restrictions on borrowing were already listed in section 2 when the Belgian concern for a centralized stabilization policy was discussed.

5.3. A 10-year transition period

At the constitutional reform of 1988-89, the policymakers agreed on a financing mechanism *sui generis* for the 10-year transition period (1990-99). The tax and revenue designs of the previous paragraphs still remain valid but two major modifications should be added. Both modifications reflect the precarious stance of Belgian public finances with its excessive public debt and large budget deficits. Ultimately they result in a negotiated reduction of the baseline resources.

It should be recalled that the per capita baseline resources are higher in Wallonia and the French-speaking community than in Flanders and the Flemish community. This was the historical heritage of past policies in the unitary budget. The principle of a 'painless departure' guaranteed the same volume of resources for each region and community as in the years before the grand reform. An upgrading of the baseline resources to the level of Wallonia and the French-speaking community would generate a substantial expenditure bonus for Flanders and the Flemish community. This additional transfer of resources would still further deteriorate central public finances. Therefore a rather complex scheme was negotiated to gradually free the bonus over a 10-year transition period.

A second correction imposes a sharing of the burden of the public debt between the central and the intermediate levels. The public debt, outstanding at the eve of the grand reform, still remains at the central level. Actually almost 40% of the outlays of the central government are now absorbed by the yearly interest payments. All the sins of the past are bestowed upon the central level. In fact it was feared that a repartition of a part of the outstanding debt would entail endless disputes and negotiations.

The proposed solution is not painless either. All baseline resources are reduced by a standard 14,3%. This convention implies that in order to pursue the same policies as before, the intermediate level has, *ceteris paribus*, to borrow for 14,3% of its budget. The agreement thus 'forces' the intermediate level to run deficits from the start.

The standard percentage of 14,3 reflects the borrowing requirement of the unitary budget. On average 14,3% of the total outlays of the unitary budget were covered by loans.

The linear cut is rather severe and is applied to all baseline resources. Surprisingly the central government is again generous in the sense that in the coming years it will free additional resources to service a part of the debt of the intermediate level incurred by the 'forced' deficits.[1] Moreover, the central government still calculates in the baseline resources the investment outlays of the intermediate level — be it that here the standard cut of 14,3% is also practised.

Economists opposed this complex and unorthodox scheme. Instead they favoured the introduction of the 'golden rule' at the intermediate level. This implies that the baseline resources for the current outlays should be transferred without the linear cut of 14,3%. On the other hand, there would

[1] The additional resources are calculated on the basis of standard annuities for different categories of outlays.

be no transfer of resources for the capital outlays of the intermediate level. For the first years of the transition period both alternatives would induce the same budget deficit at the intermediate level. Apparently the policymakers could not be convinced. The golden rule may be too simple or too clear-cut. Anyway, the status of the budget constraint would have been more 'visible' under the alternative solution.

6. The issue of social cohesion

Social cohesion is to a great extent implemented by the unitary social security system and the progressivity of the personal income tax. In Belgium both are uniform throughout the whole nation. Standard principles of fiscal federalism still assert that, in view of the externalities, redistribution is best assigned to the central level. As a second best option one can imagine a decentralized system with an appropriate grant scheme from the central level.

Although the Belgian system fits the standard prescription, there is lively debate on whether the social security system should be decentralized. Earlier and recent studies (Van Rompuy et al., 1980; Dethée, 1991) reveal that Wallonia gets a net benefit of BFR 102 billion, of which BFR 15 billion is paid by Brussels and BFR 87 billion by Flanders. On a per capita basis the contributions to the social security system are 25% lower in Wallonia than in Flanders. On the expenditure side the average inhabitant of Wallonia receives 19% more than the average Flemish citizen.

A large part of this interregional transfer is to be attributed to demographic factors: an older population in Wallonia with more retired people and professional diseases from, amongst others, the depressed heavy industries. In addition, the unemployment rate exceeds the national average. Other differences are more difficult to explain, for example in medical consumption and sickness pay.

It is difficult to forecast the outcome of the debate. As it stands now one would expect that the major income maintenance programmes (unemployment compensation and retirement pensions) will remain at the central level. There seems to be a consensus that asymmetric shocks are best absorbed by a nationwide scheme. For other branches, such as child allowance or medical consumption, one may envisage a two-tier system. With a central government still involved in the collection of reduced contributions and the disbursement of reduced benefits, supplementary programmes can then be designed at the discretion of the regions and communities.

7. Conclusions

In an ongoing situation, policy coordination is generally welfare-increasing because it internalizes the spillovers of economic policies between countries. Focusing the attention on public finance, there remains the basic question of whether binding fiscal rules are required. Advocates of formal fiscal constraints implicitly believe that EMU will weaken the fiscal discipline of the member nations. Individual countries may speculate on the escape route of being bailed out by the European Central Bank (Eurofed) should a liquidity crisis arise. Individual countries may thus be tempted to run deficits and accumulate debt beyond levels considered to be sustainable in isolation.

This moral hazard problem is overstated and the disciplinary force of EMU is underestimated. The mere removal of seigniorage by itself considerably hardens the budget constraint of the national governments. This paper has put forward some empirical evidence on the relationship between the status of the budget constraint and fiscal discipline. Additionally, market forces, through interest rates, will sanction those nations with permanent deficits well above the levels which can be justified on the argument of intertemporal tax-smoothing. As a comparison one may refer to the recent interpretation of the EMS as a disciplinary device to lower the inflation trend (see Giavazzi and Pagano, 1988).

There remains then the issue of stochastic asymmetric shocks, structural asymmetries and side payments. Other expert papers deal at length with these questions. Here it suffices to interpret the Belgian framework. First of all, the unitary social security system operates as a powerful transfer mechanism to solidify social cohesion. It is often claimed, not altogether ironically, that it is the social security system which keeps the nation together.

Secondly, there is a formal agreement that each fiscal year the budget deficit of the central and intermediate levels, taken together, should be properly evaluated against the prevailing macroeconomic environment. The report of the prestigious committee for the financing needs of the nation provides guidelines for the size of the global budget deficit and its breakdown over the various governmental units. Should a community or region neglect the recommendation, then the central government is legally entitled to reduce the borrowing facilities for a maximum period of two years. In that case it is the national Minister for Finance who decides on all borrowing at home and abroad. Apparently Belgium prefers, for the domestic level, flexible norms but with the capacity to impose rigid sanctionings.

Appendix A — Data sources and construction of variables

IMF	International Monetary Fund
IFS	*International financial statistics*
GFS	*Government finance statistics*
CENE	Total expenditure of central government as a percentage of total expenditure of general government (IMF, GFS)
CENR	Total revenue of central government as a percentage of total revenue of general government (IMF, GFS)
GEG	Exhaustive expenditure of general government as a percentage of GNP (IMF, GFS)
LDV	Lagged dependent variable
SEG	Subsidies and transfers of general government as a percentage of GNP (IMF, GFS)
TEG	Total expenditure of general government as a percentage of GNP (IMF, GFS)

Appendix B — Competences of the regions

I — *Area development planning*

1. Town planning and regional land use and management;
2. Alignment plans for the borough road network;
3. The acquisition, development and equipment of sites for use by heavy industry, light industry and services, or other infrastructure to accommodate investors, including capital investment for the equipment of industrial estates in the vicinity of seaports and their availability to users;
4. Inner-city redevelopment;
5. Redevelopment of disused industrial sites;
6. Land policy;
7. Monuments and sites.

II — *The environment*

1. Protection of the environment, including general and sectoral standards, subject to the general and sectoral standards prescribed by the national authorities where no European standards exist;
2. Waste policy, including the import, transit and export of radioactive waste;
3. Inspection and supervision of dangerous, unhealthy or objectionable premises, subject to domestic public policy measures concerning the protection of labour.

III — *Rural redevelopment and nature conservation*

1. The regrouping of agricultural holdings and rural redevelopment;
2. The protection and conservation of nature, except for the import, export and transit of non-indigenous plant species, together with non-indigenous animal species and their skins;
3. Tracts of countryside, parks and green belts;
4. Forests;
5. Hunting, except for the manufacture, trade in and possession of hunting weapons, and bird-snaring;
6. River fishing;
7. Fish-farming;
8. Agricultural water engineering and non-navigable waterways, including their banks;
9. Flood control and drainage;
10. Polders and fenland.

IV — *Housing*

Housing and the inspection of dwellings which constitute a danger to public health and hygiene.

V — *Water policy*

1. The production and distribution of water, including technical regulations governing drinking water, subject to the minimum standards prescribed by the national authorities where no European standards exist;
2. Purification of effluent. This includes in particular the prescribing of general and sectoral conditions for the discharge of effluent subject to the minimum standards for discharge prescribed by the national authorities where no European standards exist;
3. Sewerage.

VI — *Economic affairs*

1. Economic policy;
2. Regional aspects of credit policy, including the creation and management of public credit institutions;

3. Market outlet and export policy, without prejudice to any national policy for coordination, promotion and co-operation in the matter through suitable institutions and instruments;
4. Complementary and supplementary assistance to agricultural undertakings: the regions shall be associated in the management of the Agricultural Fund and the Agricultural Investment Fund;
5. Natural resources.

Provided that:

(i) any regulation enacted by the region relating to tax concessions falling within the scope of national fiscal policy and granted pursuant to the economic expansion laws shall be subject to the assent of the appropriate national authority;

(ii) the cabinet may accord the State's guarantee to economic expansion matters on a proposal by the executive concerned. In economic matters, the regions shall exercise their powers in accordance with the principles of freedom of movement of persons, goods, services and capital and the freedom of trade and industry, and in compliance with the general legal framework of economic union and monetary unity as established by or under the law and by virtue of international treaties.

To this end, the national authorities have the power to prescribe general rules concerning:

(a) public contracts;

(b) consumer protection;

(c) the organization of the economy;

(d) maximum limits for assistance to companies in economic expansion matters, which may be altered only with the assent of the regions.

The national authorities, moreover, have sole powers over:

(a) monetary policy, both domestic and external;

(b) finance policy and the protection of savings, including the regulation and supervision of credit and other financial institutions and insurance and similar undertakings, holding companies and unit trusts, mortgage loans, consumer credit, banking and insurance law, and the formation and management of public credit institutions;

(c) prices and incomes policy;

(d) competition law and business practices law, except for the awarding of quality labels and registered designations of origin of a regional or local character;

(e) commercial and company law;

(f) conditions for the taking-up and exercise of occupations;

(g) industrial and intellectual property;

(h) quotas and licences;

(i) weights and measures and standards;

(j) confidentiality of statistics;

(k) the National Investment Corporation;

(l) labour law and social security.

VII — *Energy policy*

The regional aspects of energy, and, in any case:

(a) the local distribution and transmission of electricity by means of a grid with a nominal voltage less than or equal to 70 000 volts;

(b) the public distribution of gas;

(c) the use of coal gas and exhaust gases from blast furnaces;

(d) remote heating distribution systems;

(e) development of spoil tips;

(f) new sources of energy, excluding those derived from nuclear power;

(g) the recovery of energy by industries and other users;

(h) the rational use of energy.

Provided always that the national authorities shall have competence over matters whose technical and economic indivisibility requires identical treatment nationwide, namely:

(a) the national infrastructure and facilities plan for the electricity industry;

(b) the nuclear fuel cycle;

(c) major infrastructural facilities for storage, transmission and generation of energy;

(d) tariffs and charges.

VIII — *The subordinate authorities*

1. The operating methods, supervision and determination of the competences of the associations of boroughs set up as public utilities, and the application of the constitutional laws governing such associations;
2. The general financing of boroughs, conurbations and federations of boroughs and the provinces, except for the province of Brabant;

3. The financing of public works to be carried out by the boroughs, conurbations and federations of boroughs, the provinces and other public corporations in matters falling within the competence of the regions, except where those works relate to matters falling within the competence of the national authorities or the communities. The appropriate region for financing the public works to be carried out by the province of Brabant shall be determined by the geographical location of the work to be done.

IX — *Employment policy*

1. The employment of workers;

2. Programmes for putting registered full-time unemployed and equivalent persons back to work, excluding such employment programmes in the central administration and other departments of the national government or under its supervision.

The national authority will make a financial contribution for each registered full-time unemployed worker or person treated as equivalent under or by virtue of the law, engaged under a contract of employment in an employment programme, the amount of which, fixed by Royal Decree discussed in the Cabinet, shall correspond to the amount of unemployment benefit.

The financial contribution referred to in the preceding paragraph may vary with the period for which the person engaged for work has been unemployed. The amount of such contribution is fixed by agreement with the regional executives.

Without prejudice to the foregoing provisions, and until the expiration of the period of validity of the Interdepartmental Budgetary Fund established by Royal Decree No 25 of 24 March 1982, the existing regulations shall continue to apply to the agreements referred to in Section 5 of the said Decree No 25 concluded before the entry into force of the law referred to in the final paragraph of Article 115 of the Constitution;

3. The application of standards governing the employment of foreign workers.

X — *Transport policy*

1. Roads and their ancillary structures;
2. Waterways and their ancillary structures;
3. Ports and their ancillary structures;
4. Coastal protection;
5. Dykes, embankments and moles;
6. Ferry services;
7. The equipping and operating of public airports and airfields, excluding Brussels national airport;
8. City and local public transport, including specialized scheduled services and taxi services;
9. Pilot and buoyage services into and out of ports, together with sea rescue and salvage services.

The powers conferred in points 2, 3, 4 and 9 include the right to carry out works and activities, including dredging, necessary to the exercise of those powers within territorial waters and on the continental shelf.

Appendix C — Competences of the communities

I — *Education and scientific research*

excluding:

(a) the beginning of compulsory school attendance;

(b) minimum criteria for the issuing of academic qualifications;

(c) pension schemes.

II — *Cultural matters*

1. Defence and promotion of the language;
2. Promotion of training for research workers;
3. Fine arts;
4. Cultural heritage, museums and other cultural and scientific institutions, excluding historic sites and monuments;
5. Libraries, record libraries and kindred services;

6a. Radio and television broadcasting, with the exception of broadcasts by the national government;

6b. Support for the written press;

7. Youth policy;
8. Permanent education and cultural animation;
9. Physical education, sport and open-air activities;
10. Leisure and tourism;
11. Preschooling in nursery and day-care units;
12. Further education and parascholastic training;
13. Artistic training;

14. Intellectual, moral and social training;
15. Social advancement;
16. Professional reconversion and retraining, with the exception of rules governing intervention in the expenses incurred by the selection, professional training and rehabilitation of personnel recruited by an employer with a view to founding a business enterprise or to the enlarging or retooling of an existing enterprise.

III — *Health policy*

1. The policy covering treatment and care dispensed within and outside hospitals and clinics, except for:

(a) organic (constitutional) legislation;

(b) financing such facilities when this is organized by the organic legislation;

(c) sickness and disability insurance;

(d) basic rules with respect to planning;

(e) basic rules for the financing of infrastructural work, including heavy medical equipment;

(f) national standards governing official approval, but only to the extent that they may have repercussions on the areas of competence referred to in (b), (c), (d) and (e) above;

(g) definition of the conditions for, and designation of, a university (teaching) hospital, in accordance with the legislation governing hospitals;

2. Education in health care and hygiene, together with work and services centred on preventive medicine, except for prophylactic measures at national level.

IV — *Aid to individuals*

1. Family policy, including all forms of aid and assistance to families and children;

2. Social assistance policy, except for:

(a) organic rules and regulations governing the 'centres publics d'aide sociale' (CPAS — social welfare centres);

(b) definition of the minimum amount and the conditions governing the granting and financing of the legally guaranteed minimum income, in accordance with legislation instituting the right to a minimum level of subsistence;

3. The policy on reception and integration of immigrants;

4. The policy on handicapped people, including their training, rehabilitation and vocational guidance, except for:

(a) the rules and financing of allowances to handicapped people, including their personal files;

(b) rules governing financial grants for the employment of handicapped workers, awarded to workers engaging disabled people;

5. Old-age policy, except for the definition of the minimum amount, and the conditions surrounding the granting and financing of the income legally guaranteed to senior citizens;

6. The care and protection of minors, including their social and legal protection, except for:

(a) the rules of civil law governing the status of minors and the family, as established by the Civil Code and the statutes by which the code is amplified;

(b) the rules of criminal law making acts in contravention of the protection of minors a punishable offence and establishing the penalties by which such breaches are sanctioned, including any provisions relating to legal proceedings, without prejudice to Article 11;

(c) the organization of juvenile courts and tribunals, their territorial competence and the procedures before them;

(d) the determination of measures which may be applied to minors having committed an act classed as an offence;

(e) failure or lapse of parental and guardian's authority over child benefit/family allowance and other social welfare allowances;

7. Social aid to prisoners with a view to their reintegration into society.

Table 5

Functional distribution of net expenditure by central and intermediate levels of government, 1989 (as a percentage of GNP)

(%)

	Central level	Intermediate level
1. General administration, foreign affairs and development aid	1,8	—
2. National defence	2,1	—
3. Public order and safety	0,7	—
4. Communications and transport	3,0	1,0
5. Industry and trade	0,9	0,3
6. Agriculture	0,2	—
7. Education, cultural and recreational affairs	1,0	4,8
8. Welfare services and health	7,1	0,5
9. Housing and area development	—	—
10. Not classified	8,4	3,3
Total	25,2	9,8

Table 6

Income structure of State government (intermediate level), 1989 (shares expressed as a percentage of total)

	(%)
Exclusive taxes	3,4
Competing taxes	
State surcharges	
Shared taxes	90,5
Total taxes	93,9
Unconditional block grants	
Specific-purpose grants	3,9
Federal grants	3,9
Non-fiscal income	2,2
Total	100,0

Questionnaire: Federal and State financial relations

1. Which, if any, federal constraints exist on States' fiscal balances?

The new legislation prescribes that each fiscal year the size of the consolidated budget of the central and intermediate levels should be evaluated against the prevailing macroeconomic environment. Within the prestigious High Council for Finance an independent committee for the financing needs of the nation was installed. Its yearly report is to be published before the new budgets are elaborated. This report provides guidelines for the size of the consolidated budget deficit and its breakdown over the various government units.

2. Which, if any, self-imposed legal or de facto *constraints exist on States' fiscal balances?*

If the intermediate level (regions and communities) deliberately and persistently violates the guidelines, then its borrowing facilities can be curtailed by the central government for a maximum period of two years.

3. Are States allowed to borrow in foreign currency and under which rules?

Yes. But only with the formal approval of the national Minister for Finance.

4. Is there any coordination in the issuance (for example, timing) of States' bonds?

Yes. The domestic floating of bonds has again to be approved by the Minister for Finance.

5. Do States have direct access to the federal Central Bank to finance: (a) budget deficits; (b) short-term overdrafts? If so, does this happen under market conditions?

No. The intermediate level has no direct access to any credit line at the Central Bank.

6. Who gets the profits of the federal Central Bank? If the profits are distributed among States, which key is used for the distribution?

The residual profits go entirely to the central government.

References

Brassine, J. (1989), 'Les nouvelles institutions politiques de la Belgique', *Dossiers du CRISP*, No 30, Brussels.

Brennan, G. and Buchanan, J. (1980), *The power to tax: Analytical foundations of a fiscal constitution*, Cambridge, Cambridge University Press.

Breton, A. (1970), 'Public goods and the stability of federations', *Kyklos*, No 1, pp. 882-903.

Cameron, D. (1978), 'The expansion of the public economy: A comparative analysis', *American Political Science Review*, 72, pp. 1243-61.

Chambre des Representants de Belgique (1989), 'Projet de loi spéciale relative au financement des Communautés et des Régions', Brussels.

Club van Leuven (1990), 'Vlaanderen op een kruispunt', Tielt, Lannoo.

Defossé, J.-C. (1990), *Le petit guide de grands travaux inutiles*, Brussels, RTBF.

Dethée, M. (1991), 'De interregionale transferten inzake sociale zekerheid in België, 1985-89', *Economisch en Sociaal Tijdschrift*, 1, pp. 105-125.

Giavazzi, F. and Pagano, M. (1988), 'The advantage of tying one's hands', *European Economic Review*, 32, pp. 1035-1082.

Heremans, D. (1978), 'Economische autonomie en economische unie, krachtlijnen voor een duurzame oplossing', *Leuvense Economische Standpunten*.

Hirsch, W. (1970), *The economics of State and local governments*, New York, McGraw-Hill.

Lybeck, J. and Henrekson, H. (1987), *Explaining the growth of government*, Amsterdam, North Holland.

Marlow, M. (1988), 'Fiscal decentralization and government size', *Public Choice*, 56, pp. 259-269.

Moesen, W. and Vanneste, J. (1980), 'L'autonomie budgétaire: La variante locale face à la variante fédérale', *Crédit Communal de Belgique*, No 132, pp. 97-114.

Moesen, W. and Van Rompuy, P. (1990), 'The growth of government size and fiscal decentralization', in Prud'homme, R. (ed.), 'Public finance with several levels of government', *Foundation Journal of Public Finance*, pp. 113-123.

Musgrave, R. (1959), *The theory of public finance*, New York, McGraw-Hill.

Musgrave, R. (1969), 'Theories of fiscal federalism', *Public Finance/Finances publiques*, No 4, pp. 521-532.

Nelson, M. (1986), 'An empirical analysis of State and local tax structures in the context of the leviathan model of government', *Public Choice*, 49, pp. 283-294.

Oates, W. (1972), *Fiscal federalism*, New York, Harcourt Brace & Jovanovich, 1972.

Oates, W. (ed.) (1977), *The political economy of fiscal federalism*, Lexington, Lexington Books.

Oates, W. (1985), 'Searching for leviathan: An empirical study', *American Economic Review*, 75, pp. 748-758.

Oates, W. (1990), 'Fiscal federalism', in Prud'homme, R. (ed.) 'Public finance with several levels of government', *Foundation Journal of Public Finance*, The Hague/Koenigstein, pp. 1-18.

Olson, M. (1969), 'The principle of "fiscal equivalence": The division of responsibilities among different levels of government', *American Economic Review*, 59, pp. 419-427.

Peeters, T. (1978), 'Economisch federalisme: Lessen uit het buitenland', *Leuvense Economische Standpunten*.

Pigou, A. (1928), *A study in public finance*, London, MacMillan.

Saunders, P. (1918), 'Explaining differences in public expenditure: An empirical study', *Public Finance/Finances publiques*, 43, pp. 271-294.

Tiebout, C. (1956), 'A pure theory of public expenditure', *Journal of Political Economy*, 5, pp. 416-424.

Tresch, R. (1981), *Public finance: A normative theory*, Plano, Business Publications.

Van Rompuy, P., Verheirstraeten, A., Uyttebroeck, F. and Pacolet J. (1980), *De regionalisering van de overheidsontvangsten en -uitgaven en de interregionale financiële stromen 1957-78*, Centre for Economic Studies, Leuven.

Wildasin, D. (1990), 'Budgetary pressures in the EEC: A fiscal federalism perspective', *American Economic Review*, May, pp. 69-74.

The federal and fiscal structures of representative and direct democracies as models for a European federal union: Some ideas using the public-choice approach[1]

Friedrich Schneider

Department of Economics, Johannes Kepler University of Linz, Austria

Contents

[1] This revised version originates from an invited report for the Commission of the European Communities, Directorate-General for Economic and Financial Affairs, Brussels, 1991.

Tables

Summary

This paper provides analyses of possible constitutional and institutional structures for Europe after having established a European economic and monetary union. Based on the explicit development of perspectives drawn from public-choice theory and comparative institutional analysis and backed by reference to various empirical studies, the central claim of this paper is that the benefits of the internal market, greater competition and monetary union can be lost by rent-seeking behaviour by pressure groups, if the European Community fails to build an appropriate institutional and constitutional structure. The central approach of this paper is to compare and contrast two federal models — one based on direct democracy and the other on representative democracy — for clues as to appropriate design features for a possible European federal union. The two federal models are Switzerland and Germany and an examination of trends in expenditure, revenue, intergovernmental grants and public sector debt indicates that Switzerland has out-performed Germany over the period since the 1950s in terms of overall fiscal restraint and in terms of avoiding, or minimizing, centralization of fiscal power. Against the background of these facts and assessments, the paper examines public-choice type theories of political entrepreneurship and rent-seeking and related analyses of how institutional arrangements affect public sector outcomes, and draws on a large empirical literature, much of which focuses directly on Germany and Switzerland, to establish a strong case for believing that direct democracy results in fewer opportunities for political decision-making to be captured and driven by interest group pressures. Finally, the paper makes some preliminary suggestions about some major elements of a European constitution which include a clear statement of the limited competences of the Community level, a provision for Member States to secede from the union, and the institution of a requirement for popular referendums for major policy changes as well as for changes to the European constitution.

1. Introduction

We are currently observing an attempt towards completing European economic and monetary union by the end of 1999. After completing the economic union, the next task is to create a monetary union. To enable the functioning of this dual union some minimal European federal State will be required. In order to 'design' such a minimal European federal State (or union) this paper investigates whether the federal and political structure of European democratic States can serve as a model for this task. As Europe includes a number of representative democracies (like Germany, Austria or Belgium), and only one direct democracy (Switzerland), this paper examines whether one could use some elements of the political and federal structures of either a representative democracy or a direct democracy in order to construct a minimal European federal union. As it is quite unlikely (or unrealistic) that a very centralized federal European union will be created, because the European Member States would not tolerate this, Germany has been chosen as a model of a representative system since it has a decentralized federal structure;[1] and of course, only Switzerland, with its very decentralized federal structure, can be taken as a model for the direct democratic system.

In order to investigate which elements of the political and federal structures of the two countries can be used for a European federal union, Section 2 provides a comparison of the government, expenditure and revenue structure of Germany and Switzerland. In the first part of Section 3, some principal considerations on government behaviour, government growth and the behaviour of political entrepreneurs, bureaucracies, and the most important interest groups are outlined. Secondly, the influence of institutional arrangements on the size of government is analysed. Finally, in Section 4 a summary of the main arguments is given and some preliminary conclusions about a European federal union from a public- choice perspective are drawn, which identify some of the major elements of such a union, and evaluate whether the German or the Swiss political and federal structure has more to contribute to it.

2. Fiscal and political structures of Germany and Switzerland

2.1. The fiscal structure of Switzerland

Since the fiscal structure of the direct democracy in Switzerland is not as well known as that in Germany, it will be described in some detail.[2] Table 1 depicts some major economic and political indicators for Switzerland. It indicates that big cantons are not always the richest; for example, the canton of Zurich had a total GNP of SFR 56 418 million in 1989, but the per capita income is only SFR 48 915 compared

1 Austria was not included in this report as Austria is quite similar to Germany, and in those areas where there are differences, Austria is a much more centralized State (compared to Germany).

2 This part goes back to the work of Dafflon (1991 a, b, c, d, e), and the tables are taken from Dafflon (1991a).

Table 1

Some major economic indicators for Switzerland, 1989

Canton	Number of communes	Surface in km²	Population in 1 000	GNP		
				Total (million SFR)	Per capita (SFR)	Index = 100
Zurich	171	1 729	1 153	56 418	48 915	127,5
Berne	412	6 050	943	32 261	34 226	89,2
Lucerne	107	1 492	316	9 517	30 108	78,5
Uri	20	1 076	34	1 002	29 384	76,6
Schwyz	30	908	109	3 528	32 486	84,7
Obwalden	7	491	29	799	27 840	72,5
Nidwalden	11	276	32	1 161	35 944	93,7
Glarus	29	685	38	1 682	44 615	116,3
Zug	11	239	85	5 662	66 769	174,0
Fribourg	259	1 670	204	6 939	34 065	88,8
Solothurn	130	791	223	7 612	34 073	88,8
Basle-city	3	37	192	10 229	53 304	138,9
Basle-country	73	428	230	8 829	38 404	100,1
Schaffhausen	34	298	71	2 468	34 663	90,3
Appenzell I.-Rhoden	20	243	51	1 586	31 037	80,9
Appenzell O.-Rhoden	6	172	14	405	29 562	77,0
St Gallen	90	2 014	416	13 611	32 687	85,2
Grisons	213	7 106	177	6 172	34 890	90,9
Aargau	232	1 404	490	18 146	37 040	96,5
Thurgau	179	1 012	202	6 364	31 536	82,2
Ticino	247	2 811	287	8 991	31 371	81,7
Vaud	385	3 219	576	21 535	37 361	97,4
Valais	163	5 226	249	7 332	29 410	76,6
Neuchâtel	62	797	160	5 143	32 224	84,0
Geneva	45	282	378	18 681	49 486	128,9
Jura	82	837	65	1 927	29 510	76,9
Switzerland	3 021	41 293	6 723	258 000	38 376	100,0

Source: Dafflon (1991a).

to SFR 66 769 in the canton of Zug. Further examination of per capita GNP reveals that there is a rather large variance. The highest is in the canton of Zug with SFR 66 769, and the lowest is in the canton of Obwalden with SFR 27 840. The canton of Berne has the largest surface area, and the canton of Zurich has the largest population (1 153 000 inhabitants).

Table 2 shows the growth of the public sector over the period 1970 to 1988. It indicates quite different growth in the three Swiss federal units (confederation, cantons and communes). The Swiss Confederation (highest federal unit) grew the slowest over the period 1970 to 1988, and the Swiss communes had the fastest growth. In percent of GNP, the size of the public sector is still quite low compared to the representative democracies in Europe.

Table 2

Growth of the public sector, 1970-88

(Million SFR)

Governmental units	1970	1980		1988	
Confederation[1]	7 834	17 532	(124%)[3]	26 633	(52%)[4]
Cantons[1]	9 533	21 926	(130%)	34 828	(59%)
Communes[1]	6 840	16 476	(141%)	26 031	(58%)
All governmental units[1]	24 207	55 934	(132%)	87 492	(57%)
% GNP[2]	22,4%	27,7%		27,3%	

[1] Values in brackets are per cent growth between 1970 and 1980, and 1980 and 1988, respectively.
[2] Without double imputation and without social security.
[3] Growth rate over the period 1970 to 1980.
[4] Growth rate over the period 1980 to 1988.
Source: Dafflon (1991a) and own computations.

Table 3

Public expenditure of the three federal units in Switzerland, 1988

(Million SFR and %)

Function	Confederation	%	Cantons	%	Communes	%	All governmental units	%
Administration	759	15,48	1 736	35,39	2 411	49,13	4 906	100,00
Foreign affairs	1 793	100,00	0	0,00	0	0,00	1 793	100,00
Justice	199	10,40	1 368	71,65	343	17,96	1 911	100,00
Police, fire defence	59	2,42	1 511	61,97	869	35,61	2 440	100,00
Special services	179	100,00	0	0,00	0	0,00	179	100,00
National defence	4 956	83,72	481	8,12	483	8,16	5 920	100,00
Education	2 433	13,73	9 569	54,00	5 720	32,27	17 722	100,00
Culture, recreation, sports	203	8,23	603	24,39	1 667	67,39	2 473	100,00
Church	0	0,00	183	79,07	49	20,93	232	100,00
Health	52	0,53	5 870	59,61	3 925	39,86	9 848	100,00
Environment	203	5,83	664	19,06	2 617	75,12	3 484	100,00
Social security	5 629	44,46	4 212	33,27	2 821	22,27	12 662	100,00
Zoning, land planning	54	18,73	87	29,97	148	51,30	289	100,00
Transport, roads	3 722	37,24	3 979	39,80	2 296	22,96	9 997	100,00
Agriculture	2 336	59,77	1 357	34,73	215	5,50	3 909	100,00
Forestry	106	12,71	369	44,45	356	42,84	831	100,00
Avalanches, embankments	179	29,08	238	38,79	197	32,13	614	100,00
Economy	501	62,24	235	29,20	69	8,56	805	100,00
Finance	3 265	43,70	2 358	31,56	1 849	24,74	7 472	100,00
Total	26 633	30,44	34 827	39,81	26 036	29,75	87 490	100,00

Source: Dafflon (1991a).

Table 4

Revenue sources in Switzerland, 1988

(%)

Source	Confederation	Cantons	Communes	Average of the three federal units
Income and wealth	41,40	50,40	49,80	47,20
Consumption and expenditure	51,70	3,20	0,20	18,40
Fiscal monopolies, licences	1,50	0,80	0,00	0,80
Public property	2,30	3,80	6,00	4,00
Revenue sharing	0,00	6,30	2,30	2,90
Grants in aid and reimbursements:				
from the Confederation	0,00	13,60	0,20	4,60
from the Cantons	0,00	0,00	15,10	5,00
from the Communes	0,00	7,50	0,00	2,50
Indemnities and sales	3,10	14,40	26,40	14,60
Total	100,00	100,00	100,00	100,00

Source: Dafflon (1991a).

Table 3 provides a detailed description of public expenditure in 1988 and demonstrates that the responsibility for the majority of the budget items is shared, to some degree, by all three governmental units. Obviously, the Swiss Confederation is almost solely responsible for some services, such as national defence and foreign affairs. But other items, like education, generally remain the responsibility of the cantons (54%) and communes (32,3%). This is also true for social security, transportation and roads. If we look at which governmental unit is the biggest spender in single items, we see that the communes have the highest share in the budget items: environment (75,1%), culture, sports and recreation (67,3%), zoning and land planning (51,3%) and administration (49%). The cantons then follow with the expenditure items: church (79%), health (59%), and education (54%). The major revenue sources are listed in Table 4. The main and somewhat striking result is that each level of government has more or less direct access to at least two major revenue sources, which is important in order to maintain financial autonomy. For the cantons and communes taxation of individual income and wealth and of corporate business and capital is the major source of revenue. In the Confederation, these sources are also important, but taxation on consumption and expenditure is even more important (51,7% of all revenue sources). For the communes, the revenue from public property and from sales and indemnities (including user charges) are also important sources. The cantons also rely quite heavily on indemnities and sales and on grants-in-aid reimbursements from the Confederation. In summary, one can conclude that revenue from direct taxes on personal income and wealth and on business is shared among all three levels of government, and indirect taxation on expenditure and customs and excise duties are more or less exclusively federal. It is also important that each governmental level has full or partial tax authority for a number of different tax items. The cantons and communes also have the right to levy user charges and fees for those services which they provide. They also have a rather low dependence on transfer payments; for example, in 1988 the cantons received only 19,9% of federal revenue payments, and the communes only 15,1%. This is quite the opposite to observations made in many representative democracies, where lower governmental units almost exclusively depend on federal revenue payments.

To summarize, one can conclude that in Switzerland tax sovereignty lies primarily in the cantons and secondarily in the Confederation. Dafflon (1986) states that for each added taxation system there are 27 (26 cantonal and one federal) different laws and that this leads to the obvious problems of coordination and harmonization. The local governments have only limited fiscal sovereignty in that they can choose between income and wealth taxation and user charges and fees where appropriate (Dafflon, 1991b). In many cases, the local governments have only limited fiscal flexibility since they must apply the cantonal laws and can only set the annual coefficients of taxation as a percentage of the canton's taxes.

Turning to budget responsibility, the fairly extensive autonomy of cantonal and local governments for their finance is not unlimited. In Switzerland, two rules are generally respected, at the level of cantons in their own financial laws and in the communes under cantonal supervision. The first rule is concerned with the requirement of a more or less balanced (current) budget for providing goods and services. Due to Swiss financial regulation, for most local and cantonal governments it is quite difficult to run or to accumulate deficits in their (current) budgets. If a large budget deficit occurred, taxation would have to be increased. If local authorities do not follow this rule, the cantonal government can decide to raise the annual coefficient of taxation in place of the commune. The second rule concerns borrowing. Public debt is allowed in most cases only for financing investment expenditure, and if the local and/or cantonal government has the financial capacity to pay the interest and amortization of the debt out of its current budget. The rate of amortization is fixed according to the kind of investment and its possible length of use. These two quite strict requirements are an expression of the principle of accountability or budgetary responsibility. They must be weighed against financial autonomy and access to revenue sources (just described). It is obvious that on the one hand cantonal and local governments have a fairly large amount of autonomy to decide on the amount of public goods and services they offer, and direct access to taxation. On the other hand, it is expected that these governments will act in a responsible way in responding to the demands of their electorate. In most communes and cantons there are popular referendums over the amount of public goods and services.

These findings show that in Switzerland the fiscal structure is quite different from other representative democracies. A more detailed comparison will be given in the next section.

2.2. The political institutions and the federal systems of Switzerland and Germany

At first glance the political and federal institutions and the fiscal structures of Germany and Switzerland may look quite similar, and it seems that the two countries may have quite similar economic and political systems. The only difference, which is usually hinted at, is in the fact that Germany is a representative democracy, while Switzerland is considered to be one of the few examples of a direct democracy. Moreover, the Swiss political system has some special characteristics seldom found in representative democracies; the two major differences, which are quite obvious, are:

(i) The federal government consists of a council (Bundesrat) of seven members, whose re-election is virtually assured until they choose to resign of their own free will. Compared to parliaments in representative democracies, the Swiss Bundesrat and Nationalrat are not so important, since most political battles are fought out through the referendum process. Consequently there is little competition between the political parties and not as much difference in their ideologies as compared to other Western representative democracies, and the election and party composition of parliament have only minor consequences for political activities.

(ii) Voters express their preferences about political and/or economic issues mainly via referendums, which may be brought up for vote several times during a year. This institution forms a real opposition for the government, as usually all important public decisions are subject to voters' approval. The institution of referendum is often used. Over 180 referendums on economic issues at the national level have been held since 1950 (with 68% of them being accepted and 32% rejected).

It is obvious that in Switzerland most direct democratic elements can be found even though there are also representative systems in some cantons and cities (for example, the canton and the city of Geneva). The federal constitution of Germany and the German *Länder* constitutions also exhibit a few elements of direct democracy. Voters can be polled, and in some cases the parliament can decide that a certain law or change of the constitution has to be approved in a popular referendum.

Besides the institutional differences of the two political systems, there are some additional important distinctions, the most important one concerning the structure of the federal system. Switzerland is a real federal system, which emphasizes the sovereignty of subcentral jurisdictions, i.e. the cantons and local communities.[1] This sovereignty is derived from the Swiss federal constitution, which contains not only the tasks of this government level, but also their right to levy taxes.[2] Thus each Swiss voter/taxpayer in a canton or local community is much better able to compare the costs and benefits of the public activity under consideration and then to decide on the amount of public expenditure in a referendum than a German voter/taxpayer. Moreover, the possibility of direct democratic participation is provided in the constitutions of the respective jurisdictions, so that citizens themselves may take part in the decision-making process on all important political and economic issues. For example, Swiss voters rejected the introduction of a value-added tax at federal level in a popular referendum on 2 June 1991 for the third time.

In contrast, in Germany the states (*Länder*) have almost no right to levy their own taxes, although they can levy the motor vehicle tax and a rather unimportant wealth tax (both taxes contribute only 4,7% of total revenues to the *Länder* (see Spahn, 1991). Local communities can also only levy some taxes, for example, the local business and property taxes. Hence, these two governmental units have much less tax sovereignty than their Swiss counterparts. Furthermore, citizens have almost no possibility to participate directly in the decisions about expenditure items; the only way is to influence the government and opposition parties at general elections.

If one considers the federal political structures in Germany, they do not seem to be as pronounced as the strong federalism in Switzerland. However, this would be to ignore the actual influence which the German *Länder* have on political decisions in general and on tax and spending policies in particular. While the central government in Switzerland has at least one important source of own revenue, i.e. the turnover tax, the German central government has hardly any revenue at its sole disposal. The main federal taxes are excise taxes (11,8% of total taxes in 1989, see Spahn (1991)), like those on mineral oil, tobacco and alcohol. However, the most important revenue sources, income tax and value-added tax, can only be used jointly by the federal and State governments. The nomination of the second chamber of parliament in Germany (Bundesrat) by the different *Länder* governments also indicates that the German federal government depends on *Länder* governments. Whereas in Switzerland the second chamber, the Ständerat, consists of representatives of the cantons directly elected by the voters, the German Bundesrat is composed of representatives of the *Länder* governments and the parties forming these governments. Thus only under special circumstances can the central government in Germany make important fiscal decisions against the interests of a majority of *Länder* governments. This great difference in the structure of federalism makes it difficult to evaluate whether the Swiss cantons or the German *Länder* have relatively more influence as far as the central level is concerned. In a more general way, it may be

1 For a detailed description of the Swiss system, see Steiner (1970), Butler and Ranny (1978), Bieri (1979), Bogdanor (1988), and Gubler (1984), as well as Spahn (1991) for a comparison with the German system, and Bird (1986) for a comparison with other federal systems.

2 Compare Section 2.1 for a detailed analysis.

concluded that in Switzerland at each government level the collective decisions are much more independent and therefore much more related to the preferences of the Swiss citizens than in Germany.

Another important distinction between the two countries is the distribution of tax revenues between the various government levels. In Germany, all three levels share the revenue from the progressive income tax, and the federal and *Länder* governments share the proportional value-added tax. The distribution relies on a key on which the federal and state governments have to agree. In contrast, in Switzerland the cantons and local communities have the right to levy their own taxes.

2.3. The development of public revenue and public expenditure in Switzerland and Germany[1]

In order to check whether some of the above statements can be verified, the actual development of public revenue and expenditure in both countries since World War II will be presented. Obviously, all three levels (federal, cantonal/*Land* and local) will be taken into consideration. Social security payments have been excluded, because the two systems differ greatly and thus cannot easily be compared. In order to avoid double counting, the grants from federal to the cantonal/*Land* level and those from the latter to the local level are not counted as expenditure. Table 5 shows some aggregated figures on the development of public revenue and public revenue and expenditure. The government deficit and public debt are included; all figures are in current prices and are shown in relation to GNP. The data indicate that in both countries public revenue as well as public expenditure have strongly increased relative to GNP since 1950. This holds especially for the beginning of the 1970s. Nevertheless, in international comparisons, it emerges that Switzerland still has one of the smallest public sectors; yet the share of public expenditure in the German GNP is also below the mean of all OECD countries. However, there are major differences between the two countries with respect to the development of government deficit and public debt. Up to 1970 the deficits were relatively small in both countries — Switzerland even achieved budget surpluses. Since that time, they have strongly increased in Germany, whereas they have remained at a low level in Switzerland. As a consequence, public debt in Germany has increased significantly over time. The Swiss public debt — due to its accumulation during the war years — was high at the beginning of the period considered, but was significantly reduced and has remained at relatively low levels since 1970.

1 This part closely corresponds to Section 2.2 of Kirchgässner and Pommerehne (1990a).

Table 5

Development of public finances in relation to GNP, 1950-85
(all governmental levels, excluding social security)

(%)

	1950	1960	1965	1970	1975	1980	1985
Switzerland							
Revenue	21,2	19,9	19,7	21,1	24,8	26,2	25,9
Taxes	15,5	15,4	15,7	16,9	19,6	19,7	19,9
Expenditure	19,6	17,5	20,6	21,6	26,3	26,6	25,9
Deficit	−1,7	−2,4	0,9	0,5	1,6	0,4	0,1
Public debt	76,7	49,0	41,5	38,9	40,9	40,9	34,7
Gross national product (in billion SFR)	19,9	37,1	60,0	93,9	144,6	177,3	241,4
Federal Republic of Germany							
Revenue	23,6	25,8	26,2	27,1	28,0	29,6	29,8
Taxes	21,0	23,0	23,5	24,0	24,7	25,7	24,9
Expenditure	24,0	23,7	27,5	27,9	33,4	32,8	31,2
Deficit	0,4	−2,2	1,4	0,7	5,4	3,2	1,4
Public debt	20,9	17,4	18,3	18,6	24,9	31,6	41,2
Gross national product (in billion DM)	98,6	303,0	458,2	675,7	1 029,4	1 485,2	1 844,3

Source: Kirchgässner and Pommerehne (1990a).

Table 6 shows the distribution of taxes and expenditure at the different government levels. Table 6 indicates that in both countries the federal level has the largest tax share. In Germany, this part has increased to more than a half since the beginning of the 1960s. In Switzerland, this share has decreased from 54% (1950) to 43% (1985). The cantons/*Länder* in each country today get about one third of total tax revenue. The share of local government has slightly increased since 1960; Swiss communities receive about a quarter of all tax revenue; in Germany the share is only about 10%. In Germany the local level receives grants from other governmental levels to a considerable extent. Hence, the share of tax revenue in the total revenue is about 50%.

Table 7 indicates that in Switzerland such grants play a major role especially at the cantonal level; at the local level they are much less important (compared to Germany). At the subcentral levels in Switzerland, but especially at the local level, charges and revenue from public utilities are the major source of finance. Nevertheless, the part of own tax revenue amounts to somewhat more than half of the total revenue at the cantonal as well as the local government level.

This structure or institutional arrangement does not lead to a strong dependence on other government levels as may be the case with grants to the local governments in Germany. In Switzerland the local level seems to be much more independent of other levels, and therefore also fulfils to a larger extent the preferences of the voters compared to Germany. Also, local communities in Switzerland account for about one third of total government expenditure; the corresponding part for German communities is less than 25%.

At the cantonal and local level, income from consumption taxes is a less important source of revenue. Both governmental units rely heavily on progressive direct taxes, yet these have only slightly increased as a part of total cantonal revenue, and even somewhat decreased in the case of local communities. Obviously one reason is the effect of indexation, avoiding, or at least reducing, the consequences of the 'cold' progression. Another reason relates to the system of direct democracy: citizens in a number of cantons succeeded with a proposal to reduce tax rates. As a consequence the increase of taxes (in relation to GNP) could be limited to less than 20%, that of indirect taxes to less than 15%. In Germany, the government undertook a number of reforms of tax rates in order to absorb the negative effects of the

Table 6

Percentage distribution of taxes and expenditure at the different government levels, 1950-85
(excluding social security)

	1950	1960	1965	1970	1975	1980	1985
Switzerland							
Taxes							
Federal	53,9	49,2	46,9	45,6	38,9	41,8	42,8
Cantonal	23,9	27,1	29,4	31,0	34,7	33,6	33,7
Local	22,2	23,7	23,7	23,5	26,4	24,6	23,6
Expenditure							
Federal	32,1	30,6	27,2	25,2	23,4	25,9	26,2
Cantonal	37,0	38,7	41,5	41,4	43,4	40,9	40,6
Local	30,9	30,6	31,3	33,4	33,2	33,2	33,2
Federal Republic of Germany							
Taxes							
Federal	46,7	55,8	56,9	55,8	52,6	51,7	51,2
Land	41,6	31,7	32,0	33,5	35,1	35,4	36,1
Local	11,7	12,5	11,1	10,7	12,3	12,9	12,7
Expenditure							
Federal	41,9	41,6	42,0	39,2	38,7	38,5	40,6
Land	35,0	33,8	31,5	34,0	36,4	36,2	36,9
Local	23,1	24,6	26,5	26,8	24,9	25,3	22,5

Source: Kirchgässner and Pommerehne (1990a).

Table 7

Structure of public revenue in Switzerland, 1950-85
(percentage share of total revenue, including double counting)

	1950	1960	1965	1970	1975	1980	1985
Federal							
Taxes	84,0	84,1	88,4	90,0	89,2	88,8	92,7
On income and property	32,8	24,4	22,0	28,3	32,2	33,2	38,7
On consumption	51,2	59,7	66,4	61,7	57,0	55,6	54,0
Revenue from enterprises	6,6	7,5	5,3	4,5	5,6	6,1	4,0
Charges	6,5	7,5	5,4	4,5	4,1	4,2	3,0
Transfers from other levels	0,0	0,0	0,0	0,0	0,3	0,3	0,1
Other revenue	2,9	0,9	0,9	1,0	0,8	0,6	0,2
Cantonal							
Taxes	49,5	55,9	51,4	52,9	55,1	54,1	55,2
On income and property	44,5	49,7	46,3	47,9	51,4	50,1	51,7
On consumption	5,0	6,2	5,1	5,0	3,7	4,0	3,6
Revenue from enterprises	9,6	7,6	5,5	5,2	4,0	4,3	4,4
Charges	16,3	15,6	12,3	12,4	12,6	14,2	14,2
Transfers from other levels	24,6	20,9	30,8	29,3	28,1	27,1	26,0
Other revenue	0,0	0,0	0,0	0,2	0,2	0,3	0,2
Local							
Taxes	55,8	60,9	58,8	58,1	57,9	51,0	51,0
On income and property	55,1	60,1	57,9	57,7	57,7	50,8	50,8
On consumption	0,7	0,8	0,9	0,4	0,2	0,2	0,2
Revenue from enterprises	10,6	7,1	9,9	8,8	7,1	6,1	6,1
Charges	24,0	14,9	15,9	15,4	16,1	25,6	25,5
Transfers from other levels	9,6	17,1	15,4	17,7	18,0	16,1	16,7
Other revenue	0,0	0,0	0,0	0,0	0,9	1,2	0,7

Source: Kirchgässner and Pommerehne (1990a).

cold progression. However, these reforms were only partially successful; they have not compensated even for the consequences of the cold progression.[1]

Tables 8 and 9 depict the structure and development of public spending in Switzerland and in Germany, respectively. One of the major differences between the countries relates to the size of transfers in relation to GNP. In Germany, total transfer payments amounted to more than 10% during the 1970s, whereas they were less in Switzerland (7%). One reason for this may be the different unemployment situation in the countries; yet even in the 1960s the level of transfer payments in Germany was about twice as high as in Switzerland (7 to 9% versus 3 to 4%). As regards final expenditure, there are only minor differences between the countries; however, Swiss government consumption as well as government investment expenditure have been somewhat higher than those in Germany since at least the mid-1970s. Table 10 provides some information on the disaggregated development of public debt and the related interest payments in the two countries. The figures show that public debt in Switzerland has traditionally been much higher than in Germany and that this is also true for recent times at the local government level. However, the debt of the German *Länder* has tripled since 1970, whereas that of the Swiss cantons has decreased somewhat during the same period. Moreover, the debt of the German federal government has increased by 150% since 1970, whereas that of the Swiss central government rose by only 50%. Therefore, the total public debt (in relation to GNP) in Germany has become larger than that in Switzerland, and total interest payments in Germany (3%

[1] Compare here the work of Kirchgässner (1985), who shows that in the year 1983 the average worker (or representative household) in Germany would have been in a better situation if none of these tax reforms had been realized and instead the initial 1958 rates had been fully indexed.

Table 8

Structure and development of public expenditure in Switzerland, 1950-85
(in relation to GNP, excluding double counting)

(%)

	1950	1960	1965	1970	1975	1980	1985
Federal	6,15	5,28	5,47	5,24	6,03	6,73	6,70
Public consumption	3,40	3,12	3,19	2,70	2,69	2,74	2,86
Public investment	0,32	0,27	0,29	0,56	0,38	0,22	0,31
Transfer payments	1,16	1,30	1,64	1,70	2,56	3,27	3,09
Interest payments	1,27	0,57	0,34	0,27	0,39	0,50	0,43
Cantonal	6,88	6,67	8,37	8,61	11,20	10,65	10,36
Public consumption	4,22	3,96	4,26	4,09	5,90	6,19	6,26
Public investment	0,62	1,27	2,43	2,44	2,15	1,66	1,24
Transfer payments	1,62	1,11	1,36	1,67	2,62	2,30	2,43
Interest payments	0,42	0,31	0,31	0,41	0,53	0,51	0,43
Local	6,53	5,28	6,30	6,96	8,55	8,63	8,48
Public consumption	:	3,49	3,66	3,47	4,36	5,26	5,33
Public investment	:	0,80	1,46	2,13	2,34	1,85	1,70
Transfer payments	:	0,55	0,72	0,74	0,99	0,89	0,93
Interest payments	0,42	0,42	0,44	0,62	0,86	0,62	0,52
Total	19,56	17,23	20,15	20,81	25,79	26,01	25,54
Public consumption	:	10,57	11,11	10,26	12,96	14,19	14,44
Public investment	:	2,34	4,19	5,13	4,87	3,72	3,26
Transfer payments	:	2,96	3,71	4,12	6,17	6,46	6,45
Interest payments	2,11	1,34	1,13	1,30	1,78	1,63	1,39

Source: Kirchgässner and Pommerehne (1990a).

in 1985) have even increased to more than double those in Switzerland (1,4% in 1985). Of course, these figures of German public debt and interest payments are not critical; however, the rapid increase during the last decade may narrow government's leeway, especially at the federal and *Land* levels.

Looking at the development in both countries, the theoretical considerations can be confirmed to some extent. The stronger the federal elements of a political system and the more direct democratic elements, the smaller the leeway for political entrepreneurs, i.e. the government, the parliament and the bureaucracy, to undertake activities that are not in line with the preferences of voters/taxpayers. This leeway is additionally narrowed if income taxes are indexed with respect to inflation. Following the theoretical considerations, the demand side then plays a crucial role in the determination of the development of public expenditure. The author draws the conclusion that Switzerland corresponds more to this case than Germany. The stronger the central elements of a political system, the fewer direct democratic elements it contains, and the more important the role of a non-indexed income tax, the greater are the chances for political entrepreneurs to reach their own selfish goals. In this case, it is the supply side that is primarily responsible for an increased level of public expenditure, and Germany tends towards that group. Kirchgässner and Pommerehne (1989, 1990a, 1990b) have made extensive econometric tests to check these hypotheses. They clearly have the result that Swiss expenditure is more driven by the demand side, whereas for Germany they find some strong supply elements which drive public expenditure.

Table 9

Structure and development of public expenditure in the Federal Republic of Germany, 1950-85
(in relation to GNP, excluding double counting)

(%)

	1950	1960	1965	1970	1975	1980	1985
Federal	9,72	9,02	10,72	10,22	11,87	11,65	11,73
Public consumption	1,24	3,95	4,89	3,93	4,25	3,81	3,75
Public investment	0,19	0,52	0,68	0,77	0,64	0,49	0,34
Transfer payments	8,18	4,22	4,82	5,09	6,44	6,40	6,04
Interest payments	0,10	0,32	0,32	0,44	0,55	0,94	1,60
Land	8,11	7,33	8,04	8,86	11,15	10,95	10,67
Public consumption	3,86	4,17	4,49	5,08	6,44	6,42	6,16
Public investment	0,55	0,63	0,87	0,94	0,76	0,63	0,49
Transfer payments	3,27	2,30	2,51	2,60	3,58	3,33	3,01
Interest payments	0,44	0,23	0,16	0,24	0,37	0,58	1,00
Local	5,34	5,32	6,75	7,00	7,65	7,66	6,49
Public consumption	2,82	2,35	2,52	2,82	3,45	3,63	3,53
Public investment	1,25	1,98	2,95	2,88	2,45	2,43	1,41
Transfer payments	1,25	0,83	1,06	1,01	1,28	1,20	1,16
Interest payments	0,03	0,17	0,22	0,29	0,46	0,40	0,39
Total	23,17	21,67	25,50	26,08	30,68	30,27	28,89
Public consumption	7,92	10,47	11,90	11,82	14,14	13,87	13,44
Public investment	1,99	3,13	4,50	4,59	3,85	3,55	2,24
Transfer payments	12,70	7,36	8,39	8,70	11,31	10,93	10,22
Interest payments	0,57	0,72	0,70	0,97	1,38	1,92	3,00

Source: Kirchgässner and Pommerehne (1990a).

Table 10

Development of public debt and interest payments, 1950-85
(in relation to GNP, excluding double counting)

(%)

	1950	1960	1965	1970	1975	1980	1985
Switzerland							
Public debt	76,8	49,0	41,5	38,9	40,9	40,9	34,7
Federal	44,5	20,9	12,6	8,4	10,0	13,8	12,1
Cantonal	14,7	12,0	12,2	12,4	13,0	12,5	11,4
Local	17,6	16,2	16,7	18,0	18,0	14,7	11,2
Interest payments	2,11	1,34	1,13	1,30	1,78	1,63	1,39
Federal	1,27	0,59	0,35	0,27	0,39	0,50	0,43
Cantonal	0,42	0,32	0,32	0,41	0,53	0,51	0,43
Local	0,42	0,43	0,46	0,62	0,86	0,62	0,52
Federal Republic of Germany							
Public debt	20,9	17,4	18,3	18,6	24,9	31,6	41,2
Federal	7,4	8,9	8,7	8,4	11,0	15,6	21,4
Land	13,0	4,8	3,8	4,1	6,5	9,3	13,4
Local	0,5	3,7	5,6	6,0	7,2	6,4	6,2
Interest payments	0,57	0,72	0,70	0,97	1,38	1,92	3,00
Federal	0,10	0,32	0,32	0,44	0,54	0,94	1,60
Land	0,44	0,23	0,16	0,24	0,37	0,58	1,00
Local	0,03	0,17	0,22	0,29	0,46	0,40	0,39

Source: Kirchgässner and Pommerehne (1990a).

3. Some theoretical reflections on reasons for government growth

3.1. Activities of political entrepreneurs in order to extend government activities

One further question to be addressed is whether rent-seeking behaviour by political entrepreneurs could be made more difficult in a European federal union by adopting some elements of the German or Swiss federal systems.[1] In representative (but also in direct) democracies one can often observe that special interests try to influence the government directly in their preferred way. People with similar interests can form an interest group and try to influence a referendum proposal (in direct democracies) or members of parliament (in both types of democracies).[2] In a general way, individuals, when seeking their own selfish interest, have two possibilities: either they can try to achieve their selfish goals through the market, which is the usual way to get private goods, but it is quite often a painful and not always successful way; or they can try to achieve their aims through the political process, which is the usual way to obtain public goods. An individual or firm may seek to influence government in order to secure a monopoly position as a supplier of a certain product or to obtain public subsidization of private goods. In the second case, indirect externalities in the sense of Bonus (1980) are created: the benefits are still private, the costs are spread (externalized) among all voters/taxpayers (via public financing), even though there is a rival consumption and exclusion is possible.

Quite often the objective of interest groups is the acquisition of rents: so-called 'rent-seeking'.[3] But why does rent-seeking create a special problem for (representative or direct) democracies? It is not that this is just another form of income redistribution, which might result in a further movement along the Pareto frontiers. The problem is that on the one hand it creates externalities which lead to overconsumption, i.e. allocative distortions, and, more importantly, on the other hand, the efforts which individuals undertake to achieve such rents (i.e. 'dead-weight losses') can be seen as social waste. The institutional precondition for successful rent-seeking is the existence of an addressee, who is able to provide the rent. This may be public bureaucracy, the government and/or the parliament. Bargaining about such rents should be easier, the fewer people are involved and the fewer members of parliament or of government who have to be convinced of the desirability of this regulation. At least with respect to parliamentary decisions, this should be easier in representative than in direct democracies, as in the latter case the electorate has the possibility of abolishing the regulation via a referendum. However, in most cases rent-seeking takes place not with respect to private goods, but rather club goods, i.e. goods which are public for a small group but where others are excluded. A typical example is the government imposing regulations in favour of a supplier cartel, for example of physicians or farmers. To receive the benefit of such regulations from the government, two problems have to be overcome. First, the regulator has to be convinced that this regulation is necessary. One possibility is to use corruption in one of its legal or illegal forms. But even without corruption, politicians can be made well-disposed if the interest group has enough bargaining power to create a conflict, which could, for example, reduce the re-election chances of the government. Another way is to try to make the government guarantee the existence of a cartel. This happens when possible competitors are excluded by government regulation according to certain criteria. In these cases, it is important that the benefits of such a government regulation are well defined and visible for the supporters of the cartel, whilst the costs are spread over all taxpayers/voters. The agricultural policy in the common market may be an excellent example of this. However, if such policies are conducted in a large number of cases and if, as is often the case, the rent-seeking groups come from the middle class, one finally gets a redistribution almost exclusively within the middle class. Then many citizens are involved several times in these redistribution processes, so that money goes out of their pocket and back into it, without having much real redistributional effect, except that some money is lost (sometimes large amounts) through the bureaucratic process.

3.2. The influence of institutional arrangements on the size of government

A further important issue is the role of the institutional arrangements if the goal is to stabilize the size of a federal government in a European union. A very nice example showing that institutional differences really do matter with respect to the size of government expenditure is the study of Pommerehne (1978), who undertakes an analysis of public expenditure in 111 Swiss cities. The sample includes municipalities which reach collective decisions via direct town meeting procedures as well as those which rely on representative assemblies. Theoretical considerations lead Pommerehne

1 The literature on rent-seeking is rather extensive; compare, for example, Rowley, Tollison and Tullock (1988).

2 Compare the studies by Schneider (1985) and Schneider and Naumann (1982) for Switzerland.

3 For a survey of this literature, see Tollison (1982) and Buchanan, Tollison and Tullock (1980), Rowley, Tollison and Tullock (1988).

(1978, 1990) to expect that the introduction of representatives into the democratic decision-making process will create enough leeway to weaken the link between median voter preferences and the actual outcome of collective decision-making. The empirical results of Pommerehne (1978) and Pommerehne and Schneider (1978, 1982) strongly support this hypothesis. The use of the median voter model in analysing public spending in Swiss communes with direct democracy has yielded significantly better results than the use of traditional public finance models. On the other hand, in municipalities using representative democratic procedures, the explanatory power of the median voter model is not significantly higher in any spending category compared to traditional models. Thus it seems that the institutional differences do matter. In addition, it appears that the existence of an optional or obligatory referendum on spending changes adds enough of a constraint on the behaviour of decision-makers to increase the performance of the median voter model significantly.[1]

If one wants to design a federal European unit which stays stable in size, one should have some knowledge about the preconditions of government growth. However, explaining government growth seems to be even more difficult than explaining differences in the level of per capita public expenditure. The great number of theoretical approaches[2] can be divided into two groups with diverging conceptions of government growth. The first comes from the classical public finance theory of the State, according to which the final authority lies in the hands of the individual citizen. The second group stresses the dominating role of the preferences of the individual actors in the various State sectors, i.e. political leaders, public bureaucrats, etc. In this case, the citizens and political institutions generally create only a weak constraint, which the decision-makers have to take into account when pursuing their own selfish goals. If either of these two approaches of the functioning of the State were fully adequate, then the other could be rejected. However, it may be that these two approaches are not mutually exclusive, since the preferences of the citizens, as expressed through existing political institutions, can also function as a constraint in spite of the discretionary power of politicians, government officials, and bureaucrats. However, tests of the empirical performance of these two approaches are rare, one exception being for Switzerland. The results are shown in Tables 11 to 13.

In order to demonstrate the higher explanatory power of the median voter model, Pommerehne and Schneider (1982) examined 48 Swiss municipalities operating as direct democracies. Using data from 1965, they first estimated a median voter demand function for seven public expenditure items and then made forecasts for 1975 (assuming almost no productivity increase in the local public sector). In the second step the estimated coefficients of the seven expenditure equations of the 48 Swiss municipalities with direct democracies were used to simulate what the levels of government spending would be in 1975 in the 62 Swiss municipalities operating as representative democracies. It emerged that the aggregate as well as all of the individual expenditure categories were underestimated using the parameter estimates of the seven expenditure equations derived from the data on direct democracies. In total, representative democracies have spent about 30% more than predicted using spending equations based on the data for direct democracies. Moreover, among those Swiss cities which operate as representative democracies, but where the citizens had the additional right of calling a referendum and thereby of reversing government decisions, the growth of government activity has been significantly lower than in those representative democracies without referendum constraint (although still significantly higher compared to that of direct democracies). This strongly suggests that the representative form of government substantially changes the outcome of the political process, i.e. it increases government activity to a level greater than would be reached if it were directly determined by voters/taxpayers.

The above results also hold for many cantons and even at the federal level because these governments are permanently faced with a threat of referendums and in many cases with obligatory referendums.[3] This might explain why, among the OECD countries, Switzerland, alongside Japan, has the smallest growth in governmental activities since World War II. In the case of Switzerland, however, there is an additional institutional peculiarity, since fiscally it is extremely decentralized.[4] As has recently been empirically demonstrated by Marlow (1988) for the United States during the post-war period, fiscal decentralization seems to be another viable institutional means of controlling total government expenditure. This view is supported by the results of a comparative analysis of Switzerland and Germany within the framework of a system of consistent demand equations for government expenditure in the post-war period. For this purpose, public expenditure was broken down according to

1 For a detailed analysis compare Pommerehne (1990), Pommerehne and Schneider (1978) and Schneider and Pommerehne (1983).

2 See Mueller (1987), Lybeck and Henrekson (1988), Pommerehne and Kirchgässner (1989, 1990b).

3 Compare the work of Schneider (1985) and Schneider and Naumann (1982).

4 For a general approach to this topic, see, for example, Bennett (1990).

Table 11

Expenditure functions of 48 Swiss municipalities with direct democracies using the median voter model

GLS estimates for 1965 (cross section) and *ex post* forecasts for the levels of expenditure of 1975 and for the growth rates of 1965-75

Expenditure (per capita in SFR)	Demand elasticities with respect to:				Constant term	R2	Actual average expenditure level (per capita in SFR 1975)	Forecast average expenditure level (per capita in SFR 1975)	Theil's inequality coefficient	Actual average annual growth rate (1965-75) (%)	Forecast average annual growth rate (1965-75) (%)
	Median tax price	Median income	Working population	Size of household							
Administration	−0,74**	1,74**	−1,13**	−0,08	−13	0,6	322	318	0,31	5,00	4,81
	(3,14)	(6,59)	(−3,61)	(−0,90)							
Law, police and fire protection	−0,59*	0,61*	−0,31	0,76*	−3	0,5	112	108	0,35	5,80	4,66
	(−2,36)	(2,11)	(−1,14)	(2,09)							
Education	0,41*	0,79**	−0,34	0,84*	−3	0,5	938	934	0,24	7,23	6,63
	(−2,10)	(3,24)	(−0,39)	(2,64)							
Health and hospitals	−2,09**	2,11**	−1,42*	0,05	−17	0,5	171	168	0,28	5,11	4,84
	(−4,27)	(3,69)	(−2,54)	(0,31)							
Social assistance	−0,86**	0,68*	−0,39	1,37**	0	0,6	319	306	0,22	7,71	7,65
	(−2,84)	(2,02)	(−0,78)	(2,91)							
Municipal roads	−0,84**	1,39*	−1,06**	0,14	−6	0,5	320	318	0,26	4,54	4,12
	(−2,89)	(3,99)	(−2,77)	(0,27)							
Environmental protection	−1,27**	1,56**	−1,36**	−0,07	−8	0,6	1 150	1 047	0,30	11,62	9,23
	(−4,23)	(4,59)	(−3,90)	(−0,42)							

Note: Explanations: As in most municipalities the decision about the various expenditure items is simultaneously undertaken, the expenditure functions are simultaneously estimated using a general least square procedure. The values in parentheses below the estimated coefficients are the t-values.
**(*) show(s) statistical significance at the 99% (95%) confidence level (one-tailed test).
R2 is the coefficient (corrected for degrees of freedom) of determination.

Source: Schneider and Pommerehne (1983).

Table 12

Forecast, actual and simulated average growth rates of local expenditure in 35 municipalities with representative democracies and in 48 municipalities with direct democracies

(%)

Expenditure	35 municipalities with representative democracies and with (obligatory and optional) referendum			48 municipalities with direct democracies	
	Forecast[1] average annual growth rate (1965-75)	Actual average annual growth rate (1965-75)	Simulated[2] average annual growth rate (1965-75)	Simulated[3] average annual growth rate (1965-75)	Actual average annual growth rate (1965-75)
Administration	4,86	3,85	2,97	5,56	5,00
Law, police and fire protection	7,02	5,45	4,36	6,91	5,80
Education	5,90	4,80	4,07	7,71	7,23
Health and hospitals	8,11	6,25	4,91	5,63	5,11
Social assistance	10,03	9,15	7,74	8,34	7,71
Municipal roads	6,12	4,50	3,72	6,19	4,54
Environmental protection	12,04	10,95	9,14	12,14	11,60

[1] The *ex post* forecasts of the growth rates were calculated using the estimated coefficients of the seven expenditure categories of the 35 municipalities with representative democracies for 1965 and then calculating the levels of expenditure for 1965 and 1975.
[2] The growth rates of the 35 municipalities with representative democracies are simulated by using the estimated coefficients of the expenditure equations of the median voter model for the 48 municipalities with direct democracies. The levels of expenditure for the seven municipal service sectors are then calculated for 1965 and 1975, and from them the growth rates.
[3] The growth rates of the 48 municipalities with direct democracies are simulated by using the estimated coefficients of the expenditure equations of the 35 municipalities with representative democracies. The levels of expenditure for the seven municipal service sectors are then calculated for 1965 and 1975, and from them the growth rates.

Source: Schneider and Pommerehne (1983).

Table 13

Expenditure functions of 27 municipalities with 'pure' representative democracies

GLS estimates for 1965 (cross section); forecast, actual and simulated growth rates of seven expenditure levels for 1965 and 1975[1]

Expenditure (per capita in SFR)	Demand elasticities with respect to				Inverse of time before election TBE-1	Constant term	R2	Forecast[2] average annual growth rate (1965-75) (%)	Actual average annual growth rate (1965-75) (%)	Simulated[3] average annual growth rate (1965-75) (%)
	Median tax price	Median income	Size of working population	Size of household						
Administration	−0,61*	1,03*	−0,76*	0,54*	−3,04**	−2,33	0,47	7,80	5,65	4,01
	(−2,14)	(2,24)	(−2,59)	(2,02)	(−2,91)					
Law, police and fire protection	0,41	0,44	0,47	0,38	−1,84*	−1,89	0,32	8,59	5,01	3,66
	(−0,89)	(1,06)	(0,56)	(1,23)	(−2,03)					
Education	−0,25	0,13	−0,23	0,15	−2,75*	−0,89	0,38	8,56	6,30	4,59
	(−1,01)	(0,47)	(−0,86)	(0,62)	(−2,38)					
Health and hospitals	−1,27*	1,32*	−1,09	−0,47	−2,96**	−14,38	0,42	7,49	5,00	3,55
	−2,35	(2,08)	(−1,80)	(−0,86)	(−2,84)					
Social assistance	−0,55*	0,29	−0,16	0,51*	−3,23**	−0,24	0,50	9,47	6,65	4,21
	−2,57	(1,24)	(−0,71)	(2,14)	(−2,99)					
Municipal roads	−0,49	1,05	−0,62	0,10	−1,98*	−6,07	0,32	4,39	3,30	2,47
	(−1,80)	(1,86)	(−1,70)	(0,53)	(−2,09)					
Environmental protection	−0,24	0,27	−0,49	0,39	−2,79**	−5,47	0,38	12,49	10,40	7,39
	(−1,46)	(1,46)	(−1,07)	(1,49)	(−2,66)					

[1] The model used for estimating the expenditure equations is a mixed one of the median voter approach (median tax price and income) and of the typical politico-economic one (time before election) for representative democracies (compare Schneider and Frey, 1988). For explanations of the estimated coefficients see note to Table 11.
[2] For explanations of the forecast procedure see footnote 1 in Table 12.
[3] The growth rates of the 27 municipalities with pure representative democracies are simulated by using the estimated coefficients of the expenditure equations of the median voter model for the 48 municipalities with direct democracies. The levels of expenditure for the seven municipal service sectors are then calculated for 1965 and 1975, and from them the growth rates.
Source: Schneider and Pommerehne (1983).

economic categories at the three levels of government.[1] It emerged that the results for Switzerland — which exhibits the institutional peculiarities mentioned above — are significantly more consistent with the optimizing behaviour of the representative individual.

To summarize, the empirical results discussed above suggest that the presence of a representative and fiscally centralized government, in contrast to decentralized and more direct democratic governments, increases the weight of the supply side in the political process. Recent empirical research on the interest function approach[2] shows that the existence of representative democracies makes it substantially easier for special interest groups to pursue and attain special benefits. There are a number of theories which argue that the level and growth of government activity is a by-product of the competition for votes between different political parties and candidates.[3] It is possible that the representative form of government contributes to this, even though the different models all begin with the assumption that the preferences of the citizens, channelled through the interest groups, are the driving force of fiscal programmes.

4. A summary and some preliminary conclusions about a European federal union from a public choice perspective

The completion of the European market provides the opportunity for a number of efficiency gains by creating a large economic unit through the dissolution of national regulations, the strengthening of competition in the markets, and the lifting of entry barriers to markets. It also provides the opportunity to increase the growth rates of West European economies. Furthermore, competition is promoted between Member States in lowering direct and indirect tax burdens

[1] Compare the extensive investigations by Kirchgässner and Pommerehne (1988, 1989, 1990a).

[2] See Renaud and Van Winden for the Netherlands (1987).

[3] Compare, for example, the work by Mueller and Murrell (1985).

and in weakening State-owned monopolies. However, there is also the danger that the positive influences may be weakened if national regulations were replaced by EC regulations, if European cartels were allowed, and if new barriers against non-Community countries were created or the existing ones increased.

As discussed in detail in Sections 2 and 3, it is well known that representative (and, to a lesser extent, direct) democratic systems show a long-term tendency of rising influence of interest groups, a growing share of government expenditure in GNP, and increasing regulation. Such a development can lower overall efficiency, the ability to innovate, and productive investment, and thus may finally lead to a smaller growth rate of GNP. Such developments usually happen if a democratic regime is not restricted by constitutional or other arrangements, so that shifting majorities in parliament, which are only inadequately controlled by largely uninformed voters, can impose their will on the great majority of the population. With at least two parties competing for votes and the necessity of financial assistance to cover the costs of their organizations and election campaigns, this results in regulation by government, tax loopholes, and subsidies to special pressure groups whenever the majority of voters are uninformed about the issues.[1] This is the case if decisions only marginally effect the economic situation of citizens, since they then have little reason to inform themselves, given the fact that the influence of individual votes on election outcomes is negligible. As a consequence, we observe, for example, protection of certain industries against foreign competition, the fixing of agricultural prices above market-clearing levels, and subsidies to special industries (such as shipping and coal). Only if such economic developments (like rent increases to special interest groups) are perceived by a majority of voters/taxpayers, because the expenditure on these groups results in an additional tax burden, will government action favour the majority, for example either by imposing rent-seeking controls or cutting the subsidies.[2]

From all these factors it is to be expected that State activity will grow over time, because a system with competing parties government responds to the demands of various groups of voters and of special interest groups by additional expenditure.[3] Thus, it is often argued, the older a democracy, the higher the level of regulations, taxes, subsidies and transfers one would expect with comparable levels of per capita incomes (Olson, 1982, 1983). But since excessive State activity also makes for less efficiency and innovation, one would also expect negative consequences for real economic growth, a result which seems to be corroborated by empirical evidence.[4]

As discussed above, the completion of the European internal market can be seen as an effort to break down the national barriers, regulations, cartels, subsidies, etc. which have led to a sclerosis in some European States (for example, the United Kingdom) and to bad growth performance in these States compared to the newly industrialized economies like Japan. This could have served as one motivational factor in the efforts undertaken under the label of 'Europe 1992'. But then careful consideration should be given to creating a federal European constitution in order to limit protection, regulation, subsidies, cartels, a growing share of European federal government expenditure and the influence of interest groups. Buchanan (1990, p. 1) has recently drawn attention to the fact that 'Europe is now presented with an historically unique opportunity ... The [constitutional] contract must be such as to ensure mutual gains from trade ... The only constitutional structure that is consistent with the historically constrained setting of the 1990s is that of a federal union ... '. Buchanan (1990, p. 10) stresses too that 'a central political authority must come into being with some sovereignty over citizens in all of the nation States'. According to Buchanan, it seems advisable to support the introduction of a federal European constitution. One possibility is to build on the present institutions of the European Community and to maintain as much as possible the roles of present collective actors, namely the European Commission, the Council of Ministers, the European Parliament, and the European Court of Justice.

It has already been stressed (see Section 3) that democratic systems with market economies, if unchecked, show a strong tendency towards increasing State activities and interest group influence. As a consequence, the motivation of individuals to work efficiently, to engage in risky productive activity and to innovate is weakened. Whereas the removal of intra-European barriers to the movement of people, goods, capital and services might weaken the influence of special interests and bureaucracies in Member States, a growth at the federal European level has to be expected as soon as Europe-wide interest groups and parties have been fully established. A European constitution thus has to contain provisions to counterbalance such tendencies.

1 For example compare the studies by Bernholz (1990, 1991).
2 See, for example, Downs (1957), Bartel and Schneider (1987, 1991).
3 See, for example, Olson (1965), Bernholz (1966, 1969), Borcherding (1985) and for empirical evidence on representative democracies compare Schneider and Frey (1988).

4 Compare the studies by Bernholz (1985, 1986, 1990), Marlow (1986), Peden and Bradley (1989), Weede (1986, 1990).

The following suggestions are some important ingredients which should be included in a European constitution:[1]

(i) The European Commission should become a European government with strictly limited tasks (e.g. the ones set out in point (ii)); the Council of Ministers should become a second chamber of Parliament, and the simple majority approval of both chambers (the European Parliament and the European Council) should be necessary for any legislation passed. Obviously, both chambers should have the full authority and responsibility for all European budgetary items. If the two chambers could not agree on a legislative or budgetary item, the Parliament could overrule the decision of the second chamber by a three-quarters majority.

(ii) The jurisdiction of the European federal government should consist of foreign policy, foreign trade policy, defence, the enforcement of free intra-Community movement (of people, goods, services and capital), anti-cartel and anti-monopoly policy as circumscribed in the constitution, and market-consistent measures concerning Community-wide pollution and other environmental problems. Market-consistent measures should preferably include strong property rights concerning pollution and a corresponding tort law, as well as pollution taxes and fees in preference to regulations, whenever feasible. Other policy issues should only be taken over by the European government if there is consensus of three quarters of the Member States that the federal unit should do so.

(iii) It should not be possible for the European government to run or accumulate deficits of its (current) budget. If a budget deficit occurs, either expenditure should be cut or taxation should be increased, given that the political conditions for a tax increase are fulfilled (compare points (iv) and (v)). Public debt at the European federal level should only be allowed for financing investment expenditure and only if the federal government has the financial capacity to pay the interest and amortization of the debt out of its current budget.

(iv) The activities of the Community should be financed by specific labelled taxes, such as a proportional (income) tax, value-added tax or other indirect taxes. Increases of these tax rates should be subject to a two-thirds majority of the European Parliament and the European Council, and to the approval of a popular referendum.

(v) The institution of a popular referendum should be introduced for major policy issues (such as a change of constitution, change of tax rates, etc.). Furthermore, a popular referendum has to be held if five million citizens ask for it and if at least 30% of all people entitled to vote participate. The proposal on which the referendum is held is only accepted if it is approved by simple majority of the European voters and by simple majority of the Member States.

(vi) Member States should have the right to secede from the European federal union. Provinces and localities (bordering another Member State) should also, in principle, have the right to secede from nation States. Regions with 10 million inhabitants or more should, by qualified (two-thirds or three-quarters) majority vote of the population, be able to declare themselves independent Member States of the European federal union. However, in all three cases, the economic, political and all other procedures of secession must be precisely fixed in advance and a transition period of a considerable length of time (for example, five to 10 years) should be allowed. If a State, province or locality fails to reach such a qualified majority, the next possible attempt will be after 20 years.

The difficult question of whether harmonization of national Member States' tax rates and social security systems is necessary, remains open; maybe an institutional arrangement of competitive tax and social security systems is preferable.[2]

To summarize the arguments drawn from the comparison between Switzerland and Germany as well as my theoretical considerations about growth of government and its causes, the institutional arrangements in Switzerland are better able to provide a basis for a European economic and monetary union than other democratic systems. Some elements of the Swiss political and federal system could be used to create a European federal system; for example (as in Switzerland), the European government has a revenue source of one tax in order to finance its expenditure, and like the Swiss cantons, member nations levy all other taxes. As the Swiss political and federal system works quite well and includes quite different cultures (including an Italian, a French and a German-speaking part), it can be argued that some elements of the Swiss political and federal system might be an appropriate model for the European federal government and structure.

1 For a recent discussion of constitutional issues, see Gwartney and Wagner (1988); for fiscal federalism, Frey (1977), Oates (1977, 1985). Some of the following points are taken from Bernholz (1991).

2 Compare the work by Sinn (1989) and Bernholz (1990).

It should also be emphasized that in Switzerland the element of direct democracy is the crucial one; one should also, therefore, install this element in the European federal union. How precisely this can be incorporated is open, but in principle a popular referendum for major policy changes should be installed. To conclude, the federal and political structure of Switzerland provides some important elements for a model of a European federal union.

References

Bartel, R. and Schneider, F. (1987), 'Die Ursachen der Krise in der Verstaatlichten Industrie', *Wirtschaftspolitische Blätter* 34/3, pp. 275-301.

Bartel, R. and Schneider, F. (1991), 'The 'mess' of the public industrial production in Austria: A typical case of public sector inefficiency?', *Public Choice* 68/1, pp. 17-40.

Bennett, R. J. (1990) (ed.), *Decentralization, local governments, and markets: Towards a post-welfare agenda*, Oxford, Clarendon Press.

Bernholz, P. (1966), 'Economic politics in a democracy', *Kyklos* 19, pp. 48-80.

Bernholz, P. (1969), 'Einige Bemerkungen zur Theorie des Einflusses der Verbände auf die politische Willensbildung in der Demokratie', *Kyklos* 22, pp. 276-287.

Bernholz, P. (1985), *The international game of power*, New York, Mouton Publishers.

Bernholz, P. (1986), 'Growth of government, economic growth and individual freedom', *Journal of Institutional and Theoretical Economics*, 142/2, pp. 661-683.

Bernholz, P. (1990), 'The completion of the European market: Opportunities and dangers from an institutional perspective', in CEPS (ed.), 'The macroeconomics of 1992', Brussels, CEPS paper No 42.

Bernholz, P. (1991), 'Institutional aspects of European integration', in Borner, S. and Grubel, Herbert (eds.), *The EC after 1992 — Perspective from the outside*, Macmillan Publishing Company.

Bieri, S. (1979), 'Fiscal federalism in Switzerland', research monograph No 26, Canberra, Australian National University, Centre for Research on Federal Financial Relations.

Bird, R. M. (1986), *Federal finance in a comparative perspective*, Toronto, Canadian Tax Foundation.

Bogdanor, V. (1988), Federalism in Switzerland, *Government and opposition* 23, pp. 69-90.

Bonus, H. (1980), 'Öffentliche Güter und der Öffentlichkeitsgrad von Gütern', *Zeitschrift für die gesamte Staatswissenschaft* 136/1, pp. 50-81.

Borcherding, T. E. (1985), 'The causes of government growth: A survey of the US evidence', *Journal of Public Economics* 28, pp. 358-382.

Brennan, G. and Buchanan, J. M. (1980), *The power of tax — Analytical foundations of a fiscal constitution*, Cambridge (Mass.), Cambridge University Press.

Buchanan, J. M. (1990), 'Europe's constitutional opportunity', discussion paper, Fairfax (VA), Centre for Study of Public Choice.

Buchanan, J. M., Tollison, R. D. and Tullock, G. (1980) (eds.), *Towards a theory of the rent-seeking society*, College Station, Texas University Press.

Butler, D. and Ranney, A. (1978), *Referendum: A comparative study of practice and theory*, Washington DC, American Enterprise Institute of Public Policy.

Dafflon, B. (1986), 'Fédéralisme, coordination et harmonisation fiscales: Étude du cas suisse', *Recherches économiques de Louvain*, Vol. 52/1, pp. 3-43.

Dafflon, B. (1991a), 'Public revenues and revenue-sharing in Switzerland', OECD paper, Paris.

Dafflon, B. (1991b), 'Revenue-sharing in Switzerland', working paper No 191, Institute for Economic and Social Sciences, University of Fribourg, Switzerland.

Dafflon, B. (1991c), 'Local business taxation in Switzerland: Assessment, strategies and conflict', revised working paper No 194, Institute for Economic and Social Sciences, University of Fribourg, Switzerland.

Dafflon, B. (1991d), 'Intergovernmental equalization in Switzerland', revised working paper 1981, Institute for Economic and Social Sciences, University of Fribourg, Switzerland.

Dafflon, B. (1991e), 'The assignment of functions to local governments: from theory to practice', revised working paper No 149, Institute for Economic and Social Sciences, University of Fribourg, Switzerland.

Downs, A. (1957), *An economic theory of democracy*, New York.

Frey, R. L. (1977), *Zwischen Föderalismus und Zentralismus*, Lang, Berne and Frankfurt.

Grossman, P. J. (1989), 'Fiscal decentralization and government size: An extension', *Public Choice* 62, pp. 63-69.

Gubler, P. (1984), 'Der Föderalismus in der Schweiz', in Biskup, R. (ed.), *Schweiz — Bundesrepublik Deutschland, Wirtschaftliche, politische und militärische Aspekte im Vergleich*, Berne, Verlag Paul Haupt, pp. 95-111.

Gwartney, J. D. and Wagner, R. E. (1988), *Public choice and constitutional economics*, Greenwich (Conn.), JAI Press.

Kirchgässner, G. (1985), 'Die Entwicklung der Einkommenssteuer-progression in der BRD', *Finanzarchiv* 43, pp. 328-347.

Kirchgässner, G. and Pommerehne, W. (1988), 'Government spending in federal systems: A comparison between Switzerland and Germany', in Lybeck, J. A. and Henrekson, M. (eds.), *Explaining the growth of government*, Amsterdam, North-Holland, pp. 327-356.

Kirchgässner, G. and Pommerehne, W. (1989), 'Approaches to explain fiscal redistribution in democracy', discussion paper B8902, Saarbrücken, University of Saarland.

Kirchgässner, G. and Pommerehne, W. (1990a), 'Evolution of public finance as a function of federal structure: A comparison between Switzerland and the Federal Republic of Germany', paper presented at the IIPF 46th Congress, Brussels, 1990.

Kirchgässner, G. and Pommerehne, W. (1990b), 'Die Entwicklung der öffentlichen Finanzen in föderativen Systemen: Die Beispiele der Bundesrepublik Deutschland und der Schweiz', discussion paper, Osnabrück, Department of Economics, University of Osnasbrück, to appear in an edited volume 'Staatsaufgaben, Zentrum für interdisziplinäre Forschung', Universität Bielefeld.

Lybeck, J. A. and Henrekson, M. (1988) (eds.), *Explaining the growth of government*, Amsterdam, North-Holland Publishing Company.

Marlow, M. L. (1986), 'Private sector shrinkage and the growth of industrialized economies', *Public Choice* 49/2, pp. 143-154.

Marlow, M. L. (1988), 'Fiscal decentralization and government size', *Public Choice* 56/3, pp. 259-270.

Mueller, D. C. (1987), 'The growth of government: A public choice perspective', IMF staff papers 34/1, pp. 115-149.

Mueller, D. C. and Murrell, P. (1985), 'Interest groups and the political economy of government size', in Forte, F. and Peackock, A. T. (eds.), *Public expenditure and government growth*, Oxford, Basil Blackwell, pp. 13-36.

Oates, W. E. (1977) (ed.), *The political economy of fiscal federalism*, Lexington (Mass.).

Oates, W. E. (1985), 'Searching for Leviathan: An empirical study', *American Economic Review* 75, pp. 578-583.

Olson, M. (1965), *The logic of collective action*, Cambridge (Mass.), Harvard University Press.

Olson, M. (1982), *The rise and decline of nations: Economic growth, stagnation and rigidities*, New Haven (Conn.),Yale University Press.

Olson, M. (1983), 'The political economy of comparative growth rates', in, Mueller, D. (ed.), *The political economy of growth*, New Haven, (Conn.), Yale University Press.

Peden, E. A. and Bradley, Michael, D. (1989), 'Government size, productivity, and economic growth: The post-war experience', *Public Choice* 61, pp. 229-245.

Pommerehne, W. W. (1978), 'Institutional approaches to public expenditure: Empirical evidence from Swiss municipalities', *Journal of Public Economics* 9, pp. 255-280.

Pommerehne, W. W. (1990), 'Empirical relevance of comparative institutional analysis', *European Economic Review* 34, pp. 458-469.

Pommerehne, W. W. and Kirchgässner, G. (1990), 'Efficacité, redistribution, extension du secteur public: une approche de choix public', *Revue Française de Finances Publiques* 29, pp. 185-225.

Pommerehne, W. W. and Schneider, F. (1978), 'Fiscal illusion, political institutions, and local public spending', *Kyklos* 31/3, pp. 381-408.

Pommerehne, W. W. and Schneider, F. (1982), 'Unbalanced growth between public and private sector: An empirical examination', in Havemann, R. H. (ed.), *Public finance and public employment*, Detroit, Wayne State University Press, pp. 309-326.

Renaud, P. S. A. and Van Winden, F. A. A. M. (1987), 'Tax rate and government expenditure', *Kyklos* 40/3, pp. 349-367.

Rowley, C., Tollison, R. E. and Tullock, G. (1988) (eds.), *The political economy of rent-seeking*, Boston (Mass.), Kluwer Academic Publishers.

Schneider, F. (1985), *Der Einfluß von Interessengruppen auf die Wirtschaftspolitik*, Berne, Verlag Paul Haupt.

Schneider, F. and Frey, B. S. (1988), 'Politico-economic models of macroeconomic policy: The political economy of money, inflation and employment', in Willett, T. D. (ed.), *The political business cycle*, Durham (NC), Duke University Press, pp. 239-275.

Schneider, F. and Nauman, J. (1982), 'Interest groups in democracies — how influential are they? An empirical examination for Switzerland', *Public Choice* 38/3, pp. 281-303.

Schneider, F. and Pommerehne, W. W. (1983), 'Macroeconomia della crescita', in 'Desequilibrio e settore publico in espansione: il peso delle differenze istituzionali', *Levista Internazionale di Scienze Economiche e Commerziali*, 33/4/5, pp. 306-320.

Sinn, H. W. (1989), 'Economic models of policy-making in independent economies: An alternative view on competition among policies', working paper No 390, Kiel, Institute of World Economics.

Spahn, P. B. (1991), 'The Community budget under European monetary union', invited paper for the Commission of the European Communities, Brussels, Directorate-General for Economic and Financial Affairs.

Steiner, J. (1970), *Politik und kulturelle Vielfalt*, Berne, Verlag Paul Haupt.

Tollison, R. D. (1982), 'Rent-seeking: A survey', *Kyklos* 35/4, pp. 575-602.

Weede, E. (1986), 'Catch-up, distributional coalitions and government growth or decline in industrialized democracies'. *The British Journal of Sociology*, 37, pp. 194-220.

Weede, E. (1990), *Wirtschaft, Staat und Gesellschaft*, Tübingen, J. C. B. Mohr.

The evolution of Swiss federalism: A model for the European Community?[1]

Hansjörg J. Blöchliger and René L. Frey

Department of Economics, University of Basle, Switzerland

Contents

[1] Report undertaken at the request of the Commission of the European Communities, Directorate-General for Economic and Financial Affairs.

Tables

Graph

Summary

This paper deals with the evolution of Swiss federalism in comparison with the possible future way towards political and monetary integration in Europe.

The evolution of Swiss federalism started more than 140 years ago. Despite this long time span and a secular tendency towards centralization, Switzerland is still a decentralized country compared to other nations. The federal Constitution of 1848, totally revised in 1874, leaves a significant amount of autonomy to the lower levels of government, i.e. the cantons and the municipalities. It is therefore of interest to shed some light on the past and present working of Swiss federalism.

The emphasis of the paper lies on fiscal policy. The Swiss federal Constitution leaves a high degree of fiscal autonomy to the cantons. The cantons have their own fiscal system which is independent of the federal system. Direct taxes are mostly collected by the cantons and municipalities, whereas indirect taxes accrue to the federal government. The cantons are therefore able to set their own tax prices, and they decide on the provision of public goods on their own.

This leads to a certain competition between the different lower level communities. Cantons (and municipalities) compete by deciding on the amount of public goods and the means of providing them in the best interests of their citizens. Cantons that behave inefficiently are sanctioned through migration. This paper provides some empirical studies supporting the view that institutional competition on the horizontal level (between the cantons/States) is a better means to reach efficiency than the harmonization approach favoured at present by the European Community.

The paper also deals with the evolution of monetary policy in Switzerland. It shows that monetary integration within Switzerland was completed only 80 years after the federation was founded.

The constitutional setting is probably one of the most important reasons for the long-term stability of the Swiss federation. The federal government has only those rights that the Constitution assigns to it. Constitutional changes not only need the consent of a majority of the population but also a majority of the cantons. This is an effective barrier against the power of the central State. The article therefore concludes that an effective and long-term decentralization of a European federation has to be laid down in a European constitution whose rules restrict the power of the central State and guarantee the application of the subsidiarity principle.

1. Introduction

1.1. Switzerland: An example of the coalescence of a federation

The Member States of the European Community are to join together in a political union with common rules and institutions. This process has been repeatedly reinforced in a series of treaties since the beginning of the 1950s and was confirmed in the European Act and at the Maastricht European Summit in 1992. There seems to be a general consensus that the basis for this union should be a federal one; this is indicated by the structure of the European institutions.[1] Tasks and competences will have to be assigned between a future European central State, the nation States which have existed until now and the new European regions.

[1] On the Community's institutions see El-Agraa (1990), pp. 29-43. For an interpretation of the Community's institutions from the Swiss point of view, see Schindler (1992).

However, the federal nature of the European union is still largely indeterminate. The treaties concluded between the individual States with the object of creating a political and economic union revealed sometimes widely differing views of the new distribution of tasks. The word 'federal' which was to have described the future political union was actually deleted from the final report of the Maastricht Summit, which not only indicates lack of agreement, but also a certain lack of understanding with regard to the concept and significance of a federal State. This is why it may be in the interest of the European Community to arrive at a better understanding of federalism by referring to the evolution of existing federal States, and the way in which they function, so as to be able to use their experiences to establish a federal union. One example of a distinctly federal State is the Swiss Confederation.

Switzerland is not a member of the European Community, and this is why it is not surprising that the Community's deliberations rarely refer to it as an example of the federal structure of a State. Sometimes Germany, but more frequently non-European countries such as the United States or Canada, are taken as examples. Admittedly these countries do have certain European traditions. But they are further away than Switzerland, and in some important respects they are significantly different from Europe. Switzerland, on the other hand, is specifically European.[1] It is possible that a direct comparison with the North American countries, in particular, yields fewer firm conclusions than a comparison with a State located in the middle of Europe and sharing Europe's culture.

The Swiss Confederation permits a series of comparisons, which may be of interest for the discussion of a federally structured European union. Switzerland consists of a number of member States, some of them with very rich and ancient traditions which differ widely from one another in size, language, culture and economic potential. After having been sovereign members of a loose confederacy of States, in some cases for centuries, these member States (the present-day cantons), in 1848 joined together in a Confederation, which in the last 150 years or so has become increasingly integrated. The parallels for the Community's political and economic integration are obvious: like the largely sovereign member States of the then Swiss confederacy of States, the sovereign EC nation States of today, with deeply rooted traditions and the widest variety of historical experiences, must come together in a new political unit under a common roof. For this reason, the statement that 'Switzerland will be federal, or it will not be', which goes back to the experiences of Napoleon,[2] can with some justification be transferred to the European level.

In the European context, Switzerland provides the European Community with an example of federal integration which can be observed over a period of almost 150 years. The then member States of Switzerland were faced with largely the same problems as the present-day Community Member States. Even though historical analogies must be treated with caution, perhaps some of the decision-making processes of the time can nevertheless be carried over to the present discussion on integration. The Swiss example explicitly shows the evolutionary nature of federalism, which in the end is decisive for the formation of superior structures such as the Community:[3] while federalism is based on the decentralization of political decisions, the construction or development of a union and its central institutions in the end always represents a process of centralization. An area of tension therefore surrounds the concept of 'federalism' or 'federation', as was shown by the differing interpretations of the concept of 'federal', partly attributable to semantic differences,[4] at Maastricht. This is why Switzerland's experiences in the coalescence of its Confederation permit certain conclusions to be drawn on the evolution of federal systems and provide an example of the tensions which arise in the process.

For the Community, which is facing a similar integration process to the one faced by Switzerland just under 150 years ago, the following questions are likely to be the most important:

(i) How did the then sovereign cantons succeed in bringing their divergent interests under a federal, but common roof?

(ii) How were, on the one hand, the federal structure and the associated competences of the cantons embodied in the Constitution, while on the other hand the central State was effectively held together?

(iii) What course did the gradual centralization of the Swiss Confederation follow? What were the constitutional changes on which it was based and what changes did it entail?

(iv) Which government tasks were transferred to federal level first, and which were transferred later?

(v) Which government tasks are today largely centralized, and which largely decentralized?

This paper not only describes the development of Swiss federalism, but tries to include aspects of the discussion on economic federalism, in particular the question of the optimum degree of centralization or decentralization. This permits a critical evaluation of the Swiss brand of federalism, and makes it possible to indicate possible undesirable developments in Swiss federalism, which could be replicated in a European integration process. Not least, this paper is intended to make a contribution to the economic theory of federalism. So far, this discussion has concentrated far more on the problem of the decentralization of existing structures[5] and only a little on the opposite case, the question of the federal integration of existing sovereign units.

1 Spahn refers to this advantage in his contribution (in this volume, in the paper 'The design of federal fiscal constitutions in theory and practice'; however, he does not examine the Swiss example in any greater depth.

2 See Aubert (1992), p. 13.

3 See Walsh's contribution in this volume.

4 'Federal' in English and 'fédéral' in French have a far more unitary and centralized meaning than the German words 'föderalistisch' and 'föderal'.

5 See for example the volume of collected works by Oates (1992).

1.2. Structure of the paper

There is no generally accepted definition of federalism, mainly because a variety of scientific disciplines deal with it. However, if one summarizes the most common definitions,[1] federalism consists in the fact that:

the citizen simultaneously belongs to several levels of government;

each level of government decides independently over certain areas of responsibility;

the central level ensures the cohesion of the member States;

the member States are involved in decision-making at the overarching level.

A federal structure also always contains centralist elements, since certain tasks, as part of the growing together of member States, are quite explicitly intended to be taken over by an umbrella institution. For this reason federalism or federal structure is below taken to mean the combination of centralized and decentralized forms of government organization. The degree of federalism or independence of the member States in a confederation is therefore always measured according to the way in which competences are allocated to the different levels of government.

This paper deals with the structure of government tasks. We assume that a range of tasks is performed by government institutions, and we examine the question of the level of government at which these tasks have to be tackled. We do not deal with the question, one which has also given rise to vigorous discussion in Switzerland, which tasks should be performed by government and which by the private sector. Our subject of investigation is solely the federal structure of government institutions.

The paper is divided into three parts which correspond to sections 2, 3 and 4.

Section 2 traces the constitutional development of Swiss federalism from the Confederation's establishment in 1848 to the present day. This section attempts to illustrate how the founders of the Confederation were able to create a Constitution which was approved by a majority of the previously independent States and by their populations. The section tries to show how rules on federal decision-making have been embodied in the Constitution and how the initially unstable equilibrium between federalism and centralism was safeguarded. Of particular interest is the question of the rules which govern the amendment of the Constitution itself. This is particularly important when a new area of responsibility is to be allocated to a specific level of government within the federal system.

The next stage is to trace the constitutional changes to Swiss federalism. The optimum division between the tasks to be centralized or decentralized is of course never definitive, but is continually changing under the influence of exogenous factors. Nor can the question of which tasks should be taken over by which level of government ever be finally answered.

This is why it is necessary to outline the constitutional changes to Swiss federalism, especially in the first 80 years. These constitutional revisions may provide a first pointer to possible rules at European level: the discussions which are today taking place at European level, for example, in the fields of monetary, social, fiscal or environmental policy, and the question of whether preference should be given to centralized or decentralized solutions, has affected the politics of Switzerland throughout much of the 19th century.

Section 3 traces the development of Swiss federalism on the basis of 'functional' criteria. The section examines how the most important government tasks have, over time, been allocated to the three levels of government. It presents the individual government tasks: it discusses how the federal distribution of tasks is currently viewed in Switzerland, and which reforms are being proposed in the corresponding areas of responsibility. An important point here is that the secular trend towards centralization in Switzerland has led to an increasing entanglement of the various levels of government and to 'executive federalism', a concealed centralism with a federal face. This functional approach is primarily concerned with fiscal federalism, the right of the member States not only to spend money themselves, but also to raise revenue through the establishment of their own tax system. Fiscal federalism is an essential prerequisite for the existence of federal States; the degree of revenue-raising and expenditure autonomy goes a long way to determining the real federal content of a confederation and its readiness to decentralize State power not only formally, but in actual fact. The description of the Swiss tax system, the fiscal policy of the various levels of government and the distribution of tasks between federal government and cantons will therefore be relatively detailed.

In addition to fiscal federalism, the section traces the development of Swiss monetary policy after the unification of 1848, and deals with the questions of social security, geographical mobility as a result of regional disparities, and defence. For each subject area parallels are briefly drawn with the discussion at European level.

[1] See Frey (1977), p. 13.

Lastly, section 4 draws some simplified and cautious conclusions which apply to the possible federal organization of the European Community. The Swiss experience indicates that a federal structure is preferable to any other form of government organization for the European Community and that many areas of government policy can be decentralized to a greater degree than the present discussion on integration and harmonization would suggest. On the basis of the Swiss experience and with reference to the discussion on economic federalism, the section explains which areas have to be regulated at central level, and which can be decentralized or need never be centralized at all. It also shows how such a federal structure can be preserved in the long term and constitutionally guaranteed. This should enable the European States to agree to unite, without the welfare gains achieved being lost subsequently through excessive centralization.

2. The institutional development of the Swiss Confederation

2.1. The end of the confederacy of States in the civil war

For Switzerland, the European restoration after the defeat of France meant the return to the constitutional relationships of the pre-revolutionary period.[1] In 1815 Switzerland formed itself, as in the pre-1789 situation, into a confederacy of largely independent cantons. Cooperation was regulated in a new Constitution (Bundesvertrag). Institutional cooperation between the cantons was minimal; it was largely confined to cooperation at treaty and not at constitutional level. The only institution ranking higher than the cantons was the (Diet) Tagsatzung, a kind of executive board of the confederacy. The Diet was able to take decisions by simple or, in a few cases, by qualified majority. But it lacked important attributes of a central level of government, such as being able to get higher-ranking law accepted in the individual member States or to use force against them. Its most important function was coordination in the military sphere.

Two crucial weaknesses marked the institutional reality of the confederacy. First, changes to the Bundesvertrag could only be made unanimously, i.e. with the agreement of all the cantons. Second, each canton had a right of veto even against decisions of the Diet which required no change to the Bundesvertrag. A canton did not need to adhere to decisions which the Diet had reached by majority decision. This was implicitly the same as a constitutionally guaranteed opt-out clause. Both Bundesvertrag rules led to extensive obstruction of constitutional cooperation and prevented the creation of a single economic area. The geographical fragmentation put a powerful brake on Switzerland's economic development. It is hardly possible to say how far the Switzerland of the time was federal, since the second element of federalism, a central level superior to the member States, was almost totally lacking.

After 1815 the individual cantons developed in different directions, both politically and economically. A chasm opened up between the politically conservative, agrarian cantons and the liberal, reform-oriented, rapidly industrializing cantons. The latter in particular felt the lack of a single economic area during industrialization ever more keenly. The cantons erected barriers between one another in the form of numerous customs duties and additional commercial restrictions, which impeded trade. The general environment within the individual cantons remained disparate, leading to distortions of competition between the cantons. In addition, even the liberal cantons did not guarantee all the fundamental rights and they ensured only limited market freedoms. The lack of a single economic area finally led, in the 1840s, to the cantons trading substantially more intensively with other countries than with one another.[2]

With its institutionalized inability for compromise, the Bundesvertrag exacerbated political tensions. The unanimity rule prevented reforms at federal level. The liberal cantons which, particularly in the 1830s, had implemented constitutional reforms saw no possibility of extending their new, liberal rules to the whole of Switzerland. The Bundesvertrag prevented any form of balancing of interests, so that eventually, as in the United States, two hostile groups faced each other within the confederacy. The conflict between the two camps, the liberal and the conservative cantons, was in the end settled by military means: in a short and, compared with the American one, relatively bloodless civil war, the Sonderbund War, the liberal cantons defeated the conservatives in 1847, and the liberals dissolved the conservative Sonderbund (separate federation).

2.2. The federal Constitution of 1848: The founding of federalism

The victory of the liberal cantons cleared the way for one of the rare opportunities for a thoroughgoing reform of government institutions.[3] Within a few months a consti-

[1] Aubert (1992) surveys Switzerland from the point of view of constitutional theory.

[2] Gugerli (1991), p. 30.

[3] Bernholz (1992).

tutional committee presented a draft Constitution for a new Confederation, on which the population of all the cantons then had to vote. In the ballot two thirds of the population and two thirds of the cantons voted for the new Constitution. Admittedly, this required a trick which was questionable under constitutional law, because the liberal victors held the ballot immediately on the basis of provisions which only came into operation in the new Constitution. In particular the unanimity rules (all cantons had to agree to an amendment to the Constitution) were lifted before the vote. Nevertheless, approval of the Constitution seems largely to have been a basic decision to consent to the principles of a federal State and a new balance between federalization and centralization.

The new Constitution contained two fundamental rules which paid attention to the long-term equilibrium between the member States and the new Confederation:

2.2.1. The embodying of federalism in the Constitution

After 1848, Switzerland was again composed of widely differing member States. A centralist State would not only have taken inadequate account of these differences, but would also have precipitated a host of minority problems of a linguistic, religious or economic nature. This is why central institutions with their own competences were for the first time created at federal level but the individual member States were still to be left with enough autonomy to be able to take adequate account of their own population's needs. This pronounced vertical division of power is intended to prevent (stable) majorities from being able to exploit minorities via the central level. Swiss federalism therefore stems primarily from the idea of the protection of minorities.[1]

The federal principle of the protection of minorities and the vertical division of power were strongly safeguarded in the Constitution:[2] the new Constitution guarantees the cantons autonomy in all areas in which the Constitution does not explicitly provide for federal government competence. Each new competence for the central institutions therefore requires a constitutional amendment. This provision still applies today. The Constitution can be amended only with the consent both of a majority of the population and a majority of the cantons. The autonomy of the cantons is also guaranteed by the two-chamber system; one of the two chambers is composed of two representatives from each canton.[3] The strong constitutional basis for federalism ensured the agreement of those sections of the population which wished to combine the advantages of a central State with the advantages of cantonal autonomy.

2.2.2. Establishment of rules on the amendment of rules

The essential weakness of the old confederacy, which in the end had led to the civil war, lay in the unanimity rule; it was by itself enough to prevent any reform. The Constitutional Commission of 1848 therefore attached great importance to the rules for amending the Constitution, i.e. the rules for amending the rules.[4] This meant, on the one hand, the introduction of the (simple) majority at all three levels of government, and on the other hand, the relatively detailed recording of the conditions in which a revision of the Constitution could take place. An annex devoted to this subject was attached to the Constitution. Even today this annex still stipulates how either the cantons, the parliament or the population may suggest constitutional revisions. These detailed rules on amending the Constitution (the relative simplicity with which the Swiss Constitution can be amended may surprise German or American constitutional theorists) may have had a decisive influence on the proportion of the assenting population.[1]

The new federal Constitution regulated the fundamental rights in the political and economic spheres in particular, and so prepared the way for a single economic area. These rules could not be changed by the cantons. They mainly concerned:

(a) Establishment and harmonization of fundamental democratic rights

The fundamental democratic rights include in particular the nationwide establishment of universal and secret suffrage. Not all the cantons had previously guaranteed these fundamental rights. At the time of the confederacy each of the cantons had been able to choose their own form of political

1 Knapp (1986).

2 See Zimmermann (1987) on the embodying of federalism within the constitution.

3 The parliamentary two-chamber system was largely modelled on the United States system; the National Council corresponds to the House of Representatives, the Council of States corresponds to the Senate. The United States has influenced Swiss constitutional history in some other areas.

4 Gugerli (1991).

5 Gugerli (1991), p. 34. On these ideas, see Buchanan (1984). The assenting population was acting behind a veil of uncertainty. But it had the certainty of being able to obtain an amendment if the Constitution should turn out, over a period, to require revision — in particular as regards the allocation of competences between cantons and Confederation.

organization and to exclude specific groups of persons from political co-determination, whereas the new Confederation made the democratic and republican form of government obligatory.

(b) Freedom of movement of persons

The Constitution embodied the right of every Swiss to settle in a canton of his choice. This rule removed all the cantonal restrictions which had existed previously and meant an almost complete liberalization of the movement of persons within the country. However, it took some time for new arrivals to be granted the full political rights of their canton of residence. Liberalization of the freedom of movement of persons did not have any great effect on geographical migration right away; language frontiers and differences in attitude prevented a rapid increase in mobility between cantons.

(c) Removal of barriers to trade within the country

The Confederation replaced the existing internal customs duties, which had previously provided the cantons with a source of revenue, by a single external tariff. This tariff was used solely for budgetary purposes. The cantons had to remove all non-tariff barriers to trade that were erected between 1815 and 1848. This turned the entire national territory of Switzerland into a free trade area, within which any restriction on intercantonal trade was prohibited. The creation of the single economic area or the internal market thus began with the liberalization of movement for persons and goods.

The embodiment of the fundamental rights and freedoms in the Constitution was equivalent to the federal government laying down the ground rules for federalism. These rules, which for the very first time enabled federalism to function and permitted an effective division of labour between federal government and cantons, can best be compared with the organizational policy and competition rules which are necessary for the functioning of a market economy. Just as a market cannot function without a well-defined, government-established framework, a federal State cannot function without a set of ground rules to be laid down by the central authority. But within these rules the cantons were free to organize themselves and to pursue their own policies in accordance with the preferences of their population.

Apart from laying down the ground rules, the federal government laid claim to few central competences at the beginning of the new constitutional period:

(i) Revenue from the single external tariff

The customs duties in force between member States were removed and replaced by a single external tariff. All duties accrued to the federal treasury. Until the introduction of the turnover tax on goods in the Second World War this revenue represented the federal government's main source of income.

(ii) Defence

The federal government assumed almost sole responsibility for external military defence which had previously been regulated within the confederacy by treaty. The cantons were left with only limited powers, mainly the regulation of organizational matters and a few administrative questions.

(iii) State monopolies

The federal government replaced the cantonal monopolies over the postal system and the currency by a federal monopoly. However monetary policy was not fully centralized until the central bank was established at the beginning of the 20th century (see section 3.3).

2.3. The total constitutional revision of 1874

The Confederation of 1848 created a free trade area on a territory previously divided by a great many frontiers. The subsequent start of industrialization and in particular the construction of the railways increased the interdependence of the individual cantons. After a short time therefore, the size of the economic areas no longer corresponded to the size of the political areas. In addition, the lack of proper competition rules was making itself felt; because of the limited size of the economic areas in 1848, such rules had been quite unnecessary. Economic integration required further ground rules. For this reason, the federal Constitution was totally revised in 1874, and a number of new competences were transferred to the central level of the Confederation. Three areas were particularly important:

2.3.1. Introduction of economic freedom

The 1848 Constitution liberalized trade between the cantons, but allowed each canton to maintain or to introduce market intervention and market restrictions on its territory. The 1874 Constitution guaranteed full economic freedom throughout the national territory. Economic freedom was completed by the power to harmonize economic law (including commercial law and the law of contract). Economic freedom in this way complemented the liberalization of trade between the cantons and completed the unification of the economic area of Switzerland; the free trade area followed the internal market.

2.3.2. Freedom of establishment with political rights

The 1848 Constitution enabled every Swiss to settle in the canton of his choice, but for some time he was deprived of his political rights. These restrictions were removed by the 1874 Constitution. Any person settling in any canton from then on possessed the same political rights as a citizen of that canton. Freedom of movement for persons was now completely guaranteed.

2.3.3. Partial introduction of direct democracy at federal level

The people received the right to resort to the referendum against parliamentary or government decisions and to force a vote thereon. This right had a centralizing effect, because for a law to be adopted all that was needed was a majority of the popular vote and no longer of the cantonal vote.

The new Constitution was adopted by a two to one majority, with the cantons of the former separate federation (Sonderbund) again voting against. A far more centralist draft constitution had been rejected two years before.

2.4. Constitutional development up to the present

After 1874 the Swiss Constitution was never again totally revised. Attempts to do so especially in the 1970s and 1980s ran into the ground. However, the Constitution has been partially revised some 120 times since 1874.

It is difficult to provide a short survey of such a long period. Switzerland's institutional development is generally evaluated on the basis of the three criteria of federalism, democracy and liberalism.[1] Since this paper is mainly concerned with the development of federalism, the other two subject areas are dealt with only insofar as they are connected with federalism. The period is subdivided into three sections: 1. the period up to the First World War; 2. the interwar period; 3. the period after the Second World War.

[1] See Aubert (1992, p. 60) for the constitutional law viewpoint or Gruner (1964) for the economic viewpoint.

2.4.1. Development up to the First World War: Completion of the internal market

In the period from 1874 to 1914 or so, the constitutional foundations of the Confederation were completed; this process therefore extends over a period of more than 40 years. Political discussions centred on the question of the optimum degree of centralization of government tasks, because the construction of the new infrastructure, especially the railways, was leading to increasing links within the economic area. While the centralists took the view that the associated spillover effects required uniform federal regulations, the federalists were particularly concerned with the legal environment as an additional element of competition for an individual canton.

One of the most important innovations was the introduction of the 1891 'popular initiative' (Volksinitiative). This amendment to the Constitution, as well as the existing principle of the referendum, completed direct democracy at federal level. The popular initiative today makes it possible for 100 000 (originally 50 000) voters to make an application for a partial revision of the federal Constitution, on which a vote is then taken. If a majority of both the population and the cantons agree to the initiative, the constitutional revision is adopted. With the introduction of the popular initiative the Constitution itself has become even more open than before, especially since Switzerland has no authority which legislates on constitutional matters. The initiative tends to have a centralizing effect, since it usually allocates new tasks to the federal government.

It took time for the legal system to be harmonized and even then the process was incomplete. As the internal market evolved, a number of legal areas were removed from the cantons and transferred to the federal government. Years, if not decades, often elapsed between the introduction of the relevant articles of the Constitution and the publication of the laws. The most important federal laws, which superseded cantonal laws, were the law of contract (1881), the civil code (1907) and the copyright and patent laws (1890 and 1900 respectively). The constitutional foundations for a harmonization of criminal law were laid in 1898, but a single penal code was not adopted until 1937. The same is true of labour law, which was not harmonized until 1964. The first social security laws, covering health and accident insurance, were introduced on a federal basis: the federal government laid down an outline law, but left its implementation to the cantons.

Federalism was also influenced by some interventionist measures introduced after 1880. In 1898 the federal government paved the way for its takeover of some previously private or cantonal railways. This takeover gave the federal authorities a relatively great influence on the planning of the transport infrastructure. In 1907 the Swiss national bank was established, ending the cantons' power to issue banknotes. During the agricultural crisis in the 1880's a number of protective tariffs were introduced on foreign products, in particular agricultural products. However, all in all, government interventionism and its associated centralization remained modest.

2.4.2. Interwar period: Non-systematic centralization

Switzerland also suffered a number of economic crises during the interwar period. The cantons could no longer withstand these crises alone, in particular those of the 1930s, and they were reliant on federal assistance. The federal government began, quite unsystematically, to intervene in the economy, by subsidizing those branches which were threatened by the recession. However, the federal government possessed neither an economic policy blueprint nor the constitutional articles to be able to pursue any sort of targeted stabilization policy.

In the budgetary area, the federal government began to levy its own taxes and breached the previously firmly established principle of leaving tax revenue to the cantons. The First World War, in particular, compelled the federal government for the first time to levy indirect taxes on securities transactions. Although part of the yield from these taxes was returned to the cantons, they were left with correspondingly less scope for levying their own taxes. With the introduction of the cantons' participation in federal taxes, the Swiss tax system was centralized for the first time.

2.4.3. Development up to the present: Welfare State and international integration

The period after the Second World War saw a further centralization of government tasks. This was due to a systematization of economic policy (new constitutional articles on economic policy in 1947), an extension of the welfare state (introduction of old age insurance in 1947) and regulation of the new environmental problems and of the associated external effects (introduction of town and country planning and various environmental protection laws in the 1960s, 1970s and 1980s). Most of these areas cannot be regulated either by the cantons alone or by intercantonal cooperation, since they have marked spillover effects. After the Second World War Switzerland became increasingly integrated into the international community of nations, a result which could only be achieved by the Confederation on the basis of government treaties. Such treaties reduce not only the cantons' autonomy *vis-à-vis* the federal government, but also the Confederation's autonomy *vis-à-vis* supranational institutions.

The federal government tries to counteract the loss of cantonal autonomy associated with centralization by means of framework laws. Laws are promulgated at federal level, but their implementation is transferred to the cantons. The purpose of this vertical division of tasks, known in Switzerland by the concept 'implementing' or 'administrative federalism', is to give the cantons greater freedom of action. However, most framework laws leave the cantons too little freedom of action, so that implementing federalism bears more relation to a decentralization of government tasks than to genuine federalism.[1] The higher implementing costs are not balanced by a correspondingly greater cantonal autonomy.[2] Implementing federalism is also criticized because it prevents the enforcement of federal standards, in particular in the field of environmental protection. Sensible framework legislation would necessitate a clear division of tasks between federal government and cantons, in particular the restriction of federal laws to setting the objectives, while the means for their realization could be chosen by the cantons themselves.[3]

2.5. Implications: Federalism as competition

Today Switzerland is, in institutional terms, a relatively complex system of the three levels of government — federal government, cantons and communes — which are interconnected by a great many vertical and horizontal relationships. This system has developed over a period of just under 150 years. Even if the Swiss experiences of the 19th century are at best only relatively suitable as a model for the way in which the European Community may develop at the end of the 20th century, certain basic tendencies do emerge, as to how independent States join together in a Confederation via a confederacy and how, within the Confederation, competences evolve between the individual levels of government. Switzerland can also serve as an example of how constitutional measures can delay the secular trend to greater centralization, and of the advantages and disadvantages deriving from a country's federal structure.

1 Knapp (1986).

2 See Breton and Scott (1978) on the problem of organizational or implementing costs in a federal State.

3 The European Community possesses a strongly federally oriented instrument in the form of the 'directive': the directive only lays down objectives, but leaves execution to the Member States.

The most important task after the establishment of the Confederation in 1848 was the creation of an internal market. The requisite institutional rules could only be imposed by a central authority placed above the member States, just as a set of competition rules has to be uniformly enforced. The creation of this single economic area started with the creation of a free trade area, followed by freedom of establishment and economic freedom in all member States. This process, together with the associated shifts in power, took some 40 to 50 years to complete. The system of currency competition was abolished shortly after the establishment of the Confederation by the creation of a single currency, the franc, but for 50 years, until the establishment of the Swiss national bank, the State had no monopoly on issuing the currency.

The member States' loss of power associated with the creation of the internal market and political union was partly offset by a number of constitutional safeguards. These safeguards were decisive for the development of Swiss federalism; these are what make Switzerland into a definite federal State. Apart from the fundamental rules on political and economic union, few competences were allocated to the federal government. The Constitution makes it difficult for amendments to be made which diminish the cantons' autonomy. This gives the cantons autonomy over a large number of policy areas which in other States are regulated centrally.

The constitutional shape of Swiss federalism permits intensive horizontal cooperation at the lower levels of government, the cantons and the communes. This horizontal cooperation is important for the principle of fiscal equivalence.[1] The cantons and communes are free to conclude agreements with one another on cooperation in the most varied areas and so themselves to establish the optimum size of the area necessary for the performance of a government task, for example, the provision of a certain public good. This has led to cooperation in a large number of areas, from university funding (intercantonal cooperation) to water provision (intercommunal cooperation). It may be precisely this flexibility of federalism which has long made it resistant to attempts at centralization on the part of the federal government (*vis-à-vis* the cantons) or the cantons (*vis-à-vis* the communes).

The creation of the internal market increased interregional mobility. Individuals were decreasingly bound by traditional regional ties, but began to choose places to live or work on the basis of the different conditions in each of the cantons. This meant that the member States were competing with one another for individuals and firms.[2] This idea of competition increasingly determined Swiss federalism, as it compelled the member States to take account of the preferences of actual and potential citizens who otherwise would be able to move away. The cantons were also able to fully utilize their scope for creating a better general environment and for pursuing an active competition policy or for avoiding a poor general environment, and can still do so. There are a number of such examples in Swiss politics.[3] Swiss-style federalism therefore has a disciplinary effect on the State — like competition, which disciplines businessmen.

It is true that the evolution towards the welfare state also meant a centralization of government tasks. The cantons were no longer able to undertake a range of tasks, first because of the increasing spillover effects, i.e. the external effects between the individual cantons, and second because they were sometimes overburdened by the task of guaranteeing the population a minimum standard of living:[4] some cantons would not be viable without the federal government's financial assistance.[5] Despite the federal government's growing importance in performing government tasks the constitutional principle of federalism is, however, hardly questioned in Switzerland. Thoughts about reform are instead focused on how the federal government can support the cantons without endangering their autonomy. The associated considerations, in particular on the subject of fiscal equalization, can be found in the next section.

1 Olson (1969), Oates (1972).

2 The idea of competition between member States originates in Tiebout (1956).

3 One of the best known examples is the tax policy of the canton of Zug. In the mid-1960s Zug changed its tax law radically to become a low tax State. The low tax rates attracted a large number of firms, so that Zug, which had previously been one of the poorer cantons, today has the highest per capita income of all the cantons.
Another example is provided by the canton of Basle-Landschaft. In 1977 the canton introduced a wealth tax, which taxed high incomes very heavily. The subsequent emigration of rich taxpayers very soon reduced the total tax yield, so that the wealth tax was repealed a few years later.

4 Schindler (1992) even argues that the smallness of the Swiss cantons has given rise to excessive (compared with the optimum) centralization: if there were fewer, and therefore larger and so more efficient cantons, the federation would not need to take over a number of tasks which it has to assume only because of the inefficiency of a few cantons. A similar consideration may also apply to the European Community. Cantons like nations are, however, natural units; it is inconceivable for either individual cantons or individual Community countries to be joined together into larger units.

5 The Swiss Constitution does not recognize 'identical social and economic conditions' in the same way as the German Constitution does. But in fact the entire Swiss fiscal equalization system is based on the principle of not allowing regional differences to become too great.

3. The federal structure of Swiss economic policy

3.1. Overview

This section presents the main areas of economic policy, which are of importance for Swiss federalism in terms of its evolution and its present form. This functional profile forms a counterpart to the constitutional and historical profile in the previous section. The main emphasis is on policy areas which are, to a certain extent, controversial in the Community at present. Switzerland's experiences may provide some clues as to how far government tasks can be decentralized and to the effects which can be expected on the provision of services by the State. The section presents the central element of federalism, taxation and expenditure autonomy (fiscal federalism), fiscal equalization, the history of Swiss monetary policy, social welfare and defence.

3.2. Fiscal federalism

Fiscal federalism, i.e. the degree of a member State's autonomy over its own revenue and expenditure, forms the central plank in a federal system which works. Without financial autonomy, other constitutional elements of federalism are deprived of some of their effect, for without rights of disposal over financial resources the advantages of federalism, in particular, the taking into account of different regional preferences, can only be imperfectly realized. If such different preferences exist, the provision of public goods by a central State leads to welfare losses. This is why the economic theory of federalism frequently equates federalism with fiscal federalism, i.e. the shape of public finances, although federalism also includes a number of other elements which are also dealt with in this paper.

Swiss fiscal federalism has undergone a long and sometimes uneven development. The problem of which government tasks are allocated to which level and how these tasks are financed, has preoccupied Switzerland virtually since the Confederation was founded in 1848. In recent decades the problems of fiscal equalization between federal government and cantons (vertical fiscal equalization) and between the cantons themselves (horizontal fiscal equalization) have been added to the problem of distribution or redistribution of tasks. While questions of both distribution of tasks and fiscal equalization do not loom large in unitary States, federalism in Switzerland has led to a complex system of government tasks which is often no longer transparent.[1]

[1] Bieri (1979), p. 42.

The next three sections deal with the three areas which are important for fiscal federalism: the levying of taxes, redistribution of tasks and fiscal equalization. The purpose of these sections is to show how Swiss fiscal federalism works, and in particular to illustrate that a large number of member States of dissimilar efficiency can exist even in a small area, without unwelcome migratory movements and welfare losses arising for the Confederation as a whole.

3.2.1. Tax system

A federal system requires the revenue sources of the individual member States to be specified, so that public tasks can be carried out. The tax system establishes how these tasks are financed and determines the level of financial resources which can be used by the member States themselves. In this way the tax system goes a long way towards determining the extent of their autonomy.

Each of the three levels of government — federal, cantonal and communal — levies its own taxes. This vertical structure of the tax system may seem complicated (which it is not); particularly to an outsider. However, it affords the cantons and the communes a high degree of independence and allows them to have an autonomous budgetary policy. No European State other than Switzerland affords the lower levels of government such great independence in shaping their own tax systems.[2] Historically, the federal government was granted no power to tax whatsoever in the 1848 and 1874 Constitutions; all that it was left with to finance its tasks was the revenue from the external tariffs and the proceeds from the State monopolies. It was only during the First World War, i.e. over 60 years after the establishment of the Confederation, that the federal government received the right to levy an indirect tax. During the Second World War this right was supplemented by the introduction of a general turnover tax on goods. On the other hand, the cantons had the right to tax income and wealth from the start. The consequent allocation, in the course of time, of indirect taxes (turnover taxes and excise duties) to the federal government, and direct taxes (income and wealth taxes) to the cantons has essentially been maintained until the present.[3]

In comparison with other federal tax systems, for example, that of Germany, the cantons' control over their financial resources is still very high despite the general tendency

[2] See also Schneider's contribution in this volume.
[3] The historical background explains why the relative share of direct taxes in the total tax yield is higher than in other States. Changes are at present under discussion in connection with the possible introduction of a value-added tax.

towards centralization. The cantons are largely free to structure and frame their tax system and to establish the tax burden. This freedom is restricted only by a few constitutional provisions that prohibit, in particular, double taxation or unjustified tax concessions and taxes which, in the form of tariff barriers to trade, could impede the free movement of goods between the cantons. In addition, the cantons are also bound by an article in the Constitution which allocates indirect taxes exclusively to the federal government. The communes also have a degree of tax autonomy: they can determine the level of the tax burden through a surcharge on the cantonal income tax. They are, however, tied to the tax system of their canton. The addition of cantonal and communal taxes (plus a small direct federal tax) produces the total tax burden. Taxes are jointly levied by all three tiers of government, so that citizens do not need to complete three tax returns.

Because of the multiplicity of tax systems and the dissimilarity of objects taxed, it is difficult to speak of a specific federal tax system; the tax systems of two neighbouring cantons may be very different from each other. A general attribute of the Swiss tax system is that direct and indirect taxes are allocated to different levels of government. As already stated, direct taxes are (almost) exclusively the responsibility of the cantons and communes, while indirect taxes are the responsibility of the federal government. This allocation is almost inevitable in view of Switzerland's size: different cantonal rates of turnover tax or excise duty could lead to undesirable distortions, particularly near frontiers.[1]

The extensive freedom in shaping its tax system enables the individual canton to determine the level of the tax price for a specific supply of public goods within its own jurisdiction. A canton can influence the location of firms or individuals by the level of its taxes. Cantons and even communes use their tax systems to compete with one another, since it is possible for both firms and individuals to move away to another canton or commune.[2] Because distances are so small, relatively intensive use can be made of this possibility in Switzerland. Federal competition through the tax system compels the individual authorities to adapt to the preferences of citizens or firms, to provide the desired public goods efficiently and not to waste public funds. A number of indices suggest that, because of this competition, federal States have a more efficient public sector than strongly unitary States or, other things being equal, a smaller tax burden[3] and also are less heavily indebted.[4]

The consequence of cantonal, and to some extent local (i.e. communal) tax autonomy is that the tax burden can differ substantially from one authority to another. An individual can pay as much as twice to three times the amount of tax[5] on the same income or wealth, depending on where he is located; even neighbouring cantons sometimes have considerable permanent differences in tax burden, that is, differences which do not diminish even in the long term.[6] Similar differences also exist for corporation taxes.

These sometimes wide disparities raise the question of whether they do not trigger large migratory movements between cantons and thus threaten the cohesion of the State. This addresses the geographical mobility between the individual member States. Because of the existing differences in tax burden, which are also constantly changing, substantial migrations of individuals and firms should take place. In fact, such tax-induced migratory movements do occur. But they tend to be of minor importance. This is mainly because the tax burden is not the only factor which determines the choice of location for individuals and firms. Instead, individuals and firms evaluate the price-service ratio in a specific member State, i.e. the supply of public services relative to their tax price. Besides the price-service ratio in relation to the supply of public services, a number of other determinants also influence the choice of residence or location.[7] These include, in particular, the prices of real property and land. Other things being equal, taxes tend to depress real property and land prices so that land prices and tax prices partly offset each other (tax capitalization). The real differences in tax burden are thus actually smaller than those shown in the official figures, and the incentive to migrate to or from a canton is correspondingly weaker. If tax differ-

1 This allocation is not, however, inevitable. In the United States it is the reverse: direct taxes are levied by the federal government, while indirect taxes are levied at State level.

2 In Hirschman's terminology (1970), they not only have the 'voice' solution, but also the 'exit' solution.

3 Pommerehne (1990) has carried out an empirical study of this statement. He examined the tax burden in Switzerland and in Germany and concluded that the tax burden in Switzerland was about one quarter lower, while the supply of public services was roughly the same.

4 Kirchgässner and Pommerehne (1988).

5 L. Weber *et al.* (1992), p. 247.

6 This is particularly true of cantons adjoining a canton with a large urban centre. For example the differences between Basle-city and Basle-country, between Zurich and Zug and between Geneva and Vaud can be as much as 20%. See L. Weber *et al.* (1992), p. 248.

7 Frey (1981) shows that the 'tax burden' variable has no significant influence on choice of location. A number of other studies (Frey, 1977; Bieri, 1979; L. Weber *et al.*, 1992) also come to the conclusion that tax-induced migratory movements are small.

ences do in fact become too great and migratory movements occur, it is in the canton's own interests to change its tax policy.[1]

Current reform proposals therefore hardly impinge on the federal structure of the Swiss tax system. The object of proposals is, on the one hand, to replace the present purchase tax with a value-added tax. The value-added tax was rejected three times in referenda, because the population feared higher taxation. At present a new bill is therefore being prepared which is neutral in its effect on the tax burden. On the other hand, work on the formal harmonization of the cantonal tax systems has been concluded.[2] Formal harmonization establishes uniform rules only for the taxation of each object taxed, i.e. it harmonizes the way in which income, net worth and corporation taxes are levied; tax rates and allowances are by contrast not affected. As a result, transaction and information costs are reduced for those who change location or who pay taxes in several cantons. Substantive harmonization would by contrast mean an extensive approximation of tax rates, objects taxed, deductibility rules and allowances, with the objective of a uniform tax burden throughout the Confederation. However, such harmonization is at variance with the federal principle. This is why substantive harmonization has never been on the political agenda in Switzerland.

3.2.2. The federal distribution of tasks

The federal structure of Switzerland requires tasks to be allocated to the various levels of government. The distribution of tasks has continually changed over the 150 years of the Confederation's existence; Switzerland has not escaped the secular trend of the increasing centralization of tasks. Yet the constitutional foundations of the Confederation have ensured that the member States are still autonomously responsible for important public functions. The central government can only take on tasks which are explicitly allocated to it in the Constitution; if the federal government demands new tasks, the Constitution has to be amended accordingly. This is particularly true of the fiscal area — the subsidiarity principle is guaranteed by Article 3 of the Constitution.

At the beginning of the Confederation almost all government tasks were reserved for the cantons. Anyway, these tasks were not very extensive; they were mainly in the traditional areas of justice, police, welfare, education and the extension of the infrastructure. The tasks transferred to the federal government were only Switzerland's relations with foreign powers, defence, and some minor responsibilities, which it only utilized as time went by. Initially, the narrow range of tasks was balanced by small revenues, primarily derived from the new external tariffs. Until the First World War there were no federal taxes. It was only the crises of the interwar period and in particular the growth of the welfare state after the Second World War which prompted the federal government to take over important areas of responsibility (social security, infrastructure, environmental protection).

Today's distribution of tasks is set out in the following table. The table shows the evolution of the five most important government tasks in recent years. It can be seen that the federal government is still responsible for most (90%) of the defence burden. There has been a sharp increase in transport and energy tasks with the federal government today responsible for half (51%) of all expenditure. The federal government accounts for just under half of social security expenditure (48%), with the costs of social insurance being borne predominantly by the federal government but the actual benefits being provided mainly by the cantons. Education and research are still traditional domains of the cantons. Here the federal government is responsible for only 16% of expenditure. This is connected with the fact that all schools including the universities, with the exception of two polytechnics, are financed by the cantons.[3] In this area, expenditure has shifted substantially to the federal government in recent years, since the cantons are sometimes no longer in a position to finance research at their universities. The federal government is responsible for only a tiny proportion (1%) of health expenditure, mainly because, although health insurance is governed by a federal framework law, implementation of the law has in the main been transferred to the cantons.

Cantonal budgets have in recent years grown more rapidly on the whole than those of the federal government. This is connected, first, to the different tax yields of the various levels of government. The cantons control direct taxes, which have grown appreciably more rapidly than the indirect taxes which primarily accrue to the federal government. Second, the federal government has increasingly confined itself to the issuing of framework laws and has delegated the implementation of nationwide tasks to the cantons, in the context of implementing federalism. As a result the cost

[1] Compare, for example, the tax reforms in the canton of Basle-city, which were intended to reduce the differences in tax burden between it and the canton Basle-country.

[2] Law on the harmonization of direct cantonal and communal taxes, adopted on 14 December 1990.

[3] See section 3.2.4. on the problem of fiscal equalization between cantons with and without universities.

Table 1

Allocation of public expenditure to federal government, cantons and communes

(%)

	Federal government		Cantons		Communes	
	1960	1989	1960	1989	1960	1989
Defence	96,7	90,7	1,9	3,7	1,4	5,6
Transport/energy	21,5	51,2	42,5	24,0	36,0	24,8
Social security	42,1	48,1	30,7	29,9	27,2	22,0
Education/research	9,8	16,3	51,4	51,2	38,8	32,5
Health	2,3	0,6	72,0	64,0	25,7	35,4
Total						

Source: Federal Ministry of Finance, various volumes.

effectiveness of the government task only becomes apparent at cantonal and possibly communal level. One of the most impressive examples of this is the implementation of Swiss environmental legislation, which is almost exclusively left to the cantons.

The following table gives an overview of the federal government's most important tasks in recent years. Over the period, some relative shares have increased, some diminished and others have remained virtually stationary. Social welfare accounts for the largest share (21%), mainly as a result of the financing of old-age insurance. Defence comes next at 19%. Transport and energy account for 16% of total federal expenditure. In recent decades the share of these headings has grown substantially, since the federal government did not establish its own road infrastructure (national highways) until the early 1960s and has also shouldered the State railways' deficits for the last 20 years or so. Lastly, subsidization of agriculture accounts for 20% of the budget.

Table 2

Evolution of federal government expenditure, 1960-89

(%)

Share of federal government expenditure	1960	1989
Defence	37,1	19,0
Social welfare	12,5	21,0
Transport/energy	6,1	16,5
Agriculture	23,0	21,0
Other	22,4	22,5
Total	100,0	100,0

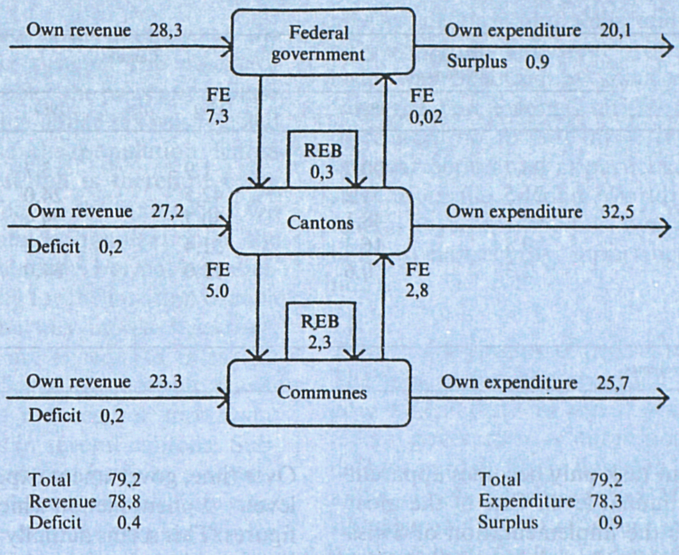
Source: Statistisches Jahrbuch der Schweiz, various years.

Over time, government expenditure has shifted to the federal level — a phenomenon which cannot be seen from the budget figures. This seems actually to have occurred to a suboptimal i.e. excessive extent — the federal government designs new regulations to suit the weakest cantons and so centralizes more than if Switzerland consisted of fewer, and therefore more efficient cantons which are not dependent on federal assistance for a number of tasks.[1] In the specifically Swiss situation this centralization has led to the budgets of the different levels of government becoming increasingly entangled. Implementing federalism, which has already been referred to, requires increasing transfers between the different levels. Indeed, in recent decades the size of transfers to other levels has increased for all three levels of government; for the federal government they now stand at 25%, for the cantons at 12% and for the communes at 8%.[2] The independence of the lower levels is therefore not as great as suggested by the size of the budgets, because many cantonal tasks are prescribed by the federal government (or communal tasks by the cantons) and are financed by contributions which for the most part are earmarked for specific purposes.

The cantons are sometimes all too ready to abandon federal principles, if the federal government holds out a prospect of new transfers. While the actual distribution of tasks is considered to have been resolved fairly well in Switzerland,[3] the present allocation of financial competences is, if anything, unsatisfactory. Disentangling the budgets and strengthening the subsidiarity principle, which in turn would strengthen cantonal and communal autonomy, is therefore

1 Schindler (1992).
2 L. Weber *et al.* (1992), p. 195.
3 Frey (1977).

GRAPH 1: **Federal structure of Switzerland in 1989** (SFR billion)



FE = Fiscal equalization.
REB = Regional equalization of burdens.
Source: Federal Ministry of Finance: Öffentliche Finanzen der Schweiz 1989.

a perennial subject of political discussion in Switzerland. However, the reforms undertaken so far are small; they mainly relate to the abolition of minimal vertical subsidies.

3.2.3. Cantonal and communal fiscal policy

The Swiss cantons are member States with their own constitutions, which are linked only by the federal Constitution. As a result, they also have independent power over their budgets and are therefore not tied to the federal government's budgetary principles. They have, independently of the federal government, their own financial resources, and above all they have the power of taxation. The cantons do, however, have a share in certain federal government revenues, in particular the direct federal tax, and they receive fiscal equalization contributions.

Cantonal autonomy in the area of fiscal policy contrasts with the budget principles to which the German *Länder*, for example, are subject.[1] The main limitation on budgetary sovereignty is intrinsically competition with other cantons: if a canton pursues an inefficient fiscal policy with a poor cost-benefit relationship, individuals and firms move to other cantons. The main areas of cantonal responsibility are education (from primary schools to universities, and, to a large extent, also research is regulated at cantonal level, except for the two federal polytechnics), environmental protection (mainly as a result of the federal government's implementing functions), health, and transport and energy (road construction is cantonal except for the national highways, which were begun in the early 1960s).

The autonomy of the communes, and with it their independent power to manage finances, varies from canton to canton. In principle the cantons regulate their communes' financial room for manœuvre by establishing the budget principles, i.e. by means of a uniform accounting model and determination of the objects to be taxed. The communes as a rule control just one parameter, the establishment of the communal coefficient for income tax. The differences in tax burdens are nevertheless quite large; within the same canton they can vary by as much as 100%. In order to prevent undesirable emigration or immigration, the communes are compelled to pursue a cautious fiscal policy. The communes' tasks lie chiefly in the field of health, culture and leisure.

1 Von Weizsäcker (1987).

The largely decentralized mechanisms for making fiscal policy decisions have led to large differences in fiscal capacity, both between the cantons and between individual communes within a canton. The resources available to fiscally strong city cantons are not the same as those available to fiscally weak mountain cantons, and this leads to wide disparities in tax burdens for the same provision of public services. Yet despite the wide regional disparities, so far no canton has run into serious long-term financial difficulties, and apart from a few mountain communes (which have become virtually unviable as a result of emigration), no commune has had to be placed under the canton's direct financial supervision. It is equally interesting to note that the fiscally strong city cantons have larger financial imbalances than the rural or mountain cantons. The high degree of autonomy has led to cantons and communes having a great interest in balanced finances and seeking to maintain these with the resources available to them. This is why a reduction of federalism in the direction of greater regional equality is hardly under discussion in Switzerland.

3.2.4. Interregional fiscal equalization

The differences between Swiss cantons in terms of size, geographical conditions, size of population and economic potential are greater than the differences between the member States of almost any other federation.[1] This means that the prerequisites for the uniform development of social and economic conditions do not exist. Without equalization measures federalism's decentralized decision-making mechanisms would lead to regional disparities which would no longer be politically acceptable. An extreme form of federalism in principle causes the same problem as a free market economy without social equalization measures, namely excessive differences in the distribution of income and wealth. While the Swiss Constitution, unlike the German one for example, contains no provision on 'identical social and economic conditions', which would automatically necessitate equalization between the member States, excessive regional disparities are seen as a danger for the cohesion of the Confederation. The federal government therefore intervenes to correct the primary distribution between the individual member States.

The federal government pursues the objective of regional redistribution with a host of measures which have partly explicit and partly indirect redistributive effects. The main political measures with the desired type of redistributive effects include fiscal equalization, agricultural policy and assistance to the mountain areas. The purpose of these policies is to strengthen structurally weak regions. A number of the federal government's other regional policy measures (policy on foreign workers, construction of infrastructure) also have regional equalization effects.[2] However, there is no overall coordination of regional equalization measures.

The most direct means for reducing regional disparities is through fiscal equalization measures. In the broader sense fiscal equalization is taken to mean all horizontal or vertical financial relationships between the different levels of government,[3] for example, those with an allocative function and cantonal participation in the federal government's tax revenue. In a narrower sense fiscal equalization means actual redistribution, i.e. payments from the federal government to the cantons or from the cantons to the communes with the object of reducing differences in fiscal capacity.[4] Despite the sometimes large differences between the individual cantons, which basically had already existed long before the foundation of the Confederation in 1848, such spatial equalization payments were not started until relatively recently. The first fiscal equalization law dates from 1959. Today, in addition to the regional policy function, fiscal equalization also has to perform the function of compensating for interregional spillover effects, between the cantons in particular.

Swiss fiscal equalization consists of several elements. This is due to the fact that fiscal equalization in Switzerland performs a variety of functions. First, it serves the distribution policy objective of equalization between the regions. Second, it is connected with implementing federalism. The federal government promulgates framework laws, transferring their implementation to the cantons and shouldering part of the ensuing costs in the form of transfer payments. Third, fiscal equalization is necessary because the optimum degree of centralization of government measures on the revenue side (taxes) is greater than on the expenditure side.[5] This necessitates member States having a share in the federal government's tax revenue through general-purpose fiscal transfers from the federal government to the cantons. In Switzerland, the first two functions of fiscal equalization are bound up with the third. Swiss fiscal equalization is therefore relatively

[1] Frenkel (1986), p. 19. The area of the smallest canton (Basle-city) is 0.5% of the area of the largest (Graubünden); the population in the least populous canton (Appenzell-Innerrhoden) is 1,1% of that in the most populous (Zurich). The only countries to show somewhat larger differences are the United States (area) and India (population).

[2] However, there are also a number of measures which exacerbate regional disparities. See Frey (1985).

[3] Bieri (1979), p. 57.

[4] L. Weber *et al.* (1992), p. 227.

[5] Frey (1977).

complex. The primary distinction is between vertical fiscal equalization (equalization from the federal government to the cantons) and horizontal fiscal equalization (between the cantons or between the communes).

In Switzerland the following are the five main instruments used to achieve fiscal equalization:[1]

(i) The cantons' participation in the federal government's tax revenue. The cantons at present have a 30% share in the direct federal tax. The primary effect is to secure equalization of the different degrees of centralization of government revenue measures and expenditure measures. Participation does, however, have equalization effects, because part of these repayments (13%) are connected with cantonal fiscal capacity. Participation in government revenue and the distributive policy function are thus connected with each other.

(ii) General-purpose vertical fiscal equalization. In the main, this type of fiscal equalization passes from the cantons to the communes, and to a lesser extent from the federal government to the cantons. Reforms under way are intended to give such general-purpose vertical fiscal transfers added importance.

(iii) General-purpose horizontal fiscal equalization. This type of fiscal equalization takes place only within the cantons. A number of cantons have developed equalization mechanisms with which the fiscally strong communes provide direct support for the fiscally weak. However, there is no general-purpose horizontal fiscal equalization between cantons.

(iv) Special-purpose fiscal equalization in the form of grants-in-aid, subsidies, federal government contributions, payments and reimbursements for specific cantonal or communal projects. This type of fiscal equalization is mainly vertical, from federal government to lower levels of government. It is regulated in a great many special laws. As a rule the contribution rates are graduated according to cantonal fiscal capacity.

(v) Regional equalization of burdens as indemnification for regional spillover effects; in particular for centrally located services, which are of benefit to the adjoining member State as well as the paying member State. One example is the participation of the cantons without universities in cantonal universities.

For the cantons, contributions from the federal government's fiscal equalization amount to up to 50% of their budget. They currently average 20% of total cantonal budgets. Approximately 70% of these transfers are special-purpose grants in aid, 30% general-purpose fiscal equalization and participation in the proceeds from taxes.

The Swiss system of fiscal equalization between the member States is at present under discussion. For one thing, the whole fiscal equalization system is becoming increasingly opaque and complex. There are now some 70 measures available which are used directly or indirectly for fiscal equalization and are not at all, or only partly, coordinated with one another, which makes successful monitoring difficult. Furthermore, despite increasing the number of fiscal equalization measures, regional disparities have hardly narrowed.[2] In addition, the conflict between efficiency and distributive justice is starting to materialize in the field of fiscal equalization as well.

In Switzerland, a more extensive fiscal equalization between the individual cantons with an associated reduction of autonomy is not aspired to; regional disparities are seen as the price of federalism. But reforms to the fiscal equalization system are now under discussion.[3] Their aim is an extension of general-purpose fiscal equalization, i.e. transfers not tied to any specific purpose, similar to the general-purpose income transfers made under social policy. Such transfers could replace a whole range of existing inefficient special-purpose contributions and make the entire fiscal equalization system more transparent. They would be determined solely by the fiscal capacity of the individual cantons. The advantage of general-purpose transfers is that they do not reduce the autonomy of the member States and require less administrative expenditure.

3.3. Monetary policy

Future monetary policy is one of the controversial policy areas within the European Community. Some States are somewhat sceptical about the idea of a single currency throughout the Community and the associated welfare gains.[4] They argue that competition between the individual European currencies provides better institutional protection against inflation and the associated welfare losses than a single European central bank (Eurofed). This raises the question of whether a single currency is actually necessary for a single economic area or whether a system of competing currencies, either within the existing States or throughout

[1] See L. Weber *et al.* (1992), p. 227 *et seq.*

[2] L. Weber *et al.* (1992), p. 245.

[3] For a comprehensive discussion see *Eidgenössische Finanzverwaltung, Die öffentlichen Finanzen der Schweiz* (1991).

[4] See Emerson *et al.* (1992),

Community territory, is possible. In other words, how far must monetary policy integration go in an internal market?

With the establishment of the Confederation and the completion of the internal market, Switzerland was faced with a similar problem. Before the foundation of the Confederation, most cantons controlled their own currency and in particular their own monetary policy. Some cantons used the same currency, the old Schweizerfrank, but these were in the minority. Other cantons used currencies of foreign origin, which linked them to the monetary policy of other States. Some currencies even originated in States which did not adjoin Switzerland, such as the Dutch Brabantertaler. Monetary cooperation between the cantons was small, so that the task of creating a single currency throughout federal territory was relatively complex for the new Confederation.[1]

For politicians of the young Confederation, it was clear that monetary union had to follow political union. The first law on monetary integration, the 'Eidgenössische Münzgesetz', was therefore adopted as early as 1850, two years after the establishment of the Confederation. Under this law, the federal government introduced a new currency, the new Swiss franc, which replaced the old cantonal payment media throughout the national territory. At the same time the federal government acquired the monopoly right to mint coins. Yet monetary integration followed a somewhat gradual path. On the one hand Swiss currency was based on the French currencies, and French payment media were legal tender in Switzerland. Under the Latin monetary union, other foreign currencies circulated on Swiss territory (and vice versa). On the other hand the federal government's currency monopoly extended only to the coinage; the cantons still had the right to issue banknotes which were becoming an increasingly important payment medium. The banknote monopoly did not pass to the federal government until the establishment of the Swiss national bank in 1907. The last steps to monetary integration took place only with the dissolution of the Latin monetary union in 1926; Swiss monetary integration thus extended over a period of more than 70 years.[2]

The following section gives a brief outline of monetary integration in the Swiss Confederation. The federal government followed a different path for the integration of the coinage and the integration of the banknote system.

3.3.1. Coinage

Until the establishment of the Confederation in 1848, the cantons had the right to mint their own coins and to regulate the use of foreign coins.[3] The cantons were also completely independent in terms of monetary policy. Although a number of cantons had tried, since the late 18th/early 19th centuries to harmonize the coinage and to standardize currencies, no less than 860 types of coinage circulated on the territory of Switzerland at the time, and sometimes several types in the same canton. The various currencies of the individual cantons sometimes floated freely, and sometimes exchange rates were controlled. The large number of different currencies on a small territory in terms of area led to high transaction costs.

The new Constitution gave the federal government the right to standardize the coinage. In 1850, the corresponding currency reform was adopted with the new currency law: the new Swiss franc was introduced and its value was fixed by law. The new Confederation's monetary policy closely shadowed French monetary policy. This meant that French gold and silver currency and all other currencies which corresponded to the Swiss system of francs and centimes could still circulate freely in Switzerland and were legal tender. The Swiss and French currencies were completely interchangeable; each currency was accepted in the other state.[4]

In 1865 Belgium, France, Italy and Switzerland established a uniform coinage under the Latin monetary union. The union was based on a fixed parity for gold and silver. Within this union all currencies of the member countries were freely convertible with one another and were legal tender. The Swiss economy was in this way closely linked with the other members of the union in the monetary area. Although monetary disturbances at times took place within the union because of the fluctuating prices of gold and silver, the union worked quite well until the First World War, and above all inflation rates remained low.

The experiences of the Latin monetary union showed that it was possible for a system of different currencies (whose exchange rates were not, however, flexible and which were thus not in direct price competition with one another) to exist in one national territory. The Latin monetary union together with its system of fixed exchange rates ran into disequilibrium after the First World War because of the member countries' different economic policies. In Switzer-

[1] Theurl (1992) gives a short account of the history of Swiss monetary integration in the 19th century.
[2] Ritzmann (1973), p. 99, considered this period as somewhat too long.

[3] Schweizerische Nationalbank (1982), p. 16 *et seq.*
[4] Schweizerische Nationalbank (1982), p. 16; Theurl (1992), p. 74.

land it led to imported inflation, which was why at the end of 1926 the federal government declared that all foreign means of payment were no longer legal tender. Eighty years after the establishment of the Confederation, Switzerland had full sovereignty over its currency.

3.3.2. Banknotes

Competition between different currencies on the same territory is a subject to which much theoretical discussion and attention has been devoted.[1] Because most governments are inclined to introduce currency monopolies, there is, however, little empirical experience of the system of currency competition.[2] Switzerland provides an example of one of the few experiments which have ever been undertaken in the field of free currency competition on the same national territory. Between 1826 and 1850 every bank in Switzerland was able to issue banknotes in any currency and to allow them to circulate freely. The experiment and the ensuing experience show the results which can emanate from such a monetary system.[3]

The first bank to issue private banknotes was the State Depositokasse der Stadt Bern in 1826. After the liberal revolutions of the 1830s in the Protestant cantons other banks began to issue notes in rapid succession; by the time the Confederation was established, some 25 monetary institutions were issuing banknotes. The legal status of the issuing banks and the associated liability conditions were different: some banks were in private ownership, others belonged to the State and a third kind were of mixed ownership. The individual banks denominated their notes in completely different currencies, normally in those which were most widely used in the issuing cantons. These were mainly the French franc, the German Reichsgulden and the French écu (*sic*!), the currencies in general use by the States adjoining Switzerland.

The decisive factor why currency competition worked was that the various currencies of the cantons were not confined to the national territory of the issuing canton. After the liberal revolutions of the 1830s a number of cantons deregulated their banking system. Every issuing bank, whether a (cantonal) State-owned bank or a private bank, was able to offer its notes and the associated financial services in all cantons which had liberalized their financial system. The effect of this was that different currencies with different denominations circulated in the same area. As a result, banknote issuers were competing with one another. Each of the issuing banks had an incentive to protect its currency's stability, for fear of being replaced in the area concerned by a more stable currency. Since demand for banknotes depended not only on purchasing power, but also on financial services, all banks had an incentive to keep the quality of these services high.[4]

The system of currency competition worked fairly smoothly in the period between 1826 and 1850, the date of the introduction of the Swiss franc. Inflation rates were very low, exchange rates between the individual currencies relatively stable, and there were hardly any bank bankruptcies.[5] The quality of the monetary system is all the more impressive if it is remembered that Switzerland's political system in this period was subject to unrest and frequent, sometimes violent changes of government. When monetary policy is governed centrally, such periods of political uncertainty are usually associated with monetary disturbances, especially inflation.

The Constitution of 1848 gave the federal government the right to create a single currency. Thereafter, the banks could only issue notes which were denominated in the new Swiss franc. The federal government thus put an end to any real currency competition. Because the Constitution had made no provision for the establishment of a central bank, a certain amount of competition nevertheless remained between the individual issuing institutions at least for financial services. The 'total revision' of 1874 restricted issuing freedom further, but still left the right of issue to the individual banks. It was not until 1891, i.e. over 40 years after the first Constitution, that the federal government was given sole responsibility for issuing banknotes. The ensuing central bank was finally established in 1905, after a first plan was voted down. It is significant for the federal structure that the Swiss national bank takes the form of a public limited company, the shares in which belong not to the federal government but to the cantons and some private individuals. The establishment of the national bank in 1907 meant the end of currency competition with regard to banknotes. In 1954 a new central bank law was adopted granting the national bank substantial independence from the government.

Switzerland's experiences suggest that the integration of an economic area does not require immediate monetary integration. Monetary integration from the creation of a national currency via the creation of a banknote monopoly

[1] See the work of von Hayek (1976).
[2] E.J. Weber (1988).
[3] Jöhr (1915) still provides the most comprehensive picture of Swiss currency competition.
[4] E.J. Weber (1988), p. 46 *et seq.*
[5] E.J. Weber (1988), p. 475.

to the exclusion of all other payment media took more than 70 years. The Swiss system of currency competition which existed before the currency union worked remarkably well. In particular it ensured consistently low inflation rates at a time of political uncertainty and change. The only decisive factor was that all currencies were able to circulate throughout the national territory, so that currencies were competing not only through the exchange rates of two geographically separate economic areas, but could compete with one another in the same area. The question of how far this system — competition between all European currencies throughout the Community — can be transferred to European level has yet to be answered.

3.4. Social security

The nationwide organization of social security (old-age benefits, unemployment and sickness funds) occurred relatively late in Switzerland. This is particularly true if the situation is compared with other European States, who had set up their systems of social security some time before Switzerland. Before the First World War, Switzerland had virtually no nationwide standard solution for social policy, except for a State accident insurance scheme created in 1890. All other parts of the social security system, including poverty and old-age assistance, were a cantonal responsibility. Social benefits were generally small.

Between the two world wars, the constitutional foundations were laid for a number of social security benefits. However, some of the ensuing laws were not adopted until after the Second World War. The following are at present regulated at Federal level.

3.4.1. Old-age and survivors' insurance (AHV)

In 1925 the people approved an article in the Constitution for the establishment of an old-age insurance scheme. The first version of the ensuing law was, however, rejected in 1931, because it provided for uniform contributions and so would have had regressive effects. After the Second World War a new law was adopted, introducing an old-age and survivors' insurance scheme (AHV, equivalent to statutory pension insurance). This proposal combined income-related contributions with pensions which were only partially income-related, resulting in a regressive effect on old-age benefits which was desirable from the point of view of distribution policy. The principles of the pay-as-you-go basis for the AHV, of financing through wage percentages and of limiting pensions were never again challenged despite a great many revisions. Payment into the AHV is on a nationwide basis; only the administration of the funds is shared between the cantons and sometimes the communes (larger cities).

3.4.2. Occupational provision (pension funds)

Over the decades, more and more firms developed their own employees' pension schemes. These pension funds work on the mathematical premium reserve system. In 1986 occupational provision was declared compulsory for all persons in employment as an addition to the AHV. The federal government, however, left organization to the funds which were already in existence or being set up. As a result Switzerland has a large number of pension funds providing a variety of benefits over and above the minimum benefits and contributions required by law. Although the various pension funds are decentralized according to company and not federal, criteria, the cantons, by establishing their own pension funds, are able to influence the social security of their gainfully employed population.

3.4.3. Unemployment insurance

As a result of the recession in the 1930s, Switzerland was one of the countries to experience mass unemployment. In 1935 an article was introduced into the Constitution, entitling the federal government to introduce a nationwide unemployment insurance scheme. In 1947 this article was revised and made systematic. Since 1970 unemployment insurance has been compulsory. Contribution rates are identical throughout Switzerland; they are adjusted according to the level of unemployment, so that the fund neither runs into deficit nor produces surpluses

3.4.4. Other types of insurance and nationwide social security benefits

Other types of national insurance and social security benefits are insignificant. The federal government has the power to take measures to achieve certain equalization effects and to prevent the loss of solidarity by means of grants to the sickness funds. Since 1945 the Constitution has contained an article enabling the federal government to pay family allowances but this task has been almost exclusively delegated to the cantons (except for agriculture). A national maternity insurance scheme was rejected by the population in 1986. Other nationwide social benefits are of minor significance. However, the federal government does possess a number of instruments with which it can implicitly pursue distributive policies (agricultural policy, transport policy, housing policy).

The other social security benefits are federally regulated. This applies in particular to social provision and assistance to the poor, which are focused on the individual and for which the cantons or the communes are responsible. As already mentioned, the cantons are entirely responsible for education, hence the scholarship system is also decentralized. As a result financial contributions to education can vary very substantially from canton to canton.

Some of the Swiss experience may be relevant to the adoption of a possible Community social charter: the distribution of tasks between national level and the level of the member States seems to have been regulated fairly well in Switzerland in the field of social welfare.[1] A fresh decentralization of wider social security benefits to cantonal level is no longer under consideration because of the great intercantonal mobility. Yet cantonal social security benefits worked quite well at times of low intercantonal mobility. Because of the Swiss experience it can be argued that a single Community-wide social security system does not necessarily have to be introduced at the same time as the internal market. Even after the completion of the internal market, there will hardly be an explosion in mobility, especially since freedom of establishment within the Community is already very widely accepted within the Community today. The Swiss example shows that language frontiers and differences in mentality are also a long-term brake on the intensity of migratory movements.

3.5. Defence

The organization of defence is the only area which was largely transferred to central level when the Confederation was established in 1848. The sovereign cantons had already in the earlier treaties of the federation, most recently in 1815, regulated defence in certain areas centrally; defence questions were the only ones on which the executive organs of the federation possessed certain powers. The first Constitution left the cantons with only minor powers, and these were reduced even further by more extensive constitutional revisions towards the end of the nineteenth century. The main reason for the early centralization — apart from the fact that defence represents a pure public good and therefore can only be paid for centrally — was the historical experience of the Swiss member States, which after all had confronted one another in a civil war.

Yet (and this may be of relevance for a possible joint Community defence system), the federal solution took some account of the federal sensitivities of the member States. The cantons are responsible for parts of the military administration. In particular, the organization of troops is partly regulated by the cantons; certain units consist exclusively of members of a specific canton and so are organized on the territorial principle. Political decisions in the field of defence are, however, taken exclusively at federal level.

3.6. Conclusions

Like other federal States, Switzerland has been unable to escape the secular trend of the centralization of government tasks. Added to this is a problem specific to federal Switzerland, which encourages centralization even further: the existence of a large number of very small, not very viable cantons. If such cantons are no longer able to take responsibility for a range of government tasks, the federal government takes over the said tasks for all the cantons, although more efficient cantons would be able to cope with them independently. The existence of economically very weak member States has thus led directly to an excessive centralization of State tasks. Territorial reforms with the object of creating member States with balanced economic potential are however hardly conceivable in political terms in Switzerland.

In addition, some areas of responsibility are not handled in the best way in Switzerland. In order to preserve a federal façade, a number of implementing tasks which logically belong to the federal government are allocated to the cantons. The federal government not only establishes the objectives, but at the same time the means by which the cantons are to achieve them. This 'implementing federalism' is under constant discussion, because it corresponds to no real autonomy with regard to tasks, but only to a decentralization of government tasks and thus to a 'neither fish nor fowl' policy.[2] Implementing federalism merely delays decisions, but without granting genuine autonomy to the cantons in return. There is a need for more federal framework laws, which leave the choice of how to attain the objectives to the cantons.

Yet Switzerland can, in many cases, serve as an example of how a federal division of tasks or the delegation of government functions to the member States, can operate. The Swiss experience suggests that many policies can be framed in substantially more federal terms than would seem possible at first sight in the European Community, which has so far been strongly committed to harmonization ideas. Federalism is in keeping with the competition principle; it leads to

[1] Frey (1977), p. 81 *et seq.*

[2] The shortcomings of implementing federalism are particularly striking at present in the field of environmental protection. See Staehelin-Witt (1992).

competition between regions or between individual member States for the design of economic policies and the general economic environment. If Swiss experiences are transferred to European level, the competition principle should become more important in the Community than the harmonization principle. In particular, the Swiss experience of fiscal federalism, within which cantons and communes have not only the power to spend but also the power to raise revenue, shows the advantage of decentralized decision-making mechanisms which are close to the citizen. Swiss fiscal federalism does not lead to tax chaos;[1] on the contrary, it has a disciplinary effect, and leads to the efficient allocation of government funds or low government indebtedness compared with other countries. It compels the member States to use government funds efficiently from the outset, because the resident population can emigrate and so escape the errors of 'their' public authority. Government institutions therefore have greater demands placed upon them in a federal system than in a centralized system, and this can also prevent the ingraining of economic and economic policy (bad) habits in the long term.

4. Switzerland as a model for a federal Europe?

4.1. Rules and conditions for a federal structure for Europe

Switzerland's experiences in welding its heterogeneous society together suggest that federalism is the only system within which States of different language and culture can be brought together. For Europe with its even greater diversity, a centralized structure is quite unimaginable, given Switzerland's experience. In overstated terms, it is possible to borrow the phrase which, in relation to Switzerland,[2] is a historical platitude: Europe will be federal, or it will not be. The development of Swiss federalism with its advantages and disadvantages can therefore give some indication of what a federal Europe might look like. This also makes it easier to comprehend the two sides of federalism which were mentioned in the beginning, namely the fact that in an evolutionary process of growing together, federalism also always means centralization, even if viewed statically, it represents a decentralized form of government based on the division of power.

[1] An analogy may serve to illustrate this: there is no talk of economic chaos in a market economy, just because decisions are taken at individual level, without prior global coordination.

[2] De Rougemont (1965).

Against the background of the Swiss experience, the evolutionary principle of federalism should be presented from another point of view. Federalism is the principle of competition between parts of a larger whole. Federalism permits individual member States to develop in a kind of voyage of discovery: specific regulatory principles are then compared with the other principles of other constituent States. Competition between the individual member States ensures that only those policies which are in the long term accepted by the population can be carried through.[3] This represents a definite advantage over harmonization: the only correct solution is not declared *ex ante* as binding, but emerges *ex post* after a selection process, which, like a process of trial and error, has compared various approaches with one another. Many areas which at first glance require harmonization are, if looked at again, open to a federal and decentralized solution. The associated autonomy permits the individual member States to develop policies precisely tailored to their population. If they prove successful, they can be adopted by other member States or in a later phase even by the central State; if they do not pass the test, they are replaced by other policies. This selection procedure means that policies in the most diverse areas can be continually reviewed, without it being necessary to specify the right solution — which no one knows anyway — in advance.

The creation and protection of effective federalism in a future European union require a set of rules. These rules should guarantee that political power remains truly decentralized. Some basic conditions can be provided to ensure this on the basis of the long-term development of the Swiss Confederation and its regulatory work.

4.1.1. Central regulation of fundamental rights

Like a market that functions, federalism that functions requires a set of rules which may not be changed by the member States and consequently can be determined exclusively at central level. In the economic domain, these relate chiefly to the creation and preservation of an internal market and the protection of a competition which functions; in the political area to fundamental democratic rights. With the realization of the four freedoms the European internal market will be largely complete; for the Community within its present frontiers fundamental democratic rights are not a problem. Integration thus represents the institutional framework within which political power can be decentralized and within which locational competition between Member States can take place. The real centralist element of federalism is

[3] These considerations are based on Breton and Scott (1978). See also Kirsch (1987).

the establishment of political and economic ground rules for all Member States.

4.1.2. Priority treatment of fundamental federal rules

At present, for historical reasons, the Community is heavily concentrated in institutional terms on central, uniform mechanisms for solutions. This trend is also explicitly enshrined in numerous treaties seeking to unify Europe. This trend can to some extent be counterbalanced by attaching more importance to the subsidiarity principle.[1] The unification of Europe should be combined with an equally strong trend which guarantees the independence of the individual constituent areas wherever decentralized regulation is as good or better than centralized regulation. Here, account must be taken not only of the national governments but also of the lower levels of government, i.e. the regions and the communes.

Such a shift in emphasis towards federalism within the Community would be equivalent to restricting the presently quite open allocation of powers to the Community. It would in particular mean a delimitation of the general authorizations. General authorization in fact gives the Community the right to centralize tasks at will, by harmonizing the law of the Member States. Such an open allocation of powers is not compatible with federalism and with restrictions on the powers of the central State usually found in federal constitutions. If Europe was federal in structure, the supranational institutions of the Community could arrogate new powers to themselves only via amendments to the constitution (and the associated obstacles).

4.1.3. The embodiment of federalism in the constitution

If the federal structure of Europe is to be preserved in the long term the lower levels of government must have constitutionally guaranteed freedoms and responsibilities independent of the central institutions. Federal principles can therefore be realized only in a European constitution. A European constitution makes it possible to restrict the power of the European central State, and also gets rid of the democratic deficit which has so far existed at Community level. Of particular importance is the fact that a definitive, 'most efficient' division of tasks between the various levels can never be achieved. The optimum degree of centralization of many government tasks is constantly changing and new tasks which have to be allocated to the various levels of government appear regularly. A European constitution must therefore give particular thought to how such competences are allocated and what should be the conditions for constitutional changes. If these rules are to promote federalism, the following points are particularly important:

(i) A definitive list of the competences and tasks of a European central State. This means enshrining the subsidiarity principle, with the lower levels being responsible for all those areas that are not explicitly allocated to the central State. The constitution should in particular embody the principle of fiscal federalism, which guarantees the Member States' autonomy in the area of public finances. Each new competence of the central State requires an amendment to the constitution, so that a European union cannot automatically arrogate to itself powers which are not contained in the constitution.

(ii) Protection of minorities in the constitution. Such protection can be governed by the rules in force in Switzerland, i.e. the constitution is amended only if both a majority of the electorate and a (possibly weighted) majority of the member States or regions agree. This rule has the advantage of simplicity;[2] Swiss experience shows that even a federation with far more than 12 member States (the present number of Community Member States), of widely differing size, can work quite well. This double majority guarantees that restrictive rules govern the transfer of powers from the federal to the central level. It therefore guarantees a long-term preservation of federal decision-making mechanisms in those areas in which these are better than centralized mechanisms.

(iii) The strengthening of those Community institutions which form a federal counterweight to the centralist blanket clause (should it be embodied in a European constitution). In particular, this means strengthening the Council of Ministers, whose structure can best be compared with the executive organ of a Confederation (e.g. the Swiss Diet between 1815 and 1848).[3] The Council of Ministers represents the only corrective balance to the centralizing European Commission and the European Parliament. The Council of Ministers, with the qualified majority and the greatly disproportionate representation of small States, is an effective representation of federal interests.

(iv) Bernholz makes an interesting proposal for the long-term guarantee of federal decision-making mechanisms and for the protection of minorities in his draft Euro-

[1] For example, a strict interpretation of the formulation of Article 3(2) of the Maastricht Treaty.

[2] The EC has more complex rules here; the various institutions (Council of Ministers, Commission, Parliament) use a variety of majority rules to decide on various functions.

[3] Schindler (1992).

pean Constitution.[1] According to this, regions of a certain size should be given the right to attach themselves to another State or to declare their independence. This extends the competition principle of federalism: not only existing States but also new ones or States which have changed size can enter into competition with one another. This proposal safeguards federalism at regional, and not just at nation-State level. The interesting point for the welfare economic aspects of federalism is that over the very long term, a State structure which is best suited for the division of tasks within a federation can take shape.

4.1.4. Restriction of equalization mechanisms

Equalization payments between member States originate from the demand for a regionally more balanced distribution of income and wealth. A number of member States in a future European federation[2] may be in such an unfavourable situation in terms of geography and economic structure that they will be unable to provide their citizens with the most important public services. Regional policy equalization measures can prevent such regional imbalances. They strengthen federalism, because they actually keep member States viable. The Community has therefore developed a number of instruments for regional policy equalization measures,[3] which are intended to prevent regional imbalances in the EC.

However, regional equalization measures, for example interregional fiscal equalization, present economic policy with the same problems as social policy. If equalization payments are too extensive, a region's incentives for helping itself are diminished. Poor regions become increasingly dependent on equalization payments and the number of regions entitled to equalization grows. Like a welfare state which levels standards excessively, the equalization of regional disparities which goes too far can lead to macroeconomically undesirable developments. This is why no member State has the right to expect the central level of the federation to bail it out financially. The member States must always have an incentive to provide adequate public services from their own resources. Accordingly, far-reaching decentralization of political power represents an effective institutional deterrent against excessive dependence on central equalization payments: the member States have something to lose — their autonomy and their own range of economic policy instruments. The associated loss of power increases each member State's interest in preserving long-term financial equilibrium for itself.

4.2. Conclusions

A number of parallels can be drawn between the basic concept of the market economy and that of federalism. Both principles are based on competition, on the decentralization of decision-making power, which, in the final analysis, diminish the concentration of power within a society. Both principles contribute to increasing welfare, because they take more account of individual needs. Integration and the European internal market guarantee competition in the market sector. A federal structure for the European union, i.e. extensive autonomy for countries and regions, guarantees competition in the field of collective decision-making. If the European union is to produce effects which increase prosperity in the long term, these two competition principles must be merged.

The evolution of the Swiss Confederation shows that the integration of an internal market does not necessarily have to be accompanied by a complete centralization of political decision-making powers, but that economic and political decentralization can parallel each other. The way in which Swiss federalism works can refute a number of objections, for example, that because of the many spillover effects far-reaching autonomy leads to chaos and excessive transaction costs. The main counterargument is a simple one: Swiss federalism with its 26 cantons is conducted on the surface of a medium-sized German *Land* — and largely without centrally directed harmonization. Most European States and regions have a surface area many times larger than Switzerland, which reduces the spillover problems accordingly. It is therefore conceivable that a federal Europe can in the long term utilize the welfare effects based on autonomy and political decentralization even better than Switzerland.

[1] Bernholz (1990). This rule makes it possible to preserve certain other principles governing the protection of minorities, since (geographic) minorities can declare their independence at any time.

[2] See the considerations of Krugman (1991), p. 92 *et seq.*

[3] El-Agraa (1990), p. 392 *et seq.*

References

Aubert, J.-F. (1992), *Traité de droit constitutionnel suisse*, Neuchâtel, Ides et Calendes.

Bernholz, P. (1990), 'Grundzüge einer europäischen Verfassung', *Neue Zürcher Zeitung*, No 250.

Bernholz, P. (1992), 'On the political economy of the transformation of political and economic regimes', Virginia Lecture, Center for the Study of Public Choice, George Mason University.

Bieri, S. (1979), *Fiscal federalism in Switzerland*, Canberra, The Australian National University.

Breton, A. and Scott, A. (1978), *The economic constitution of federal States*, Toronto, University of Toronto Press.

Buchanan, J.M. (1984), 'Sources of opposition to constitutional reform', in McKenzie, R. (ed.), *Constitutional economics*, Lexington, Lexington Books.

De Rougemont, D. (1965), 'Die Schweiz — Modell Europas?' Vienna, Manz. Swiss Financial Administration, several volumes, *Die öffentlichen Finanzen der Schweiz.*

El-Agraa, A. M. (1990), *Economics of the European Community*, New York, Philip Allan.

Emerson, M. *et al.* (1992), *One market, one money. An evaluation of the potential benefits and costs of forming an economic and monetary union*, London, Oxford University Press.

Frenkel, M. (1986), *Föderalismus und Bundesstaat*, Berne, Haupt.

Frey, R. L. (1977), *Zwischen Föderalismus und Zentralismus. Ein volkswirtschaftliches Konzept des schweizerischen Bundesstaates*, Berne, Lang.

Frey, R. L. (1981), 'Bestimmungsfaktoren der inter- und intraregionalen Wanderungen', in R. L. Frey (ed.), *Von der Land- zur Stadtflucht*, Berne, Lang.

Frey, R. L. (1985), *Regionalpolitik: eine Evaluation*, Berne, Haupt.

Frey, R. L. and Leu R. (ed.) (1988), *Der Sozialstaat unter der Lupe. Wohlstandsverteilung und Wohlstandsumverteilung in der Schweiz*, Basle, Helbing und Lichtenhahn.

Gruner, E. (1964), 'Hundert Jahre Wirtshcaftspolitik', *Schweizerische Zeitschrift für Volkswirtschaft und Statistik*, 3.

Gugerli, D. (1991), 'Von der Helvetischen Revolution zum modernen Bundesstaat', *Die Orientierung 99.*

Hirschman, A. O. (1970), *Exit, voice, and loyalty*, Cambridge (Mass.), Harvard University Press.

Jöhr, A. (1915), *Die Schweizer Notenbanken 1826-1913*, Zurich, Orell Füssli.

Kirsch, G. (1987), 'Über zentrifugale und zentripetale Kräfte im Föderalismus', in Schmidt, K. (ed.), *Beiträge zu ökonomischen Problemen des Föderalismus*, Berlin, Duncker and Humblot.

Kirschgässner, G. and Pommerehne, W. (1988), 'Government spending in federal systems: A comparison between Switzerland and Germany', in Lybeck, J. A. and Henrekson, M. (eds), *Explaining the growth of government*, Amsterdam, North-Holland.

Knapp, B. (1986), 'Etapes du fédéralisme suisse', in *Handbuch Politisches System der Schweiz*, Volume 3, 'Föderalismus', Berne, Haupt.

Knapp, B. (1992), 'Le cadre juridique du fédéralisme suisse', in *La dynamique du fédéralisme suisse*, Société Suisse des Sciences Administratives.

Krugman, P. (1991), *Geography and trade*, Cambridge, Mass., MIT Press.

Oates, W. E. (1972), *Fiscal federalism*, New York, Harcourt Brace & Jovanovich.

Oates. W. E. (1992), *Studies in fiscal federalism*, Aldershot, Edward Elgar.

Olson, M. (1969), 'The principle of fiscal equivalence', *The American Economic Review*, Vol. 59.

Pommerehne, W. W. (1990), 'Evolution of public finance as a function of federal structures. A comparison between Switzerland and Germany', IIPF 46th Congress, Brussels.

Ritzmann, F. (1973), *Die Schweizer Banken*, Berne, Lang.

Schindler, D. (1992), 'Schweizerischer und Europäischer Föderalismus', *Schweizerisches Zentralblatt für Staats- und Verwaltungsrecht*, 2.

Schweizerische Nationalbank (1982), *75 Jahre Schweizerische Nationalbank*, commemorative publication, Zurich, Swiss National Bank.

Staehelin-Witt, E. (1992), 'Umweltorientierte Verkehrspolitik: Koordination gesamtstaatlicher und föderativer Massnahmen', *Schweizerische Zeitschrift für Volkswirtschaft und Statistik*, 3.

Theurl, T. (1992), *Eine gemeinsame Währung für Europa*, '12 Lehren aus der Geschichte', Innsbruck, Österreichischer Studien-Verlag.

Tiebout, C. (1956), 'A pure theory of local expenditure', *Journal of Political Economy*, 64.

Von Hayek, F. A. (1976), 'Denationalization of money', London, Institute of Economic Affaires.

Von Weizsäcker, C. (1987), 'Föderalismus als Verjüngungskur' in H. Buhofer (ed.), *Liberalismus als Verjüngungskur*, Zurich, Orell Füssli.

Weber, E.-J. (1988), 'Currency competition in Switzerland 1826-1850', *Kyklos*, 3.

Weber, L. *et al.* (1992), *Les finances publiques d'un état fédératif: La Suisse*, Paris, Economica.

Zimmermann, H. (1987), 'Föderalismus und Einheitlichkeit der Lebensverhältnisse', in Schmidt K. (Hrsg.), *Beiträge zu Ökonomischen Problemen des Föderalismus*, Berlin, Duncker and Humblot.

Public finances in federations and unitary States

Declan Costello

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

Expenditure tables

Revenue tables

Expenditure tables

Table 1

Breakdown of expenditure shares at each level of government in federations

(%)

	Australia (1988)			Austria (1989)			Canada (1987)			Switzerland (1984)			USA (1988)			FR of Germany (1987)			Average[1]		
	C	S	L	C	S	L	C	S	L	C	S	L	C	S	L	C	S	L	C	S	L
1. General public services, public order and safety	43	46	11	76	24	:	42	36	22	25	42	33	45	18	37	30	47	23	37	38	25
2. Defence	100	0	0	100	0	:	100	0	0	86	7	7	100	0	0	100	0	0	97	1	1
3. Education	10	90	0	68	32	:	4	31	64	7	57	36	4	25	72	2	75	23	5	56	39
4. Health	42	57	1	79	21	:	3	90	8	46	31	23	50	35	15	73	12	15	43	45	12
5. Social security and welfare, housing and community amenities	86	9	5	91	9	:	62	29	9	80	7	13	75	15	10	72	12	17	75	14	11
6. Recreation, culture, religious affairs	29	38	33	59	41	:	19	24	58	6	30	64	15	13	72	3	27	70	14	26	59
7. Economic affairs and services	33	65	1	77	23	:	50	35	15	31	45	24	42	36	22	46	27	26	40	42	18
7.1. Fuel and energy/ mining and manufacturing	45	54	0	65	35	:	100	0	0	87	13	0	53	6	41	79	18	3	73	18	9
7.2. Agriculture, forestry, fishing	43	56	1	71	29	:	100	0	0	43	40	16	65	27	8	7	75	18	52	40	9
7.3. Transport and communications	15	85	0	83	17	:	41	31	28	25	48	27	20	48	32	53	17	30	31	46	23
7.4. Other economic affairs and services	59	35	6	72	28	:	37	60	4	30	45	25	72	22	7	32	32	35	46	39	15
8. Other expenditure	61	35	4	95	5	:	48	42	10	25	31	44	68	14	18	66	24	9	54	29	17
Total	53	42	5	84	16	0	42	40	18	48	28	24	59	18	23	61	22	18	52	30	18

C = central government; S = State government; L = local government.
[1] Simple average: excludes Austria.
Expenditure under the direct administrative responsibility of the level of government; intergovernmental transfers are excluded.
Source: IMF, *Government statistics yearbook 1990.*

Table 2

Breakdown of expenditure shares at each level of government as a % of GDP in federations

	Australia (1988)			Austria (1989)			Canada (1987)			Switzerland (1984)			USA (1988)			FR of Germany (1987)			Average[1]		
	C	S	L	C	S	L	C	S	L	C	S	L	C	S	L	C	S	L	C	S	L
1. General public services, public order and safety	2,3	2,5	0,6	2,8	0,9	:	2,1	1,8	1,1	1,0	1,7	1,3	1,6	0,6	1,3	1,2	1,8	0,9	1,8	1,6	1,0
2. Defence	2,4	0,0	0,0	1,1	0,0	:	1,8	0,0	0,0	2,0	0,2	0,2	5,8	0,0	0,0	2,6	0,0	0,0	2,6	0,0	0,0
3. Education	0,5	4,6	0,0	3,6	1,7	:	0,2	1,7	3,4	0,3	3,0	1,9	0,2	1,3	3,7	0,1	2,8	0,9	0,8	2,5	2,0
4. Health	2,3	3,1	0,0	5,0	1,3	:	0,2	5,3	0,5	2,7	1,8	1,3	2,2	1,5	0,7	5,6	0,9	1,1	3,0	2,3	0,7
5. Social security and welfare, housing and community amenities	7,7	0,8	0,5	18,9	1,9	:	7,5	3,5	1,1	10,3	0,9	1,7	6,5	1,3	0,8	14,6	2,4	3,4	10,9	1,8	1,5
6. Recreation, culture, religious affairs	0,3	0,5	0,4	0,3	0,2	:	0,2	0,2	0,5	0,1	0,3	0,6	0,1	0,0	0,3	0,0	0,2	0,6	0,2	0,2	0,5
7. Economic affairs and services	1,3	2,6	0,1	3,9	1,2	:	3,0	2,1	0,9	1,5	2,2	1,2	1,3	1,1	0,7	2,0	1,2	1,1	2,2	1,7	0,8
7.1. Fuel and energy/ mining and manufacturing	0,2	0,2	0,0	0,5	0,2	:	0,1	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,1	0,4	0,1	0,0	0,2	0,1	0,0
7.2. Agriculture, forestry, fishing	0,4	0,5	0,0	1,1	0,4	:	0,9	0,0	0,0	0,6	0,5	0,2	0,4	0,2	0,0	0,0	0,4	0,1	0,6	0,3	0,1
7.3. Transport and communications	0,3	1,6	0,0	2,3	0,5	:	1,2	0,9	0,8	0,8	1,5	0,9	0,3	0,8	0,5	1,2	0,4	0,6	1,0	0,9	0,6
7.4. Other economic affairs and services	0,5	0,3	0,1	0,1	0,0	:	0,8	1,2	0,1	0,1	0,1	0,1	0,5	0,1	0,0	0,3	0,3	0,4	0,4	0,4	0,1
8. Other expenditure	2,6	1,5	0,2	3,5	0,2	:	3,9	3,5	0,8	0,5	0,6	0,8	3,7	0,7	1,0	2,7	1,0	0,4	2,8	1,2	0,6
Total	19,5	15,6	1,7	39,1	7,4	:	18,9	18,2	8,3	18,5	10,6	9,0	21,4	6,6	8,4	28,7	10,3	8,4	24,3	11,4	7,2

C = central government; S = State government; L = local government.
[1] Simple average: excludes Austria.
Expenditure under the direct administrative responsibility of the level of government; intergovernmental transfers are excluded.
Source: IMF, *Government statistics yearbook 1990.*

Table 3

Breakdown of expenditure shares at each level of government in EC unitary States
(% breakdown of total public expenditure undertaken at each level of government per expenditure category)

	DK (1987)		F (1985)		L (1986)		UK (1988)		Average[1]	
	C	L	C	L	C	L	C	L	C	L
1. General public services, public order and safety	71	29	74	26	81	19	54	46	70	30
2. Defence	99	1	100	0	100	0	100	0	100	0
3. Education	46	54	74	26	76	24	15	85	53	47
4. Health	8	92	98	2	92	8	100	0	74	26
5. Social security and welfare, housing and community amenities	26	74	83	17	94	6	74	26	69	31
6. Recreation, culture, religious affairs	39	61	0	100	36	64	25	75	25	75
7. Economic affairs and services	50	50	71	29	83	17	74	26	70	30
7.1 Fuel and energy/mining and manufacturing	60	40	45	55	100	0	97	3	75	25
7.2 Agriculture, forestry, fishing	100	0	100	0	71	29	93	7	91	9
7.3 Transport and communications	48	52	61	39	83	17	50	50	61	39
7.4 Other economic affairs and services	37	63	100	0	91	9	86	14	79	21
8. Other expenditure	95	5	0	0	85	15	83	17	88	12
Total	44	56	83	18	87	13	71	29	71	29

C = central government; L = local government.
[1] Simple average.
Expenditure under the direct administrative responsibility of the level of government; intergovernmental transfers are excluded.
Source: IMF, *Government statistics yearbook 1990.*

Table 4

Breakdown of expenditure shares at each level of government as a % of GDP in EC unitary States

	DK (1987)		F (1985)		L (1986)		UK (1988)		Average[1]	
	C	L	C	L	C	L	C	L	C	L
1. General public services, public order and safety	3,6	1,5	3,1	1,1	4,4	1,0	2,0	1,7	3,3	1,3
2. Defence	2,1	0,0	2,8	0,0	0,8	0,0	4,3	0,0	2,5	0,0
3. Education	3,2	3,8	3,4	1,2	3,3	1,1	0,8	4,4	2,7	2,6
4. Health	0,4	4,9	9,3	0,2	0,7	0,1	4,9	0,0	3,8	1,3
5. Social security and welfare, housing and community amenities	6,1	17,5	16,7	3,5	19,9	1,3	10,2	3,6	13,3	6,5
6. Recreation, culture, religious affairs	0,6	0,9	0,0	0,6	0,4	0,7	0,2	0,5	0,3	0,7
7. Economic affairs and services	2,4	2,4	2,2	0,9	5,9	1,2	2,2	0,8	3,2	1,3
7.1 Fuel and energy/mining and manufacturing	0,3	0,2	0,3	0,4	0,0	0,0	0,6	0,0	0,3	0,2
7.2 Agriculture, forestry, fishing	0,4	0,0	0,3	0,0	0,5	0,2	0,2	0,0	0,4	0,1
7.3 Transport and communications	1,1	1,2	0,8	0,5	4,6	0,9	0,6	0,6	1,8	0,8
7.4 Other economic affairs and services	0,6	1,0	0,8	0,0	0,8	0,1	0,8	0,1	0,7	0,3
8. Other expenditure	6,5	0,3	:	0,7	1,6	0,3	4,2	0,9	4,1	0,6
Total	24,9	31,2	38,0	8,3	37,0	5,7	28,8	11,8	32,2	14,2

C = central government; L = local government.
[1] Simple average.
Expenditure under the direct administrative responsibility of the level of government; intergovernmental transfers are excluded.
Source: IMF, *Government statistics yearbook 1990.*

Table 5

Functional classification of central government expenditure in federations
(as a % of total central government expenditure)

	Australia (1988)	Austria (1989)	Canada (1987)	Switzerland (1984)	USA (1988)	FR of Germany (1987)	Average[1]
1. General public services, public order and safety	12	7	11	5	7	4	8
2. Defence	12	3	10	11	27	9	12
3. Education	3	9	1	2	1	0	3
4. Health	12	13	1	15	10	19	12
5. Social security and welfare, housing and community amenities	40	48	40	56	30	51	44
6. Recreation, culture, religious affairs	2	1	1	0	0	0	1
7. Economic affairs and services	7	10	16	8	6	7	9
7.1. Fuel and energy/mining and manufacturing	1	1	1	0	0	1	1
7.2. Agriculture, forestry, fishing	2	3	5	3	2	0	2
7.3. Transport and communications	1	6	7	4	2	4	4
7.4. Other economic affairs and services	3	0	4	1	2	1	2
8. Other expenditure	13	9	21	3	17	9	12
Total	100	100	100	100	100	100	100

[1] Simple average.
Source: IMF, *Government statistics yearbook 1990.*

Table 6

Functional classification of central government expenditure in EC unitary States
(as a % of total central government expenditure)

	B (1988)	DK (1987)	GR (1981)	E (1987)	F (1985)	IRL (1987)	I (1987)	L (1986)	NL (1989)	P (1987)	UK (1988)	EUR 11[1]	EUR 4[2]
1. General public services, public order and safety	5	10	11	6	8	7	7	11	9	7	7	8	9
2. Defence	5	5	10	6	7	3	3	2	5	6	12	6	7
3. Education	12	9	9	5	9	12	8	9	11	11	3	9	7
4. Health	2	1	10	12	24	12	10	2	12	9	14	10	10
5. Social security and welfare, housing and community amenities	44	38	32	37	45	30	37	50	41	30	34	38	42
6. Recreation, culture, religious affairs	1	2	2	1	0	0	1	1	1	1	0	1	1
7. Economic affairs and services	10	7	16	10	6	15	12	15	8	11	7	11	9
7.1. Fuel and energy/mining and manufacturing	1	1	1	1	1	3	2	0	1	0	2	1	1
7.2. Agriculture, forestry, fishing	1	1	6	2	1	7	1	2	1	0	1	2	1
7.3. Transport and communications	6	3	5	4	2	3	7	11	3	0	2	4	5
7.4. Other economic affairs and services	2	2	4	4	2	3	2	2	3	0	2	2	2
8. Other expenditure	22	28	9	21	0	20	22	9	14	36	22	19	15
Total	100	100	100	100	100	100	100	100	100	100	100	100	100

[1] Simple average: EUR 4 = DK, F, L and UK.
[2] Simple average: EUR 11 = EC excluding FR of Germany.
Expenditure under the direct administrative responsibility of central government; intergovernmental transfers are excluded.
Source: IMF, *Government statistics yearbook 1990.*

Table 7

Functional classification of State government expenditure in federations
(as a % of total State expenditure)

	Australia (1988)	Austria (1989)	Canada (1987)	Switzerland (1984)	USA (1988)	FR of Germany (1987)	Average[1]
1. General public services, public order and safety	16	12	10	16	9	18	14
2. Defence	0	0	0	1	0	0	0
3. Education	29	23	9	28	19	27	23
4. Health	20	18	29	17	23	9	19
5. Social security and welfare, housing and community amenities	5	25	19	8	19	23	17
6. Recreation, culture, religious affairs	3	2	1	3	1	2	2
7. Economic affairs and services	17	16	12	21	17	11	16
7.1. Fuel and energy/mining and manufacturing	1	3	0	0	0	1	1
7.2. Agriculture, forestry, fishing	3	6	0	5	3	4	3
7.3. Transport and communications	10	6	5	14	12	4	9
7.4. Other economic affairs and services	2	1	7	1	2	3	3
8. Other expenditure	10	3	19	5	11	10	10
Total	100	100	100	100	100	100	100

[1] Simple average.
Expenditure under the direct administrative responsibility of State governments; intergovernmental transfers are excluded.
Source: IMF, *Government statistics yearbook 1990.*

Table 8

Functional classification of local government expenditure in federations
(as a % of total local government expenditure)

	Australia (1988)	Austria (1989)	Canada (1987)	Switzerland (1984)	USA (1988)	FR of Germany (1987)	Average[1]
1. General public services, public order and safety	33	:	13	14	15	11	17
2. Defence	0	:	0	2	0	0	0
3. Education	1	:	41	23	43	10	24
4. Health	3	:	6	14	8	13	9
5. Social security and welfare, housing and community amenities	27	:	13	20	10	40	22
6. Recreation, culture, religious affairs	23	:	6	6	3	7	9
7. Economic affairs and services	4	:	11	13	8	13	10
7.1. Fuel and energy/mining and manufacturing	0	:	0	0	1	0	0
7.2. Agriculture, forestry, fishing	1	:	0	2	1	1	1
7.3. Transport and communications	0	:	10	9	6	7	7
7.4. Other economic affairs and services	3	:	1	1	1	4	2
8. Other expenditure	10	:	9	9	12	6	9
Total	100	:	100	100	100	100	100

[1] Simple average.
Expenditure under the direct administrative responsibility of local government; intergovernmental transfers are excluded.
Source: IMF, *Government statistics yearbook 1990.*

Table 9

Functional classification of local government expenditure in EC unitary States
(as a % of total local government expenditure)

	DK (1987)	F (1985)	L (1986)	UK (1988)	Average[1]
1. General public services, public order and safety	5	13	17	14	12
2. Defence	0	0	0	0	0
3. Education	12	14	18	37	20
4. Health	16	3	1	0	5
5. Social security and welfare, housing and community amenities	55	42	22	30	38
6. Recreation, culture, religious affairs	3	7	12	4	6
7. Economic affairs and services	8	11	20	7	11
7.1. Fuel and energy/mining and manufacturing	1	5	0	0	1
7.2. Agriculture, forestry, fishing	0	0	3	0	1
7.3. Transport and communications	4	6	16	5	8
7.4. Other economic affairs and services	3	0	1	1	1
8. Other expenditure	1	9	10	9	7
Total	100	100	100	100	100

[1] Simple average.
Expenditure under the direct administrative responsibility of local government.
Source: IMF, *Government statistics yearbook 1990.*

Table 10

Functional classification of general government expenditure in federations
(as a % of total general government expenditure)

	Australia (1988)	Austria (1989)	Canada (1987)	Switzerland (1984)	USA (1988)	FR of Germany (1987)	Average[1]
1. General public services, public order and safety	15	:	11	15	10	7	12
2. Defence	7	0	4	6	16	5	8
3. Education	14	:	12	13	14	8	12
4. Health	15	:	13	14	12	16	14
5. Social security and welfare, housing and community amenities	24	:	27	34	24	43	30
6. Recreation, culture, religious affairs	3	:	2	2	1	2	2
7. Economic affairs and services	13	:	13	12	9	10	11
7.1. Fuel and energy/mining and manufacturing	1	:	0	0	0	1	1
7.2. Agriculture, forestry, fishing	2	:	2	3	2	2	2
7.3. Transport and communications	7	:	7	8	5	5	6
7.4. Other economic affairs and services	2	:	5	1	2	2	2
8. Other expenditure	9	:	18	4	15	9	11
Total	100	:	100	100	100	100	100

[1] Simple average.
Source: IMF, *Government statistics yearbook 1990.*

Table 11

Functional classification of general government expenditure in EC unitary States
(as a % of total general government expenditure)

	DK (1987)	F (1985)	L (1986)	UK (1988)	Average[1]
1. General public services, public order and safety	9	9	13	9	10
2. Defence	4	6	2	11	6
3. Education	12	10	10	13	11
4. Health	9	21	2	12	11
5. Social security and welfare, housing and community amenities	42	45	50	34	43
6. Recreation, culture, religious affairs	3	1	3	2	2
7. Economic affairs and services	8	7	17	7	10
7.1. Fuel and energy/mining and manufacturing	1	2	0	2	1
7.2. Agriculture, forestry, fishing	1	1	2	1	1
7.3. Transport and communications	4	3	13	3	6
7.4. Other economic affairs and services	3	2	2	2	2
8. Other expenditure	12	0	4	13	7
Total	100	100	100	100	100

[1] Simple average.
Source: IMF, *Government statistics yearbook 1990.*

Table 12

Intergovernmental transfers in federations

	Australia (1988)		Canada (1987)		Switzerland (1984)		USA (1988)		FR of Germany (1987)		Average[1]	
	% GDP	Share	% GDP	Share	% GDP	Share	% GDP	Share	% GDP	Share	% GDP	Share
Central government	8,0	91,5	4,0	53,9	2,6	45,1	2,2	40,0	1,7	37,8	3,7	53,7
State government	0,7	8,3	3,4	45,5	2,4	41,9	3,1	57,4	2,5	53,8	2,4	41,4
Local government	0,0	0,3	0,0	0,6	0,7	13,0	0,1	2,7	0,4	8,4	0,3	5,0
Total	8,8	100,0	7,4	100,0	5,7	100,0	5,4	100,0	4,6	100,0	6,4	100,0
	A	B	A	B	A	B	A	B	A	B	A	B
1. General public services, public order and safety	0,3	1	1,3	2	1,5	3,7	1,3	2	1,8	3	1,3	2
2. Defence	0,3	1	0,0	0	3,9	4,7	0,6	0	2,7	2	1,5	2
3. Education	18,6	75	12,8	69	11,7	46,4	9,7	53	7,9	67	12,1	62
4. Health	5,3	16	29,2	88	0,1	0,1	33,4	25	0,0	0	13,6	26
5. Social security and welfare, housing and community amenities	4,5	5	19,8	10	10,5	2,5	32,5	10	23,2	3	18,1	6
6. Recreation, culture, religious affairs	0,1	3	0,0	0	0,1	5,0	0,2	7	0,2	10	0,1	5
7. Economic affairs and services	6,9	29	1,9	2	41,2	41,3	21,1	26	17,7	14	17,7	23
7.1. Fuel and energy/mining and manufacturing	0,5	20	0,4	10	0,0	0,0	2,6	41	1,5	6	1,0	15
7.2. Agriculture, forestry, fishing	0,6	11	0,4	2	12,9	36,6	1,5	7	5,2	72	4,1	26
7.3. Transport and communications	5,3	60	0,5	2	27,0	46,6	13,6	47	8,9	12	11,0	33
7.4. Other economic affairs and services	0,5	8	0,5	3	1,3	26,1	3,4	13	2,1	10	1,6	12
8. Other expenditure	63,9	67	35,0	26	31,1	63,1	1,2	1	46,5	23	35,5	36
Total	100,0	29	100,0	18	100,0	12,2	100,0	9	100,0	6	100,0	15

A = functional classification of intergovernmental grants provided by central government per expenditure category, e.g. in Australia, 18,6 % of grants provided by the central government were for education.

B = share of intergovernmental grants in total central government expenditure per function, e.g. in Australia, grants accounted for 75 % of the central government's total expenditure/disbursements on education.

[1] Simple average.

Source: IMF, *Government statistics yearbook 1990.*

Table 13

Intergovernmental transfers in EC unitary States

	DK (1987)		F (1985)		L (1986)		UK (1988)		Average[1]	
	% GDP	Share	% GDP	Share	% GDP	Share	% GDP	Share	% GDP	Share
Central government	13,3	97	2,9	93,3	3,2	91	5,3	97	6,2	95
Local government	0,4	3	0,2	6,7	0,3	9	0,2	3	0,3	5
Total	13,8	100,0	3,1	100,0	3,5	100,0	5,5	100,0	6,5	100,0
	A	B	A	B	A	B	A	B	A	B
1. General public services, public order and safety	0,0	0,1	1,7	1,5	1,0	0,7	9,0	19,7	2,9	5,5
2. Defence	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,1	0,0	0,0
3. Education	2,4	9,1	1,9	1,6	6,9	6,2	4,2	22,2	3,9	9,8
4. Health	0,3	8,1	1,5	0,5	5,3	18,7	0,0	0,0	1,8	6,8
5. Social security and welfare, housing and community amenities	62,4	57,5	2,1	0,3	3,6	0,6	20,1	8,9	22,0	16,8
6. Recreation, culture, religious affairs	0,5	9,9	0,2	:	3,8	23,3	0,1	3,4	1,1	9,1
7. Economic affairs and services	1,8	9,4	3,5	4,4	11,2	5,6	1,6	3,7	4,5	5,8
7.1. Fuel and energy/mining and manufacturing	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
7.2. Agriculture, forestry, fishing	0,0	0,0	1,0	8,7	8,0	33,4	0,2	4,4	2,3	11,6
7.3. Transport and communications	0,0	0,5	0,2	0,8	1,8	1,2	1,2	9,2	0,8	2,9
7.4. Other economic affairs and services	1,8	29,5	2,3	7,5	1,4	5,1	0,2	1,7	1,4	10,9
8. Other expenditure	32,6	40,0	89,1	:	68,2	58,0	64,8	44,9	63,7	35,7
Total	100,0	34,8	100,0	7,6	100,0	7,8	100,0	15,3	100,0	16,4

A = functional classification of intergovernmental grants provided by central government per expenditure category, e.g. in Denmark, 2,4% of all intergovernmental transfers provided by the central government were for education.
B = share of intergovernmental grants in total central government expenditure per function, e.g. in Denmark, intergovernmental transfers accounted for 9,1% of the central government's total expenditure/disbursements on education.
[1] Simple average.
Source: IMF, *Government statistics yearbook 1990.*

Revenue tables

Table 14

Receipts from main tax sources excluding social security for 1988 [1]

	Personal income (1100)		Corporate income (1200)		Employee social security (2100)		Employer social security (2200)		Taxes on payroll and workforce (3000)		Property taxes (4000)		Consumption taxes				Other [1]		Total
													General (5110)		Specific (5120)				
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
Federations																			
Australia	14,2	45,9	3,3	10,6					1,8	5,7	3,0	9,8	2,8	9,1	4,6	14,9	1,1	4,0	30,8
Austria	9,4	22,5	1,3	3,2	5,7	13,7	6,7	16,1	2,4	5,8	1,1	2,6	8,6	20,6	4,2	10,1	2,5	5,4	41,9
Canada	12,5	36,7	2,9	8,6	1,6	4,6	2,9	8,4			3,2	9,3	5,3	15,5	3,7	10,8	1,9	6,1	34,0
Switzerland	11,1	34,2	2,1	6,6	3,3	10,3	3,3	10,1			2,7	8,3	3,2	9,8	2,5	7,8	4,3	12,9	32,5
USA	10,3	34,7	2,5	8,4	3,4	11,4	5,1	17,0			3,1	10,3	2,2	7,5	2,2	7,3	1,0	3,4	29,8
FR of Germany	10,8	28,9	2,0	5,3	6,0	16,2	7,1	19,1			1,2	3,1	5,8	15,6	3,2	8,6	1,3	3,2	37,4
Average	11,4	33,8	2,4	7,1	4,0	11,2	4,2	11,8	2,1	5,8	2,4	7,2	4,7	13,0	3,4	9,9	2,0	5,8	34,4
EC unitary States																			
Belgium	14,4	32,0	3,1	6,9	4,8	10,7	9,3	20,6			1,1	2,4	7,3	16,2	3,1	6,9	2,0	4,3	45,1
Denmark	26,6	51,0	2,3	4,4	1,1	2,0	0,1	0,2	0,1	0,3	2,4	4,6	10,1	19,4	6,4	12,3	3,0	5,8	52,1
Greece	4,9	13,7	1,4	3,9	4,9	13,6	5,3	14,9	0,4	1,1	1,1	2,9	9,1	25,3	6,4	17,9	2,4	6,7	35,9
Spain	7,1	21,5	2,1	6,5	1,9	5,9	8,9	27,2			1,3	4,1	5,6	17,1	4,0	12,2	1,9	5,5	32,8
France	5,4	12,1	2,3	5,2	5,5	12,5	12,0	27,2	0,8	1,8	2,1	4,8	8,7	19,7	4,0	8,9	3,6	7,8	44,4
Ireland	14,4	34,8	1,6	3,8	2,1	5,1	3,5	8,4	0,6	1,5	1,7	4,0	8,6	20,7	8,2	19,7	0,8	2,0	41,5
Italy	10,0	26,8	3,5	9,4	2,4	6,6	8,7	23,4	0,2	0,5	0,9	2,5	5,6	15,2	3,9	10,5	1,9	5,1	37,1
Luxembourg	10,4	24,4	7,4	17,3	4,5	10,4	5,8	13,6			3,3	7,7	6,1	14,2	4,5	10,4	0,8	2,0	42,8
Netherlands	9,9	20,5	3,5	7,3	9,1	19,0	8,1	16,9			1,7	3,5	8,0	16,5	3,4	7,1	4,5	9,2	48,2
Portugal					3,2	9,4	5,7	16,6			0,7	1,9	7,0	20,4	9,2	26,6	8,8	25,1	34,6
United Kingdom	9,9	26,6	4,0	10,8	3,2	8,5	3,5	9,5			4,7	12,7	6,1	16,5	4,9	13,1	1,0	2,3	37,3
Average	11,3	26,3	3,1	7,6	3,9	9,4	6,4	16,2	0,4	1,0	1,9	4,6	7,5	18,3	5,3	13,2	1,3	3,2	41,1

A = revenue as a % of GDP, e.g. personal income tax revenue in Australia amounted to 14,2 % of GDP.
B = share in total tax revenue, e.g. personal income tax accounted for 45,9 % of total tax revenue in Australia.

[1] This table covers only the main sources of tax revenue using the OECD classification. The column 'Total' represents all taxes accruing to governments and not just those presented in this table. The column 'Other' is the difference between the sum of taxes presented in columns 'A' and the 'Total' tax revenue. Hence, the sum of columns 'A' added horizontally gives the figure in 'Total'.

The OECD classification is organized as follows:

- 1000 Taxes on income, profits and capital gains
  - 1100 Taxes on income, profits and capital gains of individuals
  - 1200 Corporate taxes on income, profits and capital gains
  - 1300 Unallocable between 1100 and 1200
- 2000 Social security contributions
  - 2100 Employees
  - 2200 Employers
  - 2300 Self-employed or unemployed
  - 2400 Unallocable between 2100, 2200 and 2300
- 3000 Taxes on payroll and workforce
- 4000 Taxes on property
- 5000 Taxes on goods and services
  - 5100 Taxes on production, sale, transfer, leasing and delivery of goods and services
    - 5110 General (e.g. VAT, sales taxes)
    - 5120 Specific (e.g. excises, customs duties)
  - 5200 Taxes on use of goods, or on permission to use goods or perform activities
- 6000 Other taxes

Table 15

Assignment of tax revenue to each level of government
(as a % of total tax revenue)

	Supranational		Central		State		Local		Social security	
	1980	1988	1980	1988	1980	1988	1980	1988	1980	1988
Federations										
Australia			81,8	80,0	14,4	16,7	3,8	3,3	0,0	0,0
Austria			50,5	51,3	10,1	10,6	11,1	10,8	28,2	27,4
Canada			43,3	42,1	36,3	35,5	9,8	9,1	10,5	13,2
Switzerland			28,6	30,1	22,8	22,0	17,8	15,8	30,9	32,0
USA			44,8	39,4	17,8	18,8	11,2	12,2	26,2	29,7
FR of Germany	1,2	1,0	32,8	31,0	22,6	21,9	9,1	8,7	34,4	37,4
Average[1]			47,0	45,7	20,7	20,9	10,5	10,0	21,7	23,3
EC unitary States										
Belgium	1,7	1,3	65,1	61,3			4,2	4,9	29,0	32,4
Denmark	0,7	0,6	67,6	67,1			30,3	30,0	1,4	2,2
Greece										
Spain		0,7	47,7	52,6			4,8	11,3	47,5	35,3
France	0,6	0,8	49,6	47,0			7,1	8,9	42,7	43,4
Ireland										
Italy	0,4	0,7	59,9	64,3			1,7	1,8	38,0	33,3
Luxembourg										
Netherlands	1,5	1,4	58,5	54,0			1,9	2,2	38,1	42,5
Portugal										
United Kingdom	1,4	1,1	71,5	69,8			10,5	10,5	16,6	18,5
Average[1]	1,1	1,1	70,0	69,4			10,1	11,6	35,6	34,6

[1] Simple average.
Source: OECD, *Revenue statistics 1965-89*, Paris, 1990.

Table 16

Breakdown of total government revenue: tax revenue, non-tax revenue and grants (1988)

		Tax revenue		Non-tax revenue		Grants	
		A	B	A	B	A	B
Federations							
Australia	C	25,1	90	2,9	10	0,0	0
	S	4,9	33	2,3	16	7,6	51
	L	1,1	43	0,9	38	0,5	19
Austria	C	20,7	86	3,1	13	0,2	1
	S	5,6	59	1,2	13	2,7	28
	L	4,5	53	2,7	32	1,3	16
Canada	C	14,3	87	2,1	13	0,0	0
	S	12,1	65	2,7	14	3,9	21
	L	3,1	39	1,2	15	3,6	46
Switzerland	C	8,8	81	1,4	13	0,6	6
	S	7,0	55	2,3	18	3,5	27
	L	5,5	53	3,3	32	1,6	16
USA	C	11,7	87	1,7	13	0,0	0
	S	5,6	55	2,6	26	2,0	20
	L	3,6	42	2,0	22	3,1	36
FR of Germany	C	11,6	89	1,3	10	0,1	1
	S	8,2	71	1,5	13	1,8	16
	L	3,3	37	3,2	36	2,4	27
Average	C	15,4	87	2,1	12	0,2	1
	S	7,2	56	2,1	17	3,6	27
	L	3,5	44	2,2	29	2,1	27
EC unitary States							
Belgium	C	28,0	95	1,5	5	0,1	0
	L	2,3	34	0,4	6	4,0	60
Denmark	C	35,0	85	5,6	14	0,5	1
	L	15,6	50	3,1	10	12,7	40
Greece	C	19,1	58	3,3	15	0,0	0
	L	0,7	32	0,9	42	0,5	26
Spain	C	17,3	89	1,8	9	0,3	1
	R	0,0	0	0,3	7	3,7	93
	L	3,4	57	0,9	16	1,6	27
France	C	20,9	85	3,2	13	0,4	2
	L	10,6	44	4,9	21	8,4	35
Ireland	C	32,6	84	4,5	12	1,6	4
	L	0,9	6	3,3	22	10,6	71
Italy	C	23,9	93	0,9	3	0,8	3
	L	0,7	4	1,3	7	16,3	89
Luxembourg	C	24,7	88	3,3	12	0,1	0
	L	4,7	55	1,0	11	2,8	33
Netherlands	C	26,0	85	4,4	14	0,2	1
	L	1,0	6	2,2	13	14,3	81

Table 16 *(continued)*

		Tax revenue		Non-tax revenue		Grants	
		A	B	A	B	A	B
United Kingdom	C	26,0	88	3,5	12	0,2	1
	L	3,9	34	2,3	20	5,2	46
Average	C	25,4	88	3,2	11	0,4	1
	L	4,4	32	2,0	17	7,6	51

C = central government; S = State government; L = local government; R = regional government.
A = revenue as a % of GDP, e.g. tax revenue accruing to the central government in Australia equalled 25,1 % of GDP.
B = measure of the share of each revenue source (tax, non-tax, grants) in total revenue for each level of government, e.g. State governments in Australia receive 33 % of their total revenue from taxes, 16 % from non-tax revenue and 51 % from grants.
Data for Australia, Austria, USA, Belgium, Spain, Ireland and Luxembourg relate to 1987.
Data for Switzerland and Greece relate to 1980.
Source: OECD, *Revenue statistics 1965-89*, Paris, 1990.

Table 17

Sources of tax revenue in federations in 1988
(as a % of total tax revenue derived from each tax source)[1]

	Personal income	Corporate income	Social security	Payroll taxes	Property taxes	Consumption taxes		Other
						General	Specific	
Federal governments								
Australia	57	13	0	1	1	11	16	0
Austria	27	5	4	9	3	28	16	8
Canada	55	13	0	0	0	18	12	2
Switzerland	28	7	0	0	8	32	24	0
USA	72	17	0	0	1	0	9	0
FR of Germany	37	6	0	0	1	33	23	0
State governments								
Australia	0	0	0	28	36	0	14	23
Austria	45	3	0	0	1	36	6	9
Canada	39	8	0	0	5	22	16	10
Switzerland	63	13	0	0	17	0	1	6
USA	30	8	0	0	4	33	16	8
FR of Germany	53	9	0	0	6	25	2	5
Local governments								
Australia	0	0	0	0	100	0	0	0
Austria	34	6	0	11	9	22	0	18
Canada	0	0	0	0	85	0	0	15
Switzerland	75	11	0	0	13	0	0	0
USA	5	1	0	0	74	11	5	5
FR of Germany	67	15	0	0	17	0	0	1

[1] See footnote to Table 14.
Source: OECD, *Revenue statistics 1965-89*, Paris, 1990.

Table 18

Share of total tax revenue accruing from each tax source to EC unitary States in 1988[1]

(%)

	Personal income	Corporate income	Social security	Payroll taxes	Property taxes	Consumption taxes		Other
						General	Specific	
Central government								
Belgium	47	10	2	0	4	26	9	2
Denmark	36	6	0	0	3	29	17	9
Greece	21	6	0	1	4	38	25	4
Spain	38	12	1	0	2	30	18	0
France	23	11	1	3	4	41	16	1
Ireland	42	5	2	2	2	25	21	2
Italy	41	14	0	1	4	24	15	1
Luxembourg	33	19	1	0	12	21	15	1
Netherlands	38	14	0	0	4	31	11	4
Portugal								
United Kingdom	38	16	0	0	3	24	17	2
Average	36	11	1	1	4	29	16	3
Local government								
Belgium	62	15	7	0	0	0	0	16
Denmark	90	2	0	0	8	0	0	0
Greece	0	0	0	52	0	6	27	15
Spain	15	4	0	0	27	13	16	25
France	15	0	0	4	34	0	5	42
Ireland	0	0	0	0	100	0	0	0
Italy	16	11	0	0	0	0	22	51
Luxembourg	34	47	0	0	4	10	5	1
Netherlands	0	0	0	0	74	0	1	25
Portugal								
United Kingdom	0	0	0	0	100	0	0	0
Average	23	8	1	6	35	3	8	17

For example, personal income tax provides 47% of the central government's total tax revenue in Belgium.

[1] See footnote to Table 14.

Source: OECD, *Revenue statistics 1965-89*, Paris, 1990.

Table 19

Share of tax revenue from each tax source accruing to each level of government in federations in 1988[1]

(%)

	Personal income	Corporate income	Social security	Payroll taxes	Property taxes	Consumption taxes		Other
						General	Specific	
Federal government								
Australia	100	100	:	19	5	100	85	5
Austria	63	73	88	79	57	70	92	40
Canada	63	65	:	:	0	49	48	13
Switzerland	25	31	:	:	29	100	95	0
USA	82	80	:	:	5	0	50	3
FR of Germany	40	38	:	:	6	65	94	0
State government								
Australia	0	0	:	81	61	0	15	95
Austria	21	9	7	0	5	19	8	15
Canada	37	35	:	:	18	51	52	63
Switzerland	40	43	:	:	45	0	4	99
USA	16	18	:	:	7	83	43	71
FR of Germany	40	38	:	:	46	35	6	95
Local government								
Australia	0	0	:	0	34	0	0	0
Austria	16	19	5	21	39	12	0	44
Canada	0	0	:	:	82	0	0	24
Switzerland	35	26	:	:	25	0	1	1
USA	2	2	:	:	87	17	8	26
FR of Germany	20	24	:	:	48	0	0	5

[1] See footnote to Table 14.

Source: OECD, *Revenue statistics 1965-89*, Paris, 1990.

Table 20

Share of each tax source accruing to each level of government in EC unitary States in 1988[1]

(%)

	Personal income	Corporate income	Social security	Payroll taxes	Property taxes	Consumption taxes		Other
						General	Specific	
Central government								
Belgium	90	90	74	:	100	100	100	58
Denmark	47	89	100	100	50	100	100	99
Greece	100	100	100	54	100	100	98	95
Spain	92	94	100	:	24	91	84	4
France	89	100	100	78	37	100	94	9
Ireland	100	100	100	100	45	100	100	100
Italy	99	98	:	100	100	100	96	51
Luxembourg	84	68	100	:	94	92	94	87
Netherlands	100	100	:	:	55	100	100	78
Portugal	:	:	:	:	:	:	:	:
United Kingdom	100	100	:	:	17	100	100	100
Local government								
Belgium	10	10	26	:	0	0	0	42
Denmark	53	11	0	0	50	0	0	1
Greece	0	0	0	46	0	0	2	5
Spain	8	6	0	:	76	9	16	96
France	11	0	0	22	63	0	6	91
Ireland	0	0	0	0	55	0	0	0
Italy	1	2	:	0	0	0	4	49
Luxembourg	16	32	0	:	6	8	6	13
Netherlands	0	0	:	:	45	0	0	22
Portugal	:	:	:	:	:	:	:	:
United Kingdom	0	0	:	:	83	0	0	0

For example, 90% of personal income tax in Belgium accrues to the central government.

[1] See footnote to Table 14.

Source: OECD, *Revenue statistics 1965-89*, Paris, 1990.

Part 2

Implications for the European Community

III — The role of the European Community in allocation and external affairs

The redistributive effects of interregional transfers: A comparison of the European Community and Germany

Declan Costello[1]

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

[1] The author would like to thank Cliff Walsh, Horst Reichenbach and Alexander Italianer for their helpful comments and assistance.

Tables

Summary

Public finances in federations and unitary States achieve very substantial interregional redistributive effects, typically through the skewed impact of progressive income taxation and social security systems in favour of low-income regions. This paper compares transfers from the EC budget and the budget of the Federal Government in Germany that are designed to have an explicit interregional redistributive effect. For the Community, this consists of one instrument, the Structural Funds, whereas for Germany, four instruments are considered. The redistributive impact of interregional transfers in Germany are approximately twice those achieved by the EC Structural Funds. This is explained by the larger scale of resources available in Germany and the relative homogeneity of primary per capita incomes among the Länder. *In fact, given the very much greater disparities in primary incomes between the EC Member States, the fact that the EC Structural Funds achieve as much as half the redistributive impact as comparable interregional transfers in Germany may be considered a significant achievement. Further growth in the Structural Funds as a result of the Delors II package agreed at the Edinburgh Council of December 1992, and the addition of the Cohesion Fund agreed to in the Maastricht Treaty, moreover, suggest the capacity for greater redistributive power in the EC budget's interregional redistributive programmes in the future.*

It must, of course, be restated that these results focus on only part of the total effects of the German federal budget and the EC budget. The interregional redistributive impact of public finances in Germany is likely to be underestimated. This is due to the fact that only explicit interregional transfers have been examined, and secondly because the 'distorting' effects of two outlying Länder *(Bremen and Hamburg) have served to lower the measured results. Alternatively, the outcome for the Community is likely to be exaggerated, since the (almost certain) interregionally regressive effects of the common agricultural policy (CAP) and revenue sources have been ignored.*

1. Introduction

As emphasized in the MacDougall Report, the public finance systems of mature federations (and even more so of 'unitary' States) achieve very substantial interregional redistribution of income. The taxation and social security systems of central governments typically ensure that regions with below-average incomes make lower than average net contributions to the centre. Central government expenditure on goods and services is likely to be more equally distributed across regions, or possibly even positively skewed towards poorer regions. Grants from central to subnational governments, whether for general or specific purposes, also tend to be distributed more equally among regions (on a per capita basis) than are primary incomes. Especially in federal countries, a substantial component of the intergovernmental grants system is explicitly designed to achieve a degree of equalization of the fiscal capacities of subnational jurisdictions.

By comparison with both the scope and the magnitude of central government budgets in existing federations, the EC budget is minuscule and, correspondingly, its capacity to achieve redistribution between Member States or regions is limited. Moreover, regional income disparities within the Community are much greater than those typically found within individual nations. As a matter of simple arithmetical fact, to achieve an equivalent percentage reduction in pre-transfer regional income disparities requires much larger budgetary transfers when initial income disparities are much greater.

As EC integration deepens, issues of interregional redistribution acquire greater significance and are discussed in several of the studies in this volume, in particular Prud'homme (1993). Given the reality that the EC budget is unlikely to be expanded in scope and size in the foreseeable future to an extent anywhere near approaching the average of central governments in mature federations, comparisons of the redistributive power of the total EC budget with that of federal governments serve only to restate what is obvious.

However, the Community has one budgetary instrument — the Structural Funds — which explicitly contains a strong interregional redistributive objective. These funds account for approximately 25% of EC budgetary expenditure, and were doubled in real terms over the period 1988-93. What would be a valuable exercise would be to compare the redistributive effect of these EC funds with the central government interregional transfers which have a similar explicit redistributive purpose in federal countries. For the present purposes, the Federal Republic of Germany — the Community's sole current Member State which is a mature federation — is chosen.

The outline of the paper is as follows. Section 2 examines how the interregional redistributive effects of public finance can be measured. Section 3 briefly reviews the main conclusions of the MacDougall Report. Section 4 describes the complicated redistributive mechanisms at work in Germany and their interregional effects. Estimates are contained in section 5 of the redistributive impact of explicit interregional transfers in Germany and the European Community. An annex is provided which describes in more detail the methodology and statistical sources employed.

2. How redistribution is measured

There are a number of ways to examine the interregional redistributive impact of public finances both for a specific region and in aggregate across all regions. The simplest method is to look at the scale of transfers both in nominal terms and as percentages of 'regional' GDP. However, this does not tell us to what extent per capita regional income differentials are reduced. To do this, we need to have some estimates of per capita income before redistribution (i.e. primary income) and per capita income after redistribution (i.e. modified income).

The redistributive effect for a region of a public transfer is the (resulting) percentage change in primary per capita income with respect to the average per capita income. For example, if primary per capita income in a region is modified from 20% below the national average to 15% below as a result of a transfer, then the redistributive effect is + 25%, i.e. one quarter of the initial income disparity is reduced (see annex). A positive result can be considered as a move in the right direction, i.e. a below-average income region being a net recipient of transfers, or an above-average income region being a net contributor. The scale of redistribution is dependent upon the size of the transfer and the degree of initial income disparity. Hence, the relative homogeneity of per capita income among the German *Länder* means that large redistributive effects can be achieved with relatively small budgetary transfers. In contrast for the Community the scale of existing disparities limit the redistributive effect even of large financial transfers.[1]

To determine the aggregate redistributive impact for all regions, one can measure the percentage change in Gini coefficients, which is a weighted average of per capita income differentials using relative population shares as weights.[2] A second measure entitled redistributive power, provides a weighted average of the redistributive effects described in the paragraph above. This paper follows the MacDougall Report and uses the squares of primary income differentials as weights, the purpose being to attach greater weight to the redistributive impact on outlying regions. However, for Germany, the *Land* of Hamburg receives an excessive weight due to the fact that per capita income is equal to 175% of the federal average. To overcome this problem, three alternative weights are developed — the regional share in total national primary income, the regional share in total national population, and absolute values of regional per capita income differentials.

3. A look back at the results of the MacDougall Report

Table 1 presents the results of the MacDougall findings as regards the aggregate redistributive impact of public finance, using both redistributive power and percentage change in Gini coefficients as measures. Public finances in federations on average were found to have less redistributive power (35%) than in unitary States (46%). In Germany, the redistributive power of 29% was below the average of all federations although the percentage change in Gini coefficient was about average (39%).

Table 2 gives a breakdown as to the interregional redistributive impact for all fiscal federal interventions, i.e. tax revenue sharing, direct provision of public services by central authorities, general and specific purpose grants. Typically, tax revenues were found to have a limited interregional redistributive power (3,5% on average) with a much greater role played by the direct provision of public services (12,4%), general purpose grants (13,3%) and specific purpose grants (6,2%).

Determining the tax burden falling on each region is a complicated task, the redistributive impact being dependent upon the central share in progressive and regressive taxes, tariff characteristics and differences in income distribution among regions.[3] In Germany, tax-sharing (VAT included) exhibited a very small redistributive power (0,8%), below the average for all federations. This low redistributive power is explained by the fact that progressive taxes (personal income tax), in contrast with other federations, were largely

[1] For example, if per capita income of a region is increased from 98 to 99% of average per capita income, then the redistributive effect is 50%, i.e. (2 − 1)/2 x 100. However, a transfer which increases income per capita by one percentage point (say 50 to 51%) has a much smaller redistributive effect equal to 2%, i.e. 50 − 49/50 x 100.

[2] Gini coefficients are commonly used to measure personal income distribution within countries, though can also be used to measure interregional equity. It varies between 0 and 1. An outcome of 0 means that income is distributed completely evenly. An outcome of 1 implies complete inequity, i.e. all income accrues to one individual/region.

[3] Commission of the European Communities (1977), 'Report of the study group on the role of public finance in European integration' (MacDougall Report), Vol. II: Individual contributions and working papers, published in *Studies, Economic and Financial Series*, No B 13, Ch. 5, p. 127.

internalized at *Länder* level, whereas regressive taxes (VAT) were in bulk internalized at the federal level. Personal income tax is currently shared among federal, *Länder* and local levels on a 42,5%, 42,5%, 15% basis, whereas corporate tax is divided along a 50%, 50%, 0% split. The measured redistributive power for direct provision of public services in Germany was higher than the average of all federations (i.e. 17,3% as against 12,4%), whereas it was lower with respect to general purpose grants (9,4 to 13,3%)[4] and specific purpose grants (1,4 to 6,7%).

4. Interregional redistribution in Germany

As noted in the introduction, and as reflected in the measurements undertaken in the MacDougall Report, the total interregional impact of central government outlay in federations includes substantial effects from federal taxes on and transfers to persons, and from the provision of public services by central authorities, as well as from explicit interregional transfer programmes. The statistical analysis undertaken in the remainder of the paper, however, focuses only on the latter, i.e. the interregional impact of interregional transfer programmes in the Community and Germany. Notwithstanding the fact that this involves only a partial measure of the redistributive effect of central budgets, the comparison is a meaningful and useful one.

1 A different result is achieved when comparing percentage changes in Gini coefficients (14,5 to 12,1%)

Table 1

The redistributive effects of public finances: the results of the MacDougall Report

	Redistributive power	% change in Gini coefficient
Federations		
Germany	29	39
Australia	53	53
Canada	32	28
USA	28	23
Switzerland [1]	(22)	(10)
Average [2]	35	36
Unitary States		
France	54	52
Italy	47	44
United Kingdom	36	31
Average	46	42

1 Excluding social security.
2 Excluding Switzerland.

Table 2

The interregional redistributive effect of public finances in major federations: the results of the MacDougall Report

	Revenue		Expenditure						Total	
			Direct		General purpose grants		Specific purpose grants			
	A	B	A	B	A	B	A	B	A	B
Germany	0,8	−3	17,3	25,4	9,4	14,5	1,4	2	28,9	38,9
Australia	2,7	9,4	11,8	9	27,1	20,4	11,2	14,2	52,8	53
Canada	2,4	2,6	6,7	5,1	15,4	13	7,2	7,7	31,7	22,6
USA [1]	8,1	6,8	13,6	12,3	0,9	0,6	5,1	3	27,7	
Switzerland [2]	−1,2	0,7	23,2	10,3					22	9,6
Average [3]	3,5	4	12,4	13	13,3	12,1	6,2	6,7	35,3	35,8

A = measure of 'redistributive power.
B = measure of % change in Gini coefficient.
1 Average of redistribution in nine regions and 48 States.
2 Figures not comparable with other federations.
3 Excluding Switzerland.
Source: MacDougall Report, Vol. II, p. 129, *supra*.

For Germany we shall examine: (i) tax-sharing arrangements for VAT; (ii) horizontal general purpose grants (*Länder-Länder*); (iii) vertical general purpose grants (Bund-*Länder*); and (iv) specific purpose grants (Bund-*Länder*). These are described in more detail below. In contrast with the Community, a complete examination of the interregional effects of all public finances would probably indicate (bearing in mind the MacDougall results) that federal intervention is substantially more interregionally redistributive than when focusing solely upon the abovementioned mechanisms. In particular, the progressive features of the social security system have not been examined.

(i) Tax-sharing arrangements:[1] VAT is the only shared tax with a strong redistributive bias. In 1990, the ratio of VAT distribution between the Bund and *Länder* was 65:35, and remained so until the end of 1992. Of this amount, the Financial Equalization Law of 1969 requires that 75% of the *Länder's* share of VAT be allocated on the basis of the number of inhabitants. This per capita formula is likely to be implicitly redistributive, since relatively poorer *Länder* with weak consumption bases receive excess transfers above the VAT revenues generated within their jurisdiction. These implicit effects are not, however, examined in this paper.

The remaining 25% of *Länder* revenues comprise supplementary shares ('Ergänzungsanteile') for fiscally weak *Länder* whose revenue falls below 92% of the average per capita tax receipts.[2] Transfers to receiving *Länder* are implicitly financed by the other *Länder* through reduced VAT receipts; thus it is a zero-sum game. In 1990, only 2,6% of the *Länder*'s VAT share equalling DM 1 billion (or 0,06% of West German GDP) was necessary to achieve the required equalization effect. A breakdown of the gross transfers accruing to each *Land* (in Deutschmarks and as a percentage of GDP) is presented in Table 3.

(ii) Horizontal general purpose grants ('Länderfinanzausgleich'): These are horizontal transfers among the *Länder*. A 'tax-capacity' indicator is developed from a common base of shared and own taxes, and an 'equalization indicator' expresses this in terms of per capita tax revenues compared with an average for the entire Federal Republic. Two adjustments are then undertaken

[1] It should be noted that West Berlin was not included in automatic revenue-sharing schemes; instead a vertical scheme operated between the Federal Government and West Berlin. In 1990 this transfer totalled DM 15,5 billion equal to 0,65% of West German GDP. The five new *Länder* are excluded from all the vertical and horizontal revenue-sharing arrangements, with lump-sum funds being transferred instead. The system is subject to complete review before 1995 bearing in mind the large divergences in per capita income differentials.

[2] This 92% level relates to per capita tax receipts of *Länder*, from a standard basket of shared and own tax sources before VAT equalization.

Table 3

The scale and redistributive impact of explicit redistributive mechanisms in the Federal Republic of Germany in 1990

	Schleswig-Holstein	Hamburg	Niedersachsen	Bremen	Nordrhein-Westfalen	Hesse	Rheinland Pfalz	Baden-Württemberg	Bayern	Saarland	Berlin	Total
Income differential per capita (%)	−18,1	75,0	−16,1	25,7	−5,6	14,3	−12,0	5,5	2,0	−14,8	13,2	
Gross transfers (Mio DM)	1 599	44	4 721	935	49	−1 663	1 327	−2 871	122	1 114	72	10 823
Net transfers (Mio DM)	1 413	−204	4 188	861	−1 357	−2 225	1 043	−3 748	−872	1 034	−134	−1
as a % of GDP	1,71	−0,18	1,77	2,63	−0,22	−0,89	0,83	−0,96	−0,20	2,92	−0,15	0,45
as a % of *Länder* public expenditure	12,1	−1,4	13,0	13,7	−2,0	−8,8	6,5	−8,6	−2,0	19,5	−0,5	3,7
Redistributive effect	7,75	0,43	9,20	−12,89	−3,62	7,14	6,03	18,51	10,11	16,79	1,25	
Average redistributive effect (%)					*Weights*		Squared per capita income differential			(Edi^2)		2,00
							Share in German GDP			(yi)		6,24
							Share in German population			(pi)		6,24
							Absolute per capita income differential			abs (di)		2,62
							% change in Gini coefficient					5,20

to account for specific burdens in certain *Länder*, and for agglomeration costs of population concentrated in large conurbations. *Länder* whose equalization indicator falls below 95% of the per capita average tax receipts are entitled to receive contributions. In turn these are financed in a graduated manner by *Länder* whose tax capacity is above 100% yielding a zero-sum result. These transfers amounted to DM 4 billion in 1990, equivalent to 0,17% of combined *Länder* GDP.

(iii) Vertical general purpose grants: On top of the two preceding mechanisms, the federal government operates 'Ergänzungszuweisungen', the amount of which is determined on the basis of political agreement as a percentage of total VAT receipts. These transfers are used to top up the 'Finanzausgleich' transfers such that tax capacity in all *Länder* reaches a minimum 97,5% of national average. In total these transfers came to some DM 3 billion for 1990, or 0,12% of GDP.

(iv) Specific-purpose grants: The federal government operates several specific purpose grant programmes under the headings of 'joint tasks' ('Gemeinschaftsaufgaben') and 'grants in aid' ('Finanzhilfen'). Most have no strong regional bias; therefore only one scheme shall be considered in this note, an infrastructural investment programme, 'Strukturhilfen'.[1] A total of DM 11 billion was spent on all vertical grants combined. Of this, Strukturhilfen spending equalled DM 2,5 billion, equivalent to 0,1% of West German GDP.

5. The redistributive impact of explicit interregional transfers

5.1. The scale of transfers

Total gross interregional financial transfers for Germany and the Community are presented in Tables 3 and 4 respectively. The four mechanisms in Germany involved DM 10,8 billion (ECU 5,3 billion) in 1990, amounting to 0,45% of GDP. Only two *Länder*, Hesse and Baden-Württemberg, had a negative figure for gross receipts of DM −1,6 billion and DM −2,9 billion.

Horizontal transfers are directly financed by some *Länder*, such that the net receipts per *Land* are immediately apparent, and it is a zero-sum game. However, regarding vertical transfers, where all *Länder* are gross recipients of funds from the Bund, it is necessary to calculate the implicit financing contribution of each *Land*. This is done by taking the total gross transfers and estimating the contribution of each *Land* to its financing on the basis of their share in total German GDP. Using this measure, Baden-Württemberg and Hesse were the largest net contributors, with Hamburg, Nordrhein-Westfalen, Bayern and Berlin also having negative balances. For some recipient *Länder*, these transfers as a percentage of GDP are considerable, e.g. Saarland 2,9%, Bremen 2,6% and Schleswig-Holstein 1,7%. They form an even greater percentage of public expenditure: 19,5%, 13,7% and 12,1% respectively.

EC Structural Fund transfers will amount to some ECU 16.7 billion in 1992, equivalent to approximately 0,3% of Community GDP, somewhat below the level of transfers in Germany. Whereas all countries are gross recipients of Structural Fund transfers, only four countries are net recipients (Greece, Spain, Ireland and Portugal) after implicit financing shares are taken into account (measured according to percentage share in combined Community GDP). Interestingly, Italy is a net contributor despite the large transfers going to the Mezzogiorno. Contributions towards financing the Structural Funds are estimated from the share in total own resources paid up over the 1987-90 period.[2] As a percentage of GDP, transfers in 1992 are estimated to be worth 2,8% for Greece, Portugal 2,7%, Ireland 2,4% and Spain, 0,5%.

5.2. Redistributive effects on regions

Germany: At first glance the redistributive effects for the *Länder* are appreciably larger than for EC Member States. This is to be expected given the initial relatively low levels of per capita income disparities which allow large redistributive effects to be achieved with modest financial outlay.

The highest positive redistributive effect is achieved by a net contributor to transfers, namely Baden-Württemberg (18,5%). Concerning the net recipients of transfers, Saarland had a redistributive effect of 16,8%, Niedersachsen 9,2%, Schleswig-Holstein 7,8% and Rheinland-Pfalz 6.0%. Two

[1] For other schemes, in particular the joint task regional fund ('Verbesserung der regionalen Wirtschaftsstruktur'), a breakdown of figures by *Land* is not easily available. The Strukturhilfen is due to cease operations in West German *Länder* with resources being transferred towards infrastructure projects in the five new *Länder*.

[2] This weighting is different from that employed for Germany where share in GDP is measured.

Table 4

The scale and redistributive effects of Structural Fund transfers in the European Community in 1992

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EUR 12
Income differential per capita (%)	5,05	8,91	12,31	−47,79	−19,54	9,13	−30,99	4,05	35,18	3,26	−42,92	1,35	
Gross transfers (Mio ECU)	218	97	1 898	1 840	3 529	1 655	1 013	2 745	17	202	1 918	1 608	16 740
Net transfers (Mio ECU)	−338	−262	−2 427	1 647	2 166	−2 207	891	−26	−23	−699	1 750	−473	0
as a % of GDP	−0,20	−0,23	−0,18	2,81	0,46	−0,22	2,38	−0,00	−0,28	−0,29	2,72	−0,05	0,31
Redistributive effect	4,11	2,87	1,65	3,06	1,89	2,57	5,29	0,07	1,09	9,21	3,62	3,97	
Average redistributive effect (%)						*Weights*		Squared per capita income differential			(Edi²)		3,07
								Share in EC GDP			(yi)		2,51
								Share in EC population			(pi)		2,54
								Absolute per capita income differential			abs (di)		3,03
								% change in Gini coefficient					2,53

negative redistributive effects arise, namely Bremen −12,9%, and Nordrhein-Westfalen −3,6%. Bremen is a net recipient of transfers (DM + 861 million) despite having a per capita income some 25% above the national average. However, these transfers can be justified on the grounds of high unemployment and a concentration of industries undergoing structural decline. Alternatively, Nordrhein-Westfalen is a net contributor (DM −1,3 billion) despite per capita income being 5% below the average.

European Community: In contrast, the redistributive effects for all Member States are positive, although within a much smaller range, from 0,07% for Italy to 9,2% for the Netherlands. The redistributive effect for net recipient countries is as follows: Greece 3,06%, Spain 1,89%, Ireland 5,29% and Portugal 3,62%. These figures are not as large as the redistributive effect achieved by the less well-off *Länder*, as EC interregional transfers account for a smaller percentage of GDP, and given the existing wide disparities in per capita income among Member States.

5.3. The aggregate redistributive impact

Germany: As stated previously, there are essentially two measures, the percentage change in the Gini coefficient and redistributive power, i.e. a weighted average of the redistributive effects. In Germany these alternative measures yield very different results. The Gini coefficient shows a reduction in interregional per capita income disparities of 5,2%, almost double that of the Community. Of this, the VAT revenue-sharing scheme accounts for 15% of the fall, Finanzausgleich 50%, Ergänzungszuweisungen 23% and Strukturhilfen 12%.[1] However, the redistributive power using the squares of per capita income differentials as weights yields only a 2% reduction in interregional income disparities. This is due to the distorting influences of two outlying *Länder:* Bremen has a large negative redistributive effect since it is a net recipient of transfers despite having an above-average per capita income; Hamburg receives an unduly large weighting due to a large income differential per capita (75%) which becomes even more 'exaggerated' when squared. Using the absolute values of income differential per capita only partly overcomes the latter problem giving an average redistributive effect of 2,6%. It has therefore been necessary to employ two other weights, share in total national income and share in total national population. These weights both yield average redistributive effects of 6,24%, far closer to the 5,2% change in the Gini coefficient.

European Community: In the Community, the Gini coefficient indicates a fall in interregional per capita income disparities of 2,5%, i.e. half that achieved in Germany. The redistributive power yields a 3% reduction in interregional income disparities using per capita income differentials as

[1] The percentage changes in Gini coefficients are as follows: VAT revenue-sharing 0,77%; Finanzausgleich 2,61%; Ergänzungszuweisungen 1,18%; Strukturhilfen 0,64%.

weights. However, this figure falls to 2,5% using share in GDP and population as weights.

6. Conclusion

To sum up, the redistributive impact of interregional transfers in Germany are approximately twice those achieved by the EC Structural Funds. This is explained by the larger scale of resources available in Germany and the relative homogeneity of primary per capita incomes among the *Länder*. In fact, given the very much greater disparities in primary incomes between the EC Member States, the fact that the EC Structural Funds achieve as much as half the redistributive impact as comparable interregional transfers in Germany may be considered a significant achievement. Further growth in the Structural Funds as a result of the Delors II package agreed at the Edinburgh Council of December 1992, and the addition of the Cohesion Fund agreed to in the Maastricht Treaty, moreover, suggest the capacity for greater redistributive power in the EC budget's interregional redistributive programmes in the future.

It must, of course, be restated that these results focus on only part of the total effects of the German federal budget and the EC budget. The interregional redistributive impact of public finances in Germany is likely to be underestimated. This is due to the fact that only explicit interregional transfers have been examined, and secondly because the 'distorting' effects of two outlying *Länder* (Bremen and Hamburg) have served to lower the measured results. Alternatively, the outcome for the Community is likely to be exaggerated, since the (almost certain) interregionally regressive effects of the CAP and revenue sources have been ignored.

Annex

I — Measuring redistribution

The basic idea is to estimate regional income before interregional redistribution takes place (i.e. primary income), and regional income after redistribution takes place (i.e. modified income).

It is assumed that there are regions in a country ranging from {1,...n}. The index share of each region i in national primary income is y_i and in modified income y_im. Similarly any region i has a population share p_i. Regional primary income per capita equals y_i/p_i which becomes y_im/p_i for modified income. Average national income per capita is equal to 1. The primary income differential (d_i) measures the extent to which the index of regional primary income per capita differs from the national average, i.e. $d_i = y_i/p_i - 1$. As a result of redistributive transfers the modified income differential for region i becomes $d_im = y_im/p_i - 1$.

The redistributive effect for region i of a transfer equals the percentage change in primary income differential.

$$r_i = (d_i - d_im)/d_i \qquad (1)$$

As mentioned in section 2 above, there are two principal methods for determining the overall redistributive impact. The first measures the percentage change in Gini coefficients (g), which is a weighted average of income differentials, using population shares as weights. For primary income the Gini coefficient is represented by the following equation:

$$g = \tfrac{1}{2} \Sigma^n_i = 1 \Sigma^n j = 1 \; p_i p_j \, |d_i - d_j| \qquad (2)$$

and for modified income:

$$g^m = \tfrac{1}{2} \Sigma^n_i = 1 \Sigma^n_j = 1 \; p_i p_j \, |d_im - d_jm| \qquad (3)$$

The percentage change is therefore:

$$r^w = (g - g^m)/g \qquad (4)$$

The second measure, called the redistributive power, consists of determining a weighted average of redistributive effect. The MacDougall Report used the squares of primary income differentials as weights, giving the following equation:

$$r^{un} = (\Sigma^n_i = 1 \; d_i^2 r_i)/(\Sigma^n_i = 1 d_i^2) \qquad (5)$$

In an attempt to overcome some of the problems previously mentioned associated with using d_i^2, alternative weights are used, namely y_i, p_i and $|d_i|$.

II — Some statistical and methodological issues

(a) The German data cover financial flows in 1990 whereas for the European Community they concern 1992.[1] As much of the financial flows emanating from the 1988 reform of the Structural Funds are only coming through in 1992, this provides a fairer comparison with the mature mechanisms operating in Germany. Where basic data have not come in 1992 prices, these have been converted using a GDP price deflator.

[1] The figures for Germany relate only to the West German *Länder*.

(b) Income differentials in the Community are based on purchasing power standards (PPS), in contrast with Germany where regional GDP in Deutschmarks are used. The PPS gives rise to lower per capita income differentials than those arrived at using GDP figures, since it includes measures of the cost of living and the cost of non-tradable items. Where data concerning EC transfers have come in terms of ecus, an ECU/PPS 'exchange rate' has been used to achieve the appropriate conversion.[1] It would have been desirable to use a PPS measure for Germany if one existed. Nonetheless, it seems reasonable to suppose that differences in GDP/PPS measures of regional income will be greater between countries than within them.

(c) GDP figures for the EC Member States are more readily available and easier to interpret than for the German *Länder*. In the case of the former, payments to and transfers from the Community fall outside the GDP accounting measure under the title 'official transfers from abroad'. More work is required to establish in detail the accounting framework employed in assigned GDP to each of the *Länder*.

(d) In order to determine the 'net' receipts per region of each redistributive mechanism, it is necessary to know the financing share borne by each region. For horizontal schemes, transfers are a zero-sum game, e.g. Länderfinanzausgleich and VAT-sharing arrangements. However, with vertical operations, the sum of gross receipts for all regions is positive; it is therefore necessary to estimate the implicit share of financing per region such that the sum of net receipts is zero. For Germany, the financing share is based upon regional share in national income. For the Community, the contribution is based upon the share of own resources paid up by each country over the period 1987-89. This includes VAT and fourth resource (GDP) contributions as well as transfers designed to equilibrate the budget.[2]

[1] ECU/PPS exchange rate = estimated GDP in 1992 divided by estimated PPS for 1992.

III — Sources of information

Germany

Länder GDP and population — Statistical Office, Baden-Württemberg;

VAT revenue share transfers and Länderfinanzausgleich transfers — *Finanzbericht* 1991, Federal Ministry of Finance;

Ergänzungszuweisungen and Strukturhilfen transfers — Federal Ministry of Finance sources.

European Community

GDP and population — Commission sources;

Structural Fund transfers — The Community's structural interventions, *Statistical Bulletin* No 1, Directorate-General for the Coordination of Structural Policies, July 1991;

Financing of the EC budget — Annual report of the Court of Auditors concerning the financial year 1990, *Official Journal of the European Communities*, C 324, Vol. 34, 13 December 1991.

[2] This excludes agricultural, customs and isoglucose levies, since it is difficult to assign these on a per country basis on account of the 'Rotterdam effect'. The data are taken from the annual report of the Court of Auditors for 1989, *Official Journal of the European Communities*, C 313, 12.12.1990.

The role of the EC budget in the fields of defence, external affairs and international assistance — as seen from the perspectives of fiscal federalism and public choice theory

Manfred Teutemann

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

This paper draws from the author's publication entitled: Rationale Kompetenzverteilung im Prozeß der europäischen Integration (rational distribution of competences in the process of European integration), Berlin, 1992, 357 pp.

Table

Graph

Summary

Where the transfer of powers in the fields of defence, external affairs and international assistance is concerned, the EC institutions are in competition not only with national administrations but also with other international organizations. The failure of European initiatives back in the early 1950s is explained by the fact that NATO already played a role similar to that envisaged for the proposed European Defence Community. Consequently, the most promising initiatives from a political point of view would seem to be those involving the transfer to EC level of powers in respect of which neither national administrations nor international organizations have long-standing experience ('filling the vacuum' approach). In the field of defence policy, this approach would be appropriate for a European Rapid Deployment Force. In the field of external assistance, it could apply to transfers designed to preserve global collective goods (e.g. tropical rain forests) and to assistance for East European countries.

Assuming that the East-West conflict has been defused, no special Western European defence policy can be justified. There remains, however, a case for a European Rapid Deployment Force whose budgetary impact should not exceed 0,2% of Community GDP. A replacement of national contributions to the NATO budget by a single European contribution would amount to 0,05% of Community GDP.

In the field of external policy, the crucial factor is whether political homogeneity is sufficiently pronounced to establish and to defend a European position — if such a position exists at all — with one voice in global or international negotiations. In any case, the budgetary impact of a potential transfer of national powers to EC level would remain quite small and should not exceed 0,01% of Community GDP.

In the field of development aid, the budgetary impact of a transfer of corresponding national budgets to EC level would amount to some 0.4% of Community GDP. However, there are two important caveats here. Firstly, it is difficult to justify the present level of national development aid on economic grounds as it comprises mainly subsidies to promote the donor's domestic industry rather than redistributive transfers. Secondly, a global institution such as the United Nations Development Fund would perhaps be a more appropriate body to which expenditure powers could be assigned. The advantages of 'subglobal' cooperation are, however, greater flexibility and greater willingness to provide additional capital. Supplementary assistance programmes would have to be envisaged (e.g. for East European countries). The budgetary impact of the latter crucially depends on the willingness and commitment of Member States.

1. Introduction

In considering the prospects for Western European cooperation in the fields of defence and external policy, we should take a look at past events since the founding of the European Communities followed on from the failure of the European Defence Community and the European Political Community in the early 1950s (Pleven Plan). The idea — born in the aftermath of the Second World War — had been to create a Western European army. The calculation was that this would avoid potential military conflicts in Western Europe and would represent a powerful alliance against potential aggressors from outside.[1] However, the plan came to nothing in 1954, when the French Parliament voted against it. Instead, a number of European governments set up the European Coal and Steel Community (ECSC) 'to substitute for age-old rivalries the merging of their essential interests'. The intention was to bring the coal and steel industries, which were located mainly in Germany and, at the time, were of strategic importance for a war economy, under European control and supervision. The same governments subsequently formed the European Economic Community and the European Atomic Energy Community.

However, taking a retrospective look means analysing the reasons for the failure of the European Defence Community and European Political Community initiatives and identifying the alternatives to a European alliance. One reason for the failure of those initiatives was that potential member countries were not willing to renounce powers in these two high-profile areas for national policymaking. Furthermore, a brief glance at alternatives to a European political union responsible for defence policy and external affairs reveals that, in the early 1950s, the alternative to a European Defence Community and a European Political Community had not been national independence or national weakness. The alternative was close cooperation with, and dependence on, the United States of America. Close cooperation with the

1 For more details on the Pleven Plan and on the early stages of the European integration progress, see Küsters (1982) and Groeben (1982).

United States, already evident immediately after World War II in the founding of NATO in 1949, was a guarantee of effective protection for Western European countries against potential military aggression from the East. Furthermore, assuming that Europe and the USA had similar preferences, the alliance with the USA made for powerful representation of European positions in global negotiations.

Considering these two issues — the unwillingness to surrender powers to a supranational body in a legally binding form and the presence of an attractive alternative — it was quite unrealistic to assume that a European Defence Community could have been set up since this would have entailed the surrender, not only in practice but also in law, of powers in respect of foreign and defence policy (as had already happened in the case of NATO). In other words, powers would have had to be surrendered in a more legally binding manner without any increase in military protection. Furthermore, the establishment of a European Defence Community would have been tantamount to a policy of turning away from the United States and destroying the illusion of national governments that they were conducting an 'independent' foreign and defence policy. Consequently, a major reason for the failure of the initiatives of the early 1950s and the early 1960s (Fouchet initiative)[1] can be identified by answering the following crucial question: 'What benefits would a European Defence Community and a European Political Community have brought which were not forthcoming from cooperation with the United States, and how much freedom (and how many illusions important for electoral campaigns) did national politicians have to surrender in joining this new club?'. Obviously, national politicians and governments expected a negative net welfare change.

In the early 1970s, so-called European political cooperation was institutionalized. Although it had only a minor impact on Member States' foreign policy, this development represented a benchmark since it created the institutional framework for close European cooperation in this field.[2] Since the mid – 1980s, even 'the European element' of international defence policy has been placed on the agenda again. Declining dependence on the economic power of the United States, growing self-confidence of the European partners and increasing disharmony in the field of security policy reduced the attractiveness of NATO as the optimal pattern for cooperation in the field of defence policy (Haftendorn, 1988), and a 'de-Americanization' of the NATO-infrastructure in Europe was observed (Czempiel, 1989).

However, with East-West détente taking place at about the same time, the defence and external policy environment at EC level changed dramatically. Since then, growing disharmony between Europe and the United States regarding the military strategy necessary to contain the potential military threat from Eastern Europe has become quite irrelevant and even the need for a specific Western European security and defence policy has had to be seriously questioned.

This paper examines the extent to which defence policy, external affairs and development policy should fall within the remit of the European Commumity and what the budgetary implications of a transfer of responsibilies in these areas would be in the long run. The approach chosen to deal with these questions is to employ the tools of fiscal federalism and public choice theory. Section 2 introduces the reader to some basic considerations concerning the economics applied, i.e. fiscal federalism and public choice theory in so far as they are of relevance. Sections 3 to 5 contain the analytical findings for the topics discussed. They also indicate on the basis of the findings of the economic analysis the probable budgetary impact of a transfer of responsibilities.

2. Theoretical foundations and tools

The following two basic hypotheses form the main framework of the analysis:

(a) In line with the principle of subsidiarity, a shift of responsibilities to a higher level of government (the European Community) will be recommended only if: (i) the provision of a good or a service (e.g. defence policy) at the lower (national) level has led to serious problems and inefficiencies; and (ii) the higher level of government (the Community) is a priori in a position to achieve a undeniably and significantly better result. Consequently, the study is placed in the context of second-best and not first-best considerations, i.e. it seeks satisfactory as opposed to optimal solutions.

(b) Appropriate financing of publicly provided goods and a reduction in 'government failure' necessitate: (i) identification of those who benefit and those who have to pay (democratic equivalence principle); (ii) identification of those who have to comply with decisions and those who control the decision-making process (democratic principle); and (iii) avoidance of any intermediation in the decision-making process (principle of direct control). Generally speaking, this hypothesis would require that the European Parliament, and not the Council, would have to provide the three services under discussion in this paper.

[1] For more details, see Lindemann (1978), Groeben (1982) or Beutler et al. (1987).

[2] See also Rummel (1982) or the relevant sections in issues of the *General Report on the activities of the European Communities* since 1978.

In general, fiscal federalism theory serves in this paper as the means of discussing to what extent the Community should be assigned powers in the fields concerned. It applies the tools associated with the theory of market failure or public goods to the problem of assigning powers within federations.[1] The answers to the following questions are most important as regards the assignment of powers in respect of the provision of public goods:

Are there (significant) spillover effects as between (national) jurisdictions that could justify provision of a good by a higher level of jurisdiction (the Community)?

Could the existence of (significant) economies of scale or considerations of minimum size justify provision of the good in question by a higher level of jurisdiction (the Community)?

Some shortcomings of fiscal federalism theory have, however, prevented it from becoming a useful tool of practical politics:

(i) The basic assumption that individuals with similar or identical preferences will choose to live under the same jurisdiction is highly unrealistic in a world of limited mobility and unlimited diversity of individual preferences. Consequently, the necessary (political) homogeneity within a particular jurisdiction does not exist, and this raises some problems not tackled by fiscal federalism.

(ii) In focusing on regional mobility and regional externalities as criteria for the optimal (or adequate) provision of goods, fiscal federalism concentrates on regional jurisdictions and not on functional jurisdictions. However, why should the members of a particular jurisdiction with identical preferences as regards the provision of defence and foreign policy also have identical preferences as regards the provision of environmental protection? In principle, it could also be worthwhile to think in terms of functional patterns, for example by (at least theoretically) envisaging a defence and external affairs union whose members were different from the members of a union providing international environmental protection. Fiscal federalism does not provide an answer to the question of how to achieve political homogeneity at regional level in a world of strong intraregional divisibility of preferences for different goods and services.

(iii) Very often questions to do with the provision of a good are confused with questions to do with its production when economies of scale are discussed. Economies of scale are, however, only one important criterion when organization of the demand side (provision) is identical to organization of the supply side (production), as in the case of the provision and production of 'negotiating power'. In principle, it is quite irrelevant as regards the provision of goods like cars, power-plants or arms. Furthermore, it is necessary to identify the production function before it can be determined to what extent economies of scale play any role at all.

Finally, fiscal federalism theory is more in the nature of a comparative static approach, providing almost no indication of how to deal with the dynamics of federalism, i.e. how to reassign powers smoothly between the different levels of government. In order to rectify these shortcomings of fiscal federalism theory, this paper attempts to combine fiscal federalism with public-choice considerations since the latter could provide some valuable insights into how to achieve political homogeneity and to reassign powers.

3. A European defence and security policy?

For the purposes of an economic analysis of defence and security policy, it is useful to distinguish between the two basic functions of such a policy. Firstly, there is a preventive function, i.e. to prevent aggressive military cross-border actions during peacetime and during political crises (peace-keeping function). Secondly, there is the function of restoring the status quo as it was prior to any act of aggression (roll-back or bailing-out function). The following section examines the level at which an effective defence policy should be provided and how this provision should be financed. The analysis will focus on two criteria used in fiscal federalism theory: potential externalities, and economies of scale or, more important here, minimum-size considerations.

3.1. Externalities and spillover effects

According to the principle of subsidiarity, public goods and services should be provided at the lowest level of government capable of guaranteeing efficient and sufficient provision of the good or service concerned. It should be evident that, at present, the provision of a defence and security policy at subnational level encounters serious problems, e.g. non-contributing 'free-rider' regions in a particular country could not be excluded in a feasible manner, assuming that this good is provided by a group of regions. This is particularly true as regards the peace-keeping function of defence, but also in part as regards the bailing-out function. Consequently, a broad consensus exists that, because of this free-rider problem, defence policy should be provided at least at national level.

[1] For an overview, see Walsh (1993).

In principle, even the provision of defence at national level would give rise to significant spillovers if a country which provided a successful defence policy served as a buffer between a potential aggressor and other countries, allowing the latter to devote less resources to their defence budget. Empirical evidence for this is, however, quite weak. For instance, countries such as Belgium or Switzerland, being protected by buffers, do not spend significantly less (as a % of GDP) on their own defence budget than countries acting as potential buffers (see Graph 1).

An even more detailed comparison distinguishing between four groups of countries (non-allied buffer countries, allied buffer countries, non-allied buffer-protected countries and allied buffer-protected countries) does not alter the fact that no (significant) differences are discernible in the requisite share of resources in comparable countries some of which are members of a defence alliance while others are not (see Table 1).

Finally, the assumption made by Olson and Zeckhauser (1966, p. 266) that small allies benefit at the expense of larger allies cannot be confirmed.[1] Nevertheless, there seems to be a tendency in larger international (defence) alliances for small members to be prepared to surrender more powers than larger members if they receive compensation.

All in all, neither the variable 'membership of an international alliance', nor the variable 'geographical exposure to potential aggression' nor the variable 'size of a country' seems to be connected with potential free-rider behaviour. At least, no correlation can be quantified in money terms. Consequently, the criterion of 'externalities' or 'spillover effects' cannot serve as an argument strongly supporting the international provision of defence policy.

Nevertheless, one could argue that small countries or non-allied countries that were geographically quite exposed to potential military aggression would have to spend significantly more (as a % of GDP) if they did not benefit from the 'shield' which a powerful alliance affords non-members too, e.g. by defining 'zones of interest'. And so it could be argued that the East-West balance of power prevented, say, the East European countries from taking direct military action against the countries of the Western European 'zone of interest' elsewhere in the world. This assumed effect did not, however, prevent several 'alternate wars' elsewhere in the world.

1 See, for example, Cornes and Sandler (1986, p. 261) or Kravis and Davenport (1963, p. 309 et seq.)

GRAPH 1: **Defence expediture: size and location of a country (Average 1980-89)**

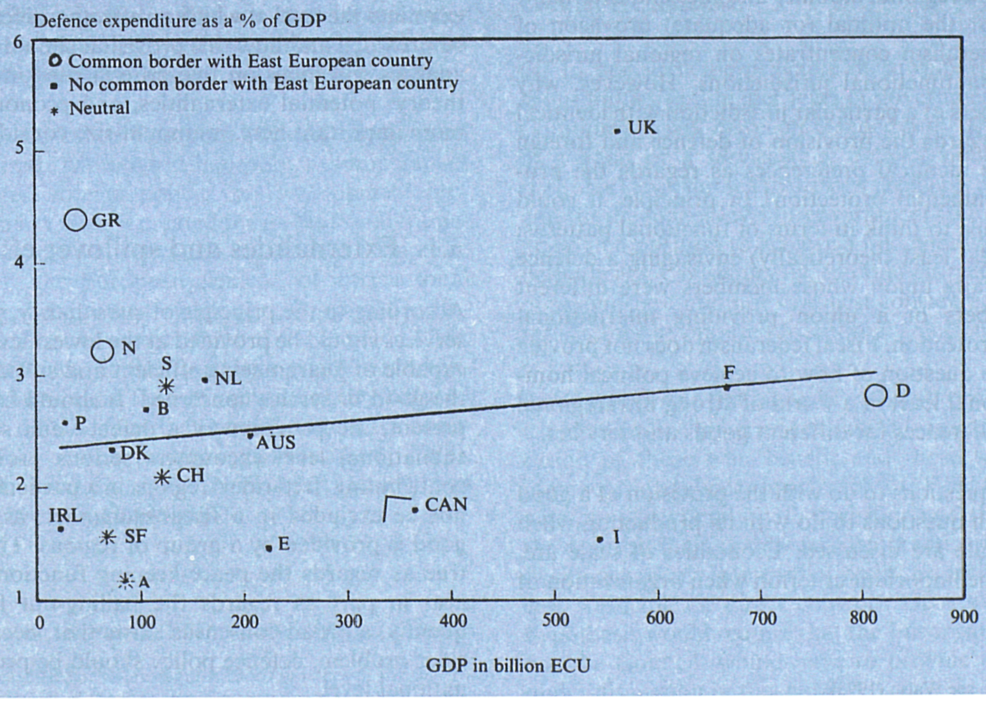


Table 1

Central government expenditure on defence as a % of GDP

	B	DK	D	GR	E	F	IRL	I	NL	P	UK	A	AUS	CAN	CH	N	S	SF	USA
1970	2,59	:	2,93	:	1,24	:	:	:	:	:	:	:	3,26	:	2,22	:	:	:	:
1971	2,67	:	2,91	:	1,15	:	:	:	:	:	:	:	2,94	:	2,17	:	3,41	:	6,82
1972	2,64	2,33	3,02	4,19	1,29	:	:	:	:	:	5,40	:	2,79	1,72	2,07	3,35	3,49	1,46	6,06
1973	2,54	2,20	2,98	3,58	1,24	:	:	1,85	:	:	5,08	0,94	2,48	:	1,97	3,22	3,35	1,38	5,61
1974	2,39	2,47	3,12	4,93	1,24	:	:	1,89	:	6,20	5,53	1,01	2,23	1,50	1,98	3,12	3,19	1,21	5,65
1975	2,78	2,52	3,15	6,11	1,21	2,77	:	1,74	2,84	4,35	5,26	1,15	2,23	1,53	2,01	3,27	3,09	1,43	5,31
1976	2,73	2,43	3,00	6,09	1,19	2,76	:	:	2,92	:	5,40	1,14	2,16	1,60	2,28	3,18	3,04	1,27	5,14
1977	2,71	2,47	2,87	5,85	1,12	2,61	:	:	2,81	:	5,04	1,13	2,31	1,65	2,13	3,18	3,06	1,33	4,95
1978	2,84	2,31	2,86	6,38	1,03	2,60	:	1,21	2,94	2,69	4,80	1,17	2,31	1,67	2,07	:	3,16	:	4,91
1979	2,81	2,20	2,78	5,65	1,35	2,76	:	1,35	3,04	2,77	4,82	1,18	2,21	1,58	2,15	:	3,14	1,40	5,12
1980	2,82	2,58	2,77	4,46	1,16	2,92	:	1,39	2,99	2,81	5,23	1,14	2,27	1,63	2,08	2,93	3,05	1,57	5,59
1981	3,01	2,62	2,88	4,32	1,16	3,05	:	1,39	3,10	2,78	5,29	1,13	2,33	1,68	2,03	3,28	3,09	1,46	5,88
1982	2,84	2,55	2,90	:	1,21	3,14	1,80	1,50	3,10	2,70	5,52	1,15	2,47	1,86	2,11	3,26	3,16	1,54	6,41
1983	2,83	2,48	2,90	:	1,27	3,23	1,69	1,57	3,12	2,64	5,54	1,28	2,62	1,95	2,11	3,29	3,12	1,71	6,50
1984	2,68	2,32	2,83	:	1,39	2,73	1,60	1,55	3,06	2,49	5,58	1,21	2,56	1,97	2,16	3,04	2,95	1,50	6,54
1985	2,65	2,16	2,78	:	1,91	2,80	1,60	1,60	2,97	2,38	5,30	1,24	2,59	1,86	:	3,06	2,90	1,57	6,69
1986	2,62	1,96	2,70	:	:	2,64	1,61	1,56	2,94	2,48	5,10	1,26	2,63	1,90	:	3,21	2,80	1,62	6,41
1987	2,50	2,04	2,66	:	2,18	2,64	1,45	1,65	2,94	2,38	4,65	1,13	2,52	1,88	:	3,40	2,75	1,63	6,19
1988	2,34	:	:	:	:	:	:	1,69	2,82	:	4,32	1,05	2,27	1,74	:	3,31	2,75	1,53	6,06
1989	:	:	:	:	:	:	:	:	2,71	:	:	1,08	:	1,64	:	3,41	2,57	:	:
1990																			
Average 1970s	2,67	2,36	2,96	5,35	1,21	2,70	:	1,61	2,91	4,00	5,17	1,10	2,49	1,61	2,11	3,22	3,21	1,35	5,51
Average 1980s	2,70	2,34	2,80	4,39	1,47	2,89	1,63	1,54	2,97	2,58	5,17	1,17	2,47	1,81	2,10	3,22	2,91	1,57	6,25

Source: Government finance statistics, IFS.

3.2. Minimum thresholds and economies of scale

A more powerful line of argument in favour of an international provision of defence policy is based on a series of arguments centred on economies of scale. In this respect, a two-step approach towards analysing a particular argument seems appropriate. First, it has to be ascertained whether there is a problem of minimum size for a club providing defence.[1] Second, the purely cost-reducing effect of increasing the size of such a club could be examined. A brief look at empirical evidence from the past could help to provide some insight into the first issue. It is more difficult to gain an insight into the second issue since this would require details of the input-output process, which cannot be readily quantified in money terms.

[1] See also Fontanel and Smith (1991).

In principle, history has shown that, below a certain threshold, little benefit is obtained by providing an army. Even the national level has often not been sufficient to guarantee peace. Consequently, multinational alliances have become a common pattern for providing defence and security. This is true at least where nations were actually attacked (e.g. the alliances in World War II) or felt threatened by very powerful potential aggressors (e.g. East-West conflict). In general, it can be said that the provision of defence at national level does not safeguard peace among nations while the provision of defence at supranational level does (under certain conditions). And so it can be argued that the provision of defence at supranational level satisfies the requirements of the principle of subsidiarity: whereas the lower level of government (the national level) does not provide defence in a satisfactory way, the higher level of government (the international level) does. In other words, a supranational defence policy can be deemed to be economically justified.

Overall, it can be said that the minimum size of a defensive military alliance is a powerful argument in favour of the international provision of defence. In this context, there is a positive correlation between the required threshold and the military, economic and political potential of the potential aggressor (or of the alliance to which the potential aggressor belongs).

Further potential economies of scale, i.e. the reduction in the (average) production cost brought about by an increase in the size of an alliance beyond the threshold is of only secondary importance for the size of a club although it is sometimes placed in the forefront of economic analyses. Three issues should be distinguished here: (i) an increase in the (national) defence budget to expand the size of the armed forces; (ii) widening of an alliance through the inclusion of new members as a means of expanding the size of the armed forces; and (iii) internationally coordinated public procurement of arms.

(i) The financial burden of defence policy does not depend primarily on the size or population of a given jurisdiction. It is, at first sight, fairly irrelevant for the optimal or appropriate size of the defence budget whether the defence alliance represents a population of 10 million, 100 million or 500 million. More relevant for the budgetary impact are: the financial burden which governments are willing to place on the shoulders of taxpayers; government preferences regarding the size of the army and the policy mix between defence, external trade and traditional foreign policy; and the military potential of the likely aggressor. Nevertheless, over and above a certain ceiling (e.g. expressed as a percentage of GDP), an increase in defence expenditure is counter-productive since it weakens a country's economic and political foundations. Statements like 'more helps more' or, to quote Fontanel and Smith (1991), 'God is on the side of the big battalions' assume a positive correlation between the size of armed forces and the probability of winning. This assumption will not be called into question here although the Lanchester model, put forward by Fontanel and Smith (1991) and 'suggesting that security (the probability of winning) is a quadratic function of numbers in a single battle between massed forces', seems to be a little too mechanistic and simplistic for it to be transferred to the concrete design of (international) defence policy. Furthermore, such a clear correlation may be confined to the bailing-out or roll-back function of defence and security policy while, in the case of the peace-keeping function, it seems more important to observe the minimum threshold rule. Nevertheless, the core message may hold up to the ceiling referred to above. There is something of a trade-off between defence spending, on the one hand, and economic and political stability, on the other. Therefore, it would only be logical to seek some form of international burden-sharing if the (economic and political) potential of a country did not allow a build-up in the armed forces to prevent military aggression.

(ii) In principle, such international burden-sharing is offered by international defence alliances since defence is a public good, i.e. national defence expenditure, mirroring the demand side, matches supply during peacetime as there is no competition for consumption. According to Fontanel and Smith (1991), this aggregation of defence expenditure and the merging of the armed forces of several countries into one international army have a disproportionately large effect on output, i.e. economies of scale are at work. However, where practical politics are concerned, an important qualification has to be made in this connection. Until now, international alliances have not been designed in such a way that several national armies were merged to form one international army. As long as several national armies exist within such an alliance, the extent to which economies of scale will actually be generated depends crucially on the institutions and decision-making processes involved in the provision of defence.

(iii) Of course, it is true that a significant cost-reducing effect can be expected if military hardware and software are standardized, but this does not require a supranational defence alliance. On the contrary, some diversification of non-standardized but compatible systems reduces the risk that the failure of a system will jeopardize the whole strategy. Furthermore, international *ad hoc* groupings of producers and of customers could be sufficient to generate economies of scale without interfering with the assignment of powers in respect of defence. National provision of defence in no way hinders (internationally coordinated) public procurement. Finally, even existing international alliances like NATO do not exploit all possible economies of scale as regards arms production. Here the principle of 'industrial return' or 'juste retour' predominates, making internationally provided weapon systems more costly as a rule than nationally provided ones, despite higher production figures and learning-curve effects. Fontanel and Smith (1991), who claim nevertheless that international collaboration (production) is cheaper than national production and, therefore, advocate the establishment of a European defence union, seem to confuse production-related and provision-related issues.

3.3. Digression: Institutions and credibility

History has shown that the provision of defence at supranational level requires a certain degree of institutionalization in order to be credible (in the eyes of the potential aggressor). Although its size remains important, it is more the 'quality'[1]

[1] This is not a reference to the 'quantity versus quality' debate in respect of arms. On this, see *inter alia* Fontanel and Smith (1991).

of an international alliance which matters in this respect. So it may not be enough simply to adopt bilateral or multilateral treaties guaranteeing mutual assistance in the event of aggression. Take, for example, the outbreak of World War II, when Germany attacked Poland even though Poland was protected by mutual assistance agreements with several other countries. Therefore, successful supranational provision of defence also requires permanent institutions and mechanisms to increase the credibility of alliances, as in the case of NATO. In other words, there is not only a minimum threshold for the size of an international alliance but also one for its credibility.

The arguments have so far been concerned with minimum requirements and thresholds for the size of an alliance, favouring a strong centralization of defence policy. The question of 'credibility', however, brings to light a crucial aspect of internationally provided defence policy: the political homogeneity among member countries. A lack of homogeneity can even paralyse such an alliance. Take, for example, the Security Council of the United Nations. In general, decision-making costs increase at a disproportionate rate when a club is extended to new members. In the case of the UN Security Council, decision-making costs have simply escalated out of control on account of the different options and goals of its permanent members. Consequently, the appropriate size of an alliance is also defined by political homogeneity among its members. As political homogeneity can be made an endogenous variable of the decision-making process, we will deal with this point in greater detail at the end of the paper.

3.4. Fiscal implications of a European defence union

In the past, EC Member States spent between around 1,5% (Luxembourg and Ireland) and more than 4% (Greece and the United Kingdom) of their GDP on defence, giving an average of around 2,5% of Community GDP, compared with more than 5,5% in the United States. Some 2% of this defence expenditure was related to the NATO budget. Other things being equal, a transfer of national powers and budgets in the defence field to a European body would require a budget equivalent to around 2,5% of European GDP.

However, the hope is that the dramatic changes in Eastern Europe will affect the level of defence spending in Western Europe too. The ending of the East-West conflict should provide a peace dividend, i.e. a reduction in national defence budgets, at least in the long run. Furthermore, the new shape of global politics will also alter the potential role of NATO or a Western European body in the defence field.

The prospects for a specific Western European defence policy depend crucially on assumptions concerning further developments in Eastern Europe. It is only on the assumption that the East-West conflict, which dominated the post-war period until the end of the 1980s, will be reactivated that a specific Western European defence policy could be justified. In general, there no longer exists any identity of interests and options between the United States and the European members of NATO in such a scenario, as the growing disharmony of the late 1980s showed. One reason for this might be found in the access to new military options which the United States enjoyed in the wake of technological progress. The discussion as to whether a nuclear war could be confined to Europe highlighted these new options. Consequently, European members started to look for an identity of their own by trying to reactivate the Western European Union (WEU). In terms of political economics, technical progress led to a change in the intensity of political homogeneity, with the result that decision-making costs in NATO rose as the frustration component increased for European partners. Although NATO's prevailing strategy at the time was still accepted, different options for American and European members of NATO prepared the ground for an — economically justifiable — restructuring of the organization. In such a scenario, an effective move could have been either to split NATO into its European and American components or, at least, to bundle together and coordinate institutionally European positions and interests with the help of a European defence body. Assuming that, in such a scenario, national contributions to the NATO budget were replaced by a single European contribution, the impact on the EC budget would correspond to about 0,05% of Community GDP.

The hope is that any potential aggressor in the East has now disappeared, thereby casting doubt on the justification given for a specific Western European defence policy. Furthermore, the transfer of entire national defence budgets to a supranational organization cannot be justified on economic grounds or expected for political reasons.

A resolution of the East-West conflict in the medium term would create new options for defence policy in Europe. Firstly, there would no longer be a need for a powerful army and a huge defence budget in Western Europe to deter an equally powerful potential aggressor in Eastern Europe. Secondly, close cooperation with East European countries could allow defence policy to be focused on providing a European peace-keeping force, along the lines of the UN peace-keeping force, or a European Rapid Deployment Force, along the lines of that established by the United States. While the purpose of the former would be confined to facilitating peace negotiations after a military conflict had broken out, the purpose of the latter — apart from its deterrence function — would be to roll back an agressor.

Here the role of Western Europe or of Europe as a whole could be to contribute to such a policy, perhaps under the aegis of the United Nations or as part of the Helsinki process. An assignment of powers in respect of such a defence policy would not directly interfere with the existing powers of national governments since it would, in a way, belong to a new policy field, i.e. would fill a vacuum. For this reason, the countries of Europe would be more likely to accept such an institution. A significant budgetary impact would be expected only at times of political crisis, while in peacetime the size of the budget could be quite minimal. A back-of-the-envelope calculation of the budgetary implications of a European Rapid Deployment Force suggests an impact equivalent to less than 0,2% of Community GDP.[1]

4. A European external affairs policy?

In general, the goal of external policy is to defend the interests of all(!) domestic citizens against the interests of foreigners in an appropriate and efficient way. Interests extend to the economic sphere so that an external affairs policy includes both classical foreign policy and external trade policy. Other things being equal, a reduction in the number of borders should mitigate the need for an external policy, while an intensification of cross-border transactions would, other things being equal, require more resources for external policy. It is useful to distinguish between two components of external policy in that the economic analysis below will produce different recommendations for these two components. The first is the negotiation of bilateral and multilateral treaties, rules and codes. The second is the provision of individual services through embassies. Here too, the analysis is confined to determining whether the criteria 'spillovers' and 'economies of scale' should be cited as justification for European powers in this field.

4.1. International negotiations

The results of internationally negotiated treaties and codes are classic public goods. On the one hand, nobody can be prevented from enjoying them even if he has not contributed to their financing. To give an example: no citizen or firm in a country which took part in successful peace negotiations or global trade negotiations can be excluded from the benefits these negotiations provide.[2] On the other hand, excluding individuals or even individual countries from the benefits of existing treaties is, in principle, not necessary since there is no increase in negotiating costs.

In general, external (trade) policy is a source of tremendous spillovers that distort factor allocation.[3] However, these externalities stem not from market failure but from government failure, in the context of an ill-defined public decision-making process, paving the way for excessive rent-seeking activities.[4] As regards external trade policy, these externalities show up, for example, in a reduction in the value of property rights when import prices are artificially raised without any compensation for domestic consumers. The reason for this is that, in general, neither the democratic equivalence principle, i.e. the identity of those who benefit (domestic producers) and those who have to pay (domestic consumers), nor the democratic principle that those who are burdened (domestic consumers) have to dominate the decision-making process, is followed.

At first glance, however, such externalities do not argue in favour of a change in the size of the club providing the external (trade) policy or the introduction of compensating payments between jurisdictions. Indeed, they require 'only' a revision of the respective intracollective decision-making process that brings in all the domestic groups affected, especially the poorly organized latent consumer groups.[5] A revision of this kind would reduce welfare losses stemming from the successful rent-seeking activities of domestic producers.

Nevertheless, if the number of international (trade) borders is reduced by creating supranational customs unions, the scale of distorting spillovers caused by such an ill-defined trade policy is, in principle, also reduced. Consequently, a

[1] The calculation is as follows: take globally oriented and hence quite mobile armed forces such as the US or UK armed forces, which comprise professional soldiers, i.e. conscripts are not allowed. Then calculate military expenditure per 1 000 men. This works out at around ECU 100 million in the United Kingdom and ECU 150 million in the United States. The option of a European Rapid Deployment Force of some 60 000 men would thus cost between ECU 6 billion and ECU 9 billion a year, equivalent to 0,2% of Community GDP in peacetime.

[2] See Fratianni and Pattison (1982), who give examples for negotiations within GATT and the United Nations.

[3] We do not restrict the definition of 'externalities' to that given by Arrow (external = outside the price system), using instead the wider definition given by Meade (external = outside the decision-making process). See Arrow (1970), Meade (1973) or Cornes and Sandler (1986).

[4] The seminal article of Krueger (1974) on the 'rent-seeking society' was inspired by protectionist external trade policy. For an overview of the theory of rent-seeking, see, for example, Tollison (1982). See also Baldwin (1982) on rent-seeking activities in the field of external trade policy.

[5] For the characteristics of such latent groups, see Olson (1965 and 1982).

second-best solution for 'real-world' constraints could be to transfer external trade policy to a supranational institution, as in the case of the European integration process.[1] It should, however, be borne in mind that such a transfer should be no more than an intermediate step along the road towards improving the intracollective decision-making process.

Some economies of scale[2] could perhaps be realized in the field of international negotiations if countries with similar and compatible options and approaches were to join a club with a view to negotiating with one voice. They could come about in two ways:

(i) Firstly, they could be of a more technical nature in that, for example, they facilitated or paved the way for global negotiations by reducing the number of different negotiating positions. In this way, a 'heavy' simultaneous negotiation at global level would be replaced by a 'lighter' lagged negotiation technique. As a first step, a compromise would be reached in the subgroups of a global conference while, as a second step, the positions of these subgroups would be the subject of negotiations. Economies of scale would be realized if additional negotiating and decision-making costs in the subgroups were more than offset by the reduction of negotiating and decision-making costs in the global forum. Since this kind of grouping is generally becoming more and more prominent in global negotiations, the indications are that there is genuine scope for such economies of scale in global negotiations.

(ii) Secondly, and more to the forefront of economic and political discussions, certain economies of scale could be realized not only by reducing the number of different negotiating positions but also by strengthening an individual negotiating position through an increase in the number of members backing that particular position.[3] These members hope that the additional benefit stemming from international coordination or 'speaking with one voice' more than offsets the loss of genuine negotiating powers, i.e. intracollective decision-making (compromise) costs rise by less than the additional benefit stemming from a stronger coordinated negotiating position.

Once again, however, just as crucial as the size of the club backing a particular position is its credibility or 'quality', which manifests itself in the degree of political homogeneity. Economies of scale will be realized only if there is a high degree of political homogeneity among members of the group, i.e. if starting conditions (e.g. historical background) and options are similar and compatible. The institutional and strategic weakness of all multinational alliances derives from the risks of 'opting out' and 'paralysis'. This is a result of existing regional alliance structures, which allow member countries different options where political homogeneity is lacking since individual members can be approached separately. Consequently, a potential aggressor (in the case of a defensive alliance) or the negotiating partner may try to break up the club by proposing different options to individual members, tempting them to opt out of the club or at least to opt out of the club's initial strategy. Such a breaking-up strategy may be more difficult in clubs organized along functional lines with majority voting. Here it is more difficult for members to opt out of the club since they cannot be regionally separated. An example of a regional club would be a European Community in which the Council, i.e. the representatives of the 12 Member States, had the final say, while an example of a more functional club would be a similar Community in which the European Parliament had the final say.

4.2. Embassies and their services

As regards the second function of external policy, namely the service function of embassies, the economic analysis is slightly more straightforward. First, services provided by a network of embassies are not pure collective goods, but club goods, i.e. non-paying beneficiaries can easily be excluded from such services. The fiscal resources needed to operate such a network could, therefore, easily be funded out of fees. Consequently, spillover effects having a bearing on the assignment of powers should not be expected. Economies of scale, however, could be realized by widening the membership of the club providing these services. For example, replacing embassies of EC Member States with an EC embassy could reduce average costs for the services provided, especially in smaller third countries and for the smaller Member States. Such a strategy is actually encountered in the foreign policy field in cases where, for example, smaller countries like Belgium and Luxembourg or Denmark and Norway share embassies or where France and Germany share embassies in smaller countries. However, the latter rarely happens since larger countries still prefer not to have an embassy in every country to sharing an embassy with another country. Where replacing Member States' embassies

---

1 However, there is a serious risk that such a shift of powers will also lead to a shift of suboptimal national solutions to the international level. See, for example, Teutemann (1990).

2 'Economies of scale in the present context cover not only tangible cases where the fixed costs consist of production facilities, but also the less tangible (although here more important) case of fixed costs that contribute to effective bargaining power in international economic affairs' (MacDougall, 1977).

3 In connection with what follows, see also MacDougall (1977).

with an EC embassy is concerned, a common European citizenship could contribute to realizing economies of scale since it would reduce the risk of potential discrimination.

4.3. Fiscal resources devoted to external policy

The budgetary impact of classical external policy is quite minor. According to the national budgets of the external affairs ministries, whose remit also comprises contributions to international organizations and financial resources for the embassy network, Community Member States spend about 0,01 to 0,02% of GDP on these items. Furthermore, these budgets also include cultural work abroad so that, overall, the cost of running the 12 networks of foreign representations probably does not exceed 0,01% of Community GDP. Assuming that these (12) national networks were replaced by a single European network, the budgetary impact would be much smaller if economies of scale were realized.

5. A European policy of assistance to third countries?

Financial assistance to third countries could be justified on allocative, redistributive and stabilization grounds. Although none of these categories should be seen in isolation, there is a strong case for believing that one of them normally serves as the predominant driving force for different financial assistance programmes. In practice, several financial assistance instruments are used, ranging from unilateral transfers to conditional, non-subsidized public loans.

5.1. Allocation

An economic justification for international (European) intervention in national policies dictated mainly by allocative considerations can be found if public transfers are designed to compensate for positive international externalities stemming from goods or services provided by the recipient country.[1] In the case of so-called global public goods (e.g. the tropical rain forests in Latin America), inhabitants of countries other than the country providing the good (jurisdiction) benefit from the provision of the good without having to pay for the benefit they receive (problem of property rights). Without such transfers, the country providing the good does not take these additional welfare gains into account and, consequently, these goods are generally provided in insufficient quantities. Through conditional grants to these countries, the quantity of goods and services provided will increase.

Examples of this are transfers to protect the tropical rain forests in Latin America and transfers to improve a country's infrastructure provided that the infrastructure projects receiving assistance are designed to complete international networks, e.g. road infrastructure projects in the former Yugoslavia to improve links between Greece and other EC Member States. In a broader sense, the unilateral transfers in connection with the 1990-91 Gulf crisis could also be subsumed under this allocative justification if the results achieved by the Allied troops were regarded as positive externalities benefiting the rest of the world. Transfers with such an allocative purpose normally rank as conditional grants since they are geared to a specific purpose.

In general, such transfers, justified on allocative grounds, are not yet widespread and, with the exception of unilateral transfers in connection with the Gulf War, are still quite insignificant in volume terms. This has to do with the free-rider problem (problem of property rights). Although the corresponding goods and services are provided in insufficient quantities, free-rider nations still benefit without having to pay. As there is no institution at the European or global level that is able to compel potential free riders to contribute to the financing of such goods and services, these countries feel better off by not paying as long as they can continue to benefit from such externalities.

On account of the free-rider and property-rights problems, allocative transfers made to third countries as compensation for the benefits stemming from global public goods should not exceed 0,01% of GDP in the medium and long run. The fact that compensating payments are seriously considered as a means of protecting tropical rain forests in Latin America does not serve as an argument to qualify the contents of this analysis. It serves more as an indication that the sustainability of positive spillovers is no longer guaranteed.

From an economic point of view, it makes a great deal of sense to try to institutionalize global allocative compensating payments with the help of international (European) or even global institutions. Firstly, potential donor countries may be more willing to commit themselves to such transfers if they realize that other countries will also contribute to the provision of the global collective good. In this way, the risk stemming from the free-rider mentality could be mitigated. Secondly, decision-making costs may be reduced as well, leading to lower transaction costs, since several bilateral negotiations could be replaced by a single multinational forum.

1 In connection with what follows, see Scheube (1992).

5.2. Redistribution[1]

Transfers which serve mainly as mechanisms for international redistribution either between regions (jurisdictions) or within the institutionalized framework of an international social security system are encountered even less often than those made for allocative purposes. While no international social-security system as yet exists, unconditional international grants-in-aid, the typical form of redistributive transfers, are scarcely in evidence.

It transpires that even 'development aid' more closely resembles subsidies to promote the donor's domestic industry than a redistributive transfer, being either linked to strict delivery obligations or consisting directly of deliveries from industrialized countries (e.g. food aid). At present, industrialized nations devote on average some 0,4% of their GDP to such a policy of export promotion, even though a political commitment to spend at least 0,7% of GDP on development aid was agreed upon back in the early 1970s.

The main reason for a lack of institutionalized systems of international redistribution is the lack of a 'veil of ignorance', normally guaranteeing a 'fair' and efficient system of redistribution.[2] Since the richer countries or individuals know that they would have to pay into such a system, they attempt to minimize the resources allocated to it, while poorer countries and individuals, who hope to benefit from such a system, attempt to increase those resources. In economic theory, mobility serves as an adjustment tool to 'harmonize' different local or regional redistribution schemes. In practice, however, mobility is still quite limited at (sub)national level. Until now, international mobility too has, for various reasons, been quite minimal, at least as regards migration from poor developing countries to rich industrialized countries.

However, international (global) transfers to poorer countries are often replaced by international loans. Some of these loans could perhaps be described as being designed to serve redistributive purposes, e.g. development aid not constrained by strict delivery obligations. The fact that these payments show up as loans rather than unilateral transfers and the fact that they are, if anything, special-purpose loans rather than unconditional loans can be explained by political considerations in the donor country.[3] Firstly, loans can be more easily justified to the tax-paying electorate than unilateral transfers. Secondly, loans that have a merit component, e.g. by fostering public infrastructure investment in the poorer recipient countries, encounter less reluctance on the part of the donor country.

Nevertheless, international migration, albeit on a fairly small scale and still hindered by strict discrimination against non-nationals, has already led to some political changes in richer countries, indicating that wealth-sharing and solidarity are not widespread in practice and are certainly limited at international level. Furthermore, it remains doubtful how long national borders can be kept closed to immigration, especially in view of the changes in Eastern Europe. Ultimately, it might be more efficient to set up an international redistribution mechanism than to 'solve' the challenge of international redistribution through international migration since it is unlikely that rich nations can avoid both large-scale immigration from poor countries and large-scale redistributive transfers in the long run.

If migration on a huge scale is to be forestalled by an international redistribution mechanism, there is clearly a need for an institution which either coordinates or replaces national efforts. Such institutionalization is necessary to resolve the free-rider problem and to secure sufficient financial backing for a redistributive agency of this kind, i.e. massive externalities and minimum-size (economies-of-scale) considerations argue in favour of an internationally coordinated or supranationally managed system of global redistribution and social security.

5.3. Stabilization

Unlike transfers made primarily for allocative or redistributive purposes, transfers made primarily for stabilization purposes are widespread, e.g. the special drawing rights of the IMF or the balance-of-payments loans of the Community. Depending on the nature of the stabilization problem (temporary and cyclical, or long-lasting and structural), transfers resemble (balance-of-payment) loans or grants. The former are by far the most common. On the one hand, they are designed to help a jurisdiction overcome liquidity problems of governments stemming from a sharp and sudden slowdown in economic activity or from other economic 'shocks' (e.g. capital-market interventions). Such loans are, in general, unconditional loans. With a view to underpinning a longer-lasting adjustment process in individual countries, conditional bilateral and multilateral grants have been added to the instrument of balance-of-payments loans.

Such stabilization loans and grants are often provided by multinational agencies, e.g. the IMF, the World Bank or the European Community. Multilateral cooperation is justified not only by free-rider problems but also by minimum-scale

1 For further details, see Teutemann (1993).
2 See Rawls (1971) or Buchanan (1974).
3 See Kuhlmann (1993) or Teutemann (1993).

considerations. Firstly, a country on the verge of bankruptcy could have negative spillovers on world capital markets, especially if it were a large country. Secondly, since most governments are already quite heavily indebted, enormous stabilization loans or grants made to a country in trouble could overburden the economic capacity of individual donor countries. This is particularly so in cases where the stabilization problem is longer-lasting and more structural in nature, with the result that a country providing a loan has no hope of recovering it immediately.

At first sight, there is no economic reason why, in addition to the IMF or the World Bank, other international agencies organized along more 'regional' lines should provide international balance-of-payments loans etc., since this would require further coordination and cooperation at international level without any improvement in efficiency. On reflection, however, there are two reasons why other permanent or ad hoc agencies should be set up.

Firstly, it has to be borne in mind that, in general, such 'regional' subgroups, e.g. the Group of 24 (G24) or the Community, comprise richer nations which, as a rule, are normally also the main donors within global institutions. By organizing themselves outside the framework of global institutions, perhaps only on an *ad hoc* basis, they can provide loans and grants in a more flexible way without feeling constrained by the procedures and rules of those global institutions and without setting a precedent for similar situations. In general, such *ad hoc* or permanent cooperation does not reduce the amount of capital available for such loans. On the contrary, it normally generates additional resources.

Secondly, stabilization loans and grants act as a form of insurance (against the adverse consequences of imminent illiquidity). Although minimum-size considerations underscore the need for a globalization of such 'insurance' institutions, it has to be remembered that subglobal agreements in general fulfil the requirement of minimum size since they comprise the richest economies in the world. Furthermore, a multilayered 'insurance' system whereby the global level acts as a kind of lender of last resort could also be justified. Finally, the fact that such groups provide additional capital serves as an indication that 'solidarity' can be increased either by reducing the size of the providing group or by exploiting the special (historical) relations which potential beneficiaries have with potential donors.

5.4. Fiscal implications of assistance to third countries

It is difficult to assess the fiscal implications of European assistance to third countries since the crucial criterion will be the willingness of Western European countries to provide assistance. As regards traditional development aid, there would seem to be a case for setting the upper limit at 0,4% (actual outlays) or 0,7% (political commitment) of GDP. With respect to financial assistance to East European countries and economies, Western European governments may be less reluctant to act as a result of geographical, historical and political considerations. However, any boost in transfers to these countries will be dependent on economic and budgetary prospects and dynamics in Member States. And so, given the convergence requirements and the current unsustainable fiscal positions, budgetary constraints in the run-up to EMU will clearly limit the scope for significant increases in transfers. Consequently, transfers to developing and Eastern European countries might be equivalent to no more than 1 to 2% of Community GDP in the coming decade. However, in order to overcome fiscal constraints in Western Europe and to meet fiscal needs in Eastern Europe, Member States may be prepared to countenance substantial lending in the years ahead.

References

Arrow, K. J. (1970), 'The organization of economic activity. Issues pertinent to the choice of market versus non-market allocation', in Haveman, R. H. and Margolis, J. (eds), *Public expenditure and policy analysis*, Chicago, p. 59 et seq.

Baldwin, R. E. (1982), 'The political economy of protectionism', in Bhagwati, J. (ed.), *Import competition and response*, Chicago, London, p. 263 et seq.

Beutler, B., Bieber, R. Pipkorn, J. Streil, J. (1987), *Die Europäische Gemeinschaft. Rechtsordnung und Politik*, third edition, Baden-Baden.

Buchanan, J. M. (1977/74), 'Who should redistribute what in a federal system?', in Hochman, H. M. and Peterson, G. E. (eds), *Redistribution through public choice*, New York, p. 22 et seq.

Commission of the European Communities. (1977), 'Report of the study group on the role of public finance in European integration (MacDougall Report) — Vol. I: General report', published in *Studies, Economic and financial series*, No A 13, Brussels, Luxembourg.

Cornes, R. and Sandler, T. (1986), *The theory of externalities, public goods, and club goods*, Cambridge.

Czempiel, E.-O. (1989), 'Europa nach der "Überwindung des Containment"', *Europaarchiv*, Vol. 44, p. 373 et seq.

Fontanel, J. and Smith, S. (1991), 'A European defence union?' *Economic policy*, Vol. 13, p. 393 et seq.

Fratianni, M. and Pattison, J. (1982), 'The economics of international organizations', *Kyklos*, Vol. 35, p. 244 et seq.

Haftendorn, H. (1988), 'Transatlantische Dissonanzen. Der Bericht über 'Selektive Abschreckung' und die Strategiediskussion in den USA', *Europaarchiv*, Vol. 43, p. 213 et seq.

Kravis, I. and Davenport, M. (1963), 'The political arithmetic of international burden sharing', *Journal of Political Economy*, Vol. 71, p. 309 et seq.

Krueger, A. (1974), 'The political economy of the rent-seeking society', *AER*, Vol. 64, p. 291 et seq.

Kuhlmann, J. (1993), 'Community loan and loan-related instruments' (this volume).

Küsters, H. J. (1982), *Die Gründung der Europäischen Gemeinschaften*, Baden-Baden.

Lindemann, B. (1978), *EG-Staaten und Vereinte Nationen. Die politische Zusammenarbeit der Neun in den UN-Hauptorganen*, Munich, Vienna.

MacDougall (1977), see Commission of the European Communities (1977).

Meade, J. E. (1973), *The theory of economic externalities. The control of environmental pollution and similar social costs*, Leiden.

Olson, M. (1968), *Die Logik des kollektiven Handelns. Kollektivgüter und die Theorie der Gruppen*, Tübingen.

Olson, M. (1982), *The rise and decline of nations. Economic growth, stagflation, and social rigidities*, New Haven, London.

Olson, M. and Zeckhauser, R. (1966), 'An economic theory of alliances', *Review of Economics and Statistics*, Vol. 48, p. 266 et seq.

Rawls, J. (1971), *A theory of justice*, Cambridge, MA, Harvard University Press.

Rummel, R. (1982), *Zusammengesetzte Außenpolitik. Westeuropa als internationaler Akteur*, Kehl am Rhein, Strasbourg.

Scheube, J. (1992), *Die Entwicklungshilfe im Lichte der finanzwirtschaftlichen Ordnungspolitik. Ein Beitrag zur ökonomisch funktionalen Gestaltung der Entwicklungspolitik*, Berlin.

Teutemann, M. (1990), 'The completion of the internal market. An application of public choice theory', in Commission of the European Communities (ed.), *Economic papers*, No 83, Brussels.

Teutemann, M. (1992), *Rationale Kompetenzverteilung im Prozeß der europäischen Integration. Ein Beitrag zur finanzwirtschaftlichen Ordnungspolitik*, Berlin.

Teutemann, M. (1993), 'Interpersonal vs. interregional redistribution at the European level — as seen from the perspectives of fiscal federalism and public choice theory', (this volume).

Tollison, R. D. (1982), 'Rent-seeking. A survey', *Kyklos*, Vol. 35, p. 575 et seq.

Von der Groeben, H. (1982), *Aufbaujahre der Europäischen Gemeinschaft. Das Ringen um den Gemeinsamen Markt und die Politische Union (1958 – 1966)*, Baden-Baden.

Walsh, C. (1993), 'Fiscal federalism: an overview of issues and a discussion of their relevance to the European Community' (this volume).

The rationale for the common agricultural policy and other EC sectoral policies

Knud J. Munk

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

The views expressed in this paper do not necessarily represent the official position of the Commission of the European Communities.

Tables

Summary

This paper considers within a public finance framework the explanation and rationale for EC sectoral policies in general and for the common agricultural policy in particular.

It first briefly considers the rationale for government intervention for one-level government under first and second-best assumptions.

Under second-best assumptions, the information costs of government intervention are taken into account and therefore both raising government revenue and redistributing income are costly. Any government intervention involves a trade-off between distributional and efficiency considerations. It is therefore not possible to divide government instruments between those used to obtain distributional objectives and those used to achieve objectives of economic efficiency. The effects on both resource allocation and income distribution of any government intervention must therefore be taken into account.

The analysis of government intervention at European Community level is based on the assumptions that it must respect the subsidiarity principle and that the responsibility for distributional policies belongs to the Member States.

The role of the Community under first-best assumptions, as in the traditional fiscal federalism literature, is a straightforward extension of the first-best analysis assuming only one-level government.

Under second-best assumptions the analysis becomes more complex because even if the Community is not assumed to have any redistributional objective as such, intervention at EC level must take into account the distributional objectives of the Member States in the case of intervention for market failure and because Member State policies to pursue fiscal and redistributional objectives may create spillover effects where there is no market failure which may require government intervention at EC level.

Government intervention at Member State level to achieve fiscal and distributional objectives may create spillover effects through cross-border trade and migration. This justifies EC intervention to avoid tax competition. To obtain agreement on common rules is difficult when tax rates differ due to differences in consumption patterns and redistributional objectives. A striking result which comes out of the second-best framework is that Community-financed subsidies to social insurance, health and education in low-income Member States — with low subsidies to these services to limit migration from these Member States — can be in the interest of all Member States even if each is only concerned about the welfare of its own citizens.

The paper then discusses the justification for EC policies in relation to declining industries. The formation of a customs union of countries with price support systems requires the creation of a common policy in order to have common external protection. Other types of support do not require a common policy but rather EC regulation to prevent that support in one Member State via internal and external trade adversely affecting other Member States.

The last chapter of the paper deals with agricultural support policies. High productivity growth and low demand and income elasticity for agricultural products have put pressure on farm incomes in most industrialized countries. In response to this, most industrial countries have adopted price support policies. This was the case for the countries which formed the original European Community. At that time the formation of a customs union was the essential element of the Community and the common agricultural policy was therefore a logical consequence of the formation of the European Community.

The distortion costs and financial costs of the CAP have increased as European agriculture has increased its supply elasticity, as the Community has built up export surpluses and as European agriculture has created increasing negative externalities. At the same time, the costs of alternative support measures have decreased due to increased administrative efficiency, and the need for sector-specific support measures has decreased due to the creation of social security systems which also cover agriculture. Pressure for a shift from price support to direct income support has been building up.

A shift from price support to direct income support will, however, not only generate important efficiency gains, it will also change the rationale for having a common agricultural policy, a fact which until now seems not to have been widely realized. When the Member States use price support schemes a common agricultural policy is a logical consequence of the formation of a customs union. However, according to the subsidiarity principle there is no reason why direct income support which is motivated by redistributional and other objectives should not be the responsibility of the Member State.

The last part of the paper considers the budgetary implications of three options with respect to the future of the common agricultural policy:

(i) continuation of existing policies in terms of a continuation of the trend in domestic agricultural prices of the last 10 years;

(ii) implementation of the Commission proposals for reform of the CAP (the Mac Sharry proposals);

(iii) shift from price support to decoupled direct income support under the responsibility of the Member States.

Under the first option, the budget costs are likely to increase by 2 to 3% a year from the 1990 level. Under the second option, the budget costs are likely to increase at the same rate as under the first option for the period until 1996, but then by a lower rate. Under the third option, the budget costs could increase significantly during the first years of reform but would then decrease sharply.

The budget costs of providing privileged access to the EC market for exports from the new market economies in Eastern Europe and the former Soviet Union and the cost of integrating the agricultural sectors of the East European economies in case of accession will be highest in the first option, smaller in the second option and lowest in the third option.

1. Introduction

This paper considers government intervention at European Community level in relation to specific sectors, in particular the agricultural sector.

An important purpose of the paper is to demonstrate that EC involvement in these areas cannot be understood, whether for descriptive or normative purposes, on the basis of efficiency objectives alone. Even if the Community has no distributional objectives, those pursued at Member State level are important for an understanding of Community policies and for an indication of how they may be improved.

In traditional public finance theory and in the fiscal federalism literature, which are based on first-best welfare economics, it is assumed that distributional and efficiency objectives can be achieved by separate instruments.

However, in modern public finance theory it is recognized that this separation is not valid because cost-free lump-sum transfers are not feasible. Generation of revenue for the government and redistribution of income involve real costs, both because they create distortions and because they are associated with administrative costs. That is why there is a trade-off between distributional and efficiency objectives. Both the distributional and the allocational impact have to be considered simultaneously in the context of any government intervention.

This paper starts in section 2 with a brief review of the role of government according to welfare economic theory under first- and second-best assumptions, respectively. In section 3 the rationale for sectoral policies under second-best assumptions is considered in more detail. Section 4 considers the role of EC sectoral policies based on the subsidiarity principle and on the assumption that it is a Member State responsibility to achieve distributional objectives.

In the final section, this framework is used to explain the rationale for the common agricultural policy, and to argue that support to the agricultural sector in the EC (as in other developed economies) is likely to shift from price support to direct income support and that this, in turn, is likely to set the stage for a transfer of the main part of budgetary responsibilities for the CAP from the Community to the Member State level which could be of considerable political significance.

2. Brief review of the role of government intervention according to public finance theory[1]

2.1. First-best welfare economics

First-best welfare economics deals with the problem of welfare maximization when the government is assumed to redistribute income among households by lump-sum transfers, i.e. payments which are based on criteria such that the households are not able to influence their size by changing their behaviour.

The market, under certain conditions, without government intervention will establish a Pareto efficient allocation, i.e an allocation where no one can be made better off without somebody else being made worse off. The role of the government in this case is limited to guaranteeing private property rights and to establishing the socially optimal allocation by lump-sum transfers. The socially optimal allocation is that allocation of the infinity of Pareto efficient allocations where the distribution of income is optimal from the point of view of the government's social welfare function.

In the framework of first-best welfare economics a number of instances of market failure are recognized:

(i) externalities;

(ii) public goods; and

(iii) increasing returns to scale.

In order to maximize social welfare, governments have to intervene:

(a) for externalities, to make sure that the agents generating the externalities are taxed and/or subsidized according to the evaluation of the externalities by the other agents;

(b) for public goods, to supply the good until the sum of the willingness to pay for an increase in the good corresponds to the marginal costs;

(c) for increasing returns to scale, to make sure that the price is set equal to marginal costs.

The implementation of these rules ensures that a Pareto efficient allocation is established.

[1] For an introduction to this subject, see Atkinson and Stiglitz (1980).

Government intervention to correct for market failures will affect the government's budget and the income distribution. These effects, however, can be disregarded because it is assumed that the government corrects by lump-sum taxes for effects on the budget and by lump-sum transfers for the effects on income distribution; and because it is assumed that this can be done without cost.

2.2. Second-best welfare economics

Second-best welfare economics recognizes that information available to the government decision-makers is never complete and is always costly to obtain. Without costs, governments cannot, if at all, observe those characteristics on which it ideally would like to base taxation and income redistribution. Moreover enforcement of government schemes to tax and redistribute income is costly. Taxes to raise government revenue and income distributional measures must in practice be based on criteria, such as income, which can be observed by the government without infinite costs, but which, however, the households are in general able to influence. The instruments actually used for purposes of taxation and income redistribution are associated with both administrative costs (implementation and enforcement costs) and distortion costs.[2] Cost-free lump-sum transfers are in other words not feasible. It is generally the case that the more selective a measure is with respect to its redistributional impact, the higher the administrative cost and the higher the distortion costs. There exists, therefore, in a second-best framework a trade-off between equity and efficiency considerations.

Policy recommendations based on second-best welfare economics are therefore more complex than those based on first-best welfare economics. Under first-best conditions where income can be redistributed and tax revenue raised without cost, to achieve the socially optimal allocation, income will be redistributed to the point where there is no difference in the social value of income between different social groups. Recommendations can therefore be based on the effects of government intervention on aggregate income. Under second-best conditions the social value of income for different social groups (e.g. consumers, producers and taxpayers) will differ also in the case of the socially optimal allocation.

[2] An efficient allocation requires that the marginal rate of transformation in production and consumption is the same. Distortion costs arise when this is not the case. Taxes and transfer measures will in general imply that the rates of transformation in production and in consumption will differ.

When the costs of redistributing income are taken into account, income will only be redistributed until the marginal benefits in terms of an improved income distribution correspond to the marginal costs. This condition has to hold for all government instruments. The income distributional implications must therefore be taken into account in all cases of government intervention.

2.3. The relevance of welfare economics

Welfare economics can be used both to try to understand government behaviour (descriptive) and as a basis for assessing government policies and for providing policy advice (normative).

Redistributional and budgetary implications of government intervention are at least as important for government decision-making as the allocative effects. Second-best welfare economics is therefore better at explaining government behaviour than first-best welfare economics. As a framework for understanding government behaviour both first- and second-best welfare economics are, however, limited by the fact that it is assumed that the objective function of the government can be represented by a consistent social welfare function which attaches welfare weights to households on equity grounds. In reality, government preferences need not be consistent and are likely to reflect as much the pressure of interest groups as equity considerations.

As a normative framework, welfare economics has to be assessed on the basis of how realistic its positive assumptions and how relevant its value judgements are. The simplistic picture of the political process mentioned above may limit the relevance of welfare economics in general. The recommendations based on first-best welfare economics are straightforward but disregard the important constraints which the cost of information imposes on the choices open to the government. This leads to disregard of the distributional consequences and too little concern for budgetary implications of government action. Recommendations based on first-best welfare economics therefore run the risk of being irrelevant not only for policymakers, who may be unduly influenced by special interests, but also for the political discussion in general. Second-best welfare economics provide no easy-to-follow recommendations but highlight in a consistent framework the trade-off which policymakers are faced with in all cases of government intervention in the economy between allocative, budgetary and income distributional effects.

3. Sectoral policies under second-best assumptions

Under second-best assumptions the income distribution and the efficiency aspects of government intervention cannot be separated. The rule for government intervention which can be derived in this framework therefore becomes more complicated. The taxation of externalities, for example, will be less than in a first-best framework if the tax has to be paid mainly by people with low incomes if governments (as is usually the case) attach higher weights to lower income groups. The budgetary implications of government intervention also become more important because raising government revenue is recognized to be associated with distortion costs and administrative costs. The supply of public goods will be different from that under first-best assumptions, in general lower, but possibly higher if the poor benefit significantly. In the case of public sector pricing, the rule that price must be equal to marginal costs is modified to take into account the budgetary implications of governments having to provide subsidies when marginal costs are below average costs, and the income distributional effect of charging a different price.

Furthermore, it becomes possible to understand the rationale for government activities such as income taxation and subsidies to social insurance, education and health, where there is no convincing rationale for government intervention in a first-best framework, and how such intervention is affected by distributional considerations.

The second-best framework also provides an 'economic' explanation for the observation that governments, in the case of declining industries with severe adjustment problems, such as coal, steel, shipbuilding and agriculture, have pursued policies with considerable distortion costs in order to achieve distributional objectives. These industries are characterized by the fact that they are located in areas where they play a dominating role in the local economy and where the mobility of labour is limited. An economic shock to such industries therefore can cause considerable pressure on local incomes and considerable social disruption. Furthermore, if there were to be a rapid transfer of labour from one geographical area to another this may be associated with external costs due to the underutilization of local public infrastructure in the area which is deserted and increased demand for public goods in the area where the population increases.

Government aid to declining industries can be given as:

(i) lump-sum payments;

(ii) subsidies to the primary factors engaged in the industry;

(iii) subsidies to the output from the industry; and

(iv) price support (border protection).

In the case of lump-sum payments, resource allocation is not directly distorted. Primary factor subsidies, however, distort the allocation of primary factors, but in general are less distorting than output subsidies, which also distort the ratio between output and intermediate input prices. Price support, which for traded commodities has to be implemented by border measures, is the most distorting instrument because it also distorts consumption.

As one goes from lump-sum transfers to primary factor subsidies, to output subsidies and finally price support the distortion costs are increased, but the information and transaction costs and budget costs tend to decrease.

In the case of lump-sum payments and primary factor subsidies, information at the level of the individual factor owners is needed. In the case of output subsidies the output of each firm has to be controlled in order to prevent output which has already received the subsidy returning to the firms to be submitted once more for subsidy. Price support requires the least information. It only requires control at international borders.[1]

The differences in budgetary costs are also important. In the case of the first three instruments, the total support is financed by budget expenditure. In the case of price support all (or most) of the support comes from the consumers. In the case of an importing country, price support actually raises government revenue.

The ranking of support instruments also depends on the period over which support will be given. The distortion due to primary factor subsidies, output subsidies and price support will increase the longer the support is given because factors of production need time to adjust. The relative importance of information costs tends to fall with time, in particular because support schemes often have considerable set-up costs. This suggests that price support is relatively more efficient in the case of temporary shocks whereas lump-sum payments are relatively more efficient in case of shocks with a permanent effect.

The fact that price support or output subsidies often are used at a level which is very difficult to justify even within a second-best framework may be seen to reflect the short time horizon implicit in the electoral cycle and the scope for influence on the political decision-making process which such policy instruments create for vested interests.

4. Sectoral policies at Community level

4.1. The public finance framework for Community policies

For the purpose of this analysis we will assume that EC policies are based on two principles:

(i) the responsibility for redistributional policies belongs to the Member States;[2]

(ii) public intervention at Community level must be based on the subsidiarity principle.

To capture this in a public finance framework we assume:

(a) that each Member State seeks to maximize a social welfare function defined only on the real income of its own citizens;[3]

(b) that the Community wants to implement policies which will improve the social welfare of the Member States but without decreasing the social welfare of any one Member State.

A policy change in this framework will be desirable only if all Member States are at least as well off after the policy change as before it, i.e. if the policy change implies a Pareto

[1] Newbery and Stiglitz (1981) have shown that trade intervention may be beneficial when domestic markets fail to allocate risks due to adverse selection and moral hazard. A number of trade theorists have also recognized the role of variable tariffs as insurance (see for example Corden, 1974, pp. 320–321 and Baldwin, 1982, pp. 272–273). The information and enforcement costs associated with lump-sum transfers provide in the case of declining industries an analogous justification for the use of price support to achieve redistributional objectives.

[2] If, alternatively, we had assumed that the Community had a redistributional responsibility in addition to the redistributional responsibility of the Member States this could have been represented by a social welfare function defined on the real income of all citizens in the Community. If the EC social welfare function could be represented as a function of the social welfare of the Member States, the analysis of the role of the Community in relation to sectoral policies would not differ from the results derived here. The optimal allocation among Member States would then be achieved by lump-sum transfers between the Member States. (Whereas lump-sum transfers are not feasible to achieve redistributional objectives among individual households due to information costs, they are more easy to implement among States.) Only if the EC social welfare function did not respect the rankings of Member States with respect to the real income of their own citizens would further EC intervention be justified.

[3] This implies that income redistribution in the Community is a 'local' public good within each Member State.

improvement in relation to government objective functions of the Member States.

This framework contrasts with the traditional public finance framework (see, for example, Musgrave, 1959, and Oates, 1972) where redistributional policies are allocated to the central authorities because redistribution creates incentives for the poor to migrate to localities with a high level of redistribution and the rich to move to areas with a low level of redistribution.

However, the level of cohesion within the Community is not strong enough to create a strong desire to redistribute income between individuals in different Member States, even if there is a significant desire to redistribute within each Member State. Income redistribution is a local public good (Pauly, 1973). This point has been represented by the framework adopted by assuming that the objective function of each Member State only depends on the real income of its own citizens.

Except where otherwise specified, we assume that expenditure on EC policies is financed by contributions from the Member States in relation to their shares of Community GNP. Assuming that all decisions require unanimity, certain policy changes which imply potential Pareto improvements (in the sense that the gainers are able to compensate the losers and still be better off), but which are not actual Pareto improvements, will not be implemented. Only in exceptional circumstances, where the potential gains are sufficiently high, will side-payments be arranged, as in the case of the United Kingdom rebate.

In other words, we assume that the Community as such is not pursuing explicit redistributional objectives. However, even so, as will be argued below, the redistributional implication of sectoral policies cannot by neglected either from a descriptive or a normative perspective.

Under first-best assumptions the EC should intervene:

(i) to provide public goods where an efficient operation requires such a scale that benefits transcend the borders of a Member State;

(ii) to internalize externalities generated by economic agents in one Member State which affect the economic agents in another Member State;

(iii) to regulate industries with increasing returns to scale where an efficient scale of operation requires fewer than one industrial operation per country.

These are straightforward generalizations of the first-best rules for government intervention mentioned in section 2. The welfare effects for each Member State could be calculated by adding the changes in real income for consumers, producers and taxpayers in the respective countries. To the extent that EC sectoral policies would not make all Member States better off, side-payments could be made in the form of lump-sum transfers between the Member States. There would be no need to know the distributional value judgements of the individual Member States.

The rules for EC sectoral policies in a second-best framework are more complex basically for two reasons:

(i) because the effect of public intervention at Community level to correct for market failures has to take into account the income distributional and fiscal consequences within each Member State;

(ii) more significantly, because for fiscal and redistributional reasons the Member States will pursue policies (which are justified in a second-best, but not in a first-best, framework) to redistribute income and to raise government revenue which create spillover effects even where there is no market failure.

The following section elaborates upon the second of these reasons.

4.2. Community policies in relation to redistributional policies at Member State level which create spillover effects

Second-best policies imply that governments will introduce price wedges to achieve fiscal, redistributional and other objectives which cannot be achieved directly (as in the case of petrol or alcohol where the consumption generates externalities which cannot be taxed directly). The fact that Member States cannot pursue these policies independently will in itself imply a welfare loss which must be justified by the benefits achieved by the creation of the internal market.

In the case of tradables, cross-border trade erodes the possibility of achieving government objectives. Differences in commodity tax levels create spillover effects when border control is eliminated. Purchases in country A with a low tax rate by citizens of country B with a high commodity tax rate reduce welfare in country B. The problem of harmonizing differences in commodity tax rates would not be great if Member States had only fiscal objectives. The role of the Community would mainly be to prevent tax competition, which could be done by specifying a minimum tax rate for all commodities. This would force the Member States to put equal weights on commodity and income taxation, which would not imply an important welfare loss.

Commodity taxes, however, are also motivated by the desire to achieve redistributional objectives and to deal with externalities. There is, therefore, a role for the Community to regulate commodity taxes in a more detailed way. If, for example, most Member States wanted to have a lower tax on food for distributional reasons, then specifying a lower minimum tax rate for food than the general rate would potentially be welfare-improving. Similarly, if most Member States wanted to tax luxury items and items such as petrol, alcohol and cigarettes with significant negative externalities (either directly, or indirectly due to the effect on government-financed social and health services), a rate higher than the minimum rate would be desirable. The point is, therefore, that regulation at Community level will depend — and ought to depend — on the distributional objectives of the Member States, and differences in the distributional impact and in distributional value judgements will explain differences in the attitude of different Member States to tax harmonization to reduce spillover effects.

In the case of non-tradables, the spillover effects may seem of less importance. However, spillover effects are not only created by trade but also by migration. For distributional reasons, governments subsidize education, health, housing and social insurance. The level of subsidization will be different in different Member States due to differences in income level and differences in distributional value judgments. These differences will induce migration. This will motivate all governments (by assumption only being concerned about the welfare of their own citizens) to reduce the level of subsidization, leading to a sub-optimal situation, which could justify regulation at EC level. Subsidies to education, health, housing and social insurance are typically higher in Member States with a high income. One would therefore expect migration from low income Member States to high income Member States to take advantage of the higher subsidies. One way of dealing with this at Community level would be to specify minimum subsidies or minimum standards. This would, however, impose costs for the low income countries, who might therefore block such measures if they are not compensated. It might, however, be welfare-improving for all Member States if subsidies to health, education, housing and social insurance, financed from the EC budget, were made available to low income countries. This argument is similar to the analysis of externalities through migration-related effects by Wildasin (1990 and 1991).

This analysis illustrates that a policy which redistributes income among Member States and which therefore may create the appearance that Community intervention (contrary to what has been assumed above) was motivated by redistributional objectives, in fact can be explained as a Pareto improving policy. It is in the self-interest of each Member State to have policies at EC level which internalize the spillover effects created by Member State policies aimed at redistributing income among their own citizens. Naturally, the results crucially depend on the fact that Member States are obliged to extend employment and social rights and benefits to citizens from other Member States (Treaty of Rome, Articles 48 and 51).

4.3. Community policies in relation to declining industries

As mentioned in section 2, governments can support industries by price support sustained by border measures (import tariffs, export subsidies or quotas), by output subsidies (deficiency payments) or by input subsidies.

In a customs union, different price support schemes among Member States are not logically feasible. Price support, therefore,will either have to be harmonized at Community level or else be abolished. Implementing price support schemes in such a way that all Member States become better off is very difficult. First, a shift from a national to an EC price support scheme creates a change in the budget implications of price support. Instead of receiving border taxes related to its own trade, a country implicitly will receive a share (corresponding to its share of Community GNP) of total EC border tax revenue. The optimal price from the point of view of a given Member State will therefore change when the responsibility is transferred from the Member States to the EC level. Second, Member States are likely to differ considerably with respect to what they consider to be the optimal price for a given product due to differences in the degree of self-sufficiency, the level of income in the relevant industry relative to the level of income in other sectors, and differences in social security schemes which provide alternatives to deal with income distributional problems.

This suggests that price support involves significant harmonization costs. The likelihood that price support is an optimal policy at Community level is therefore smaller than for each Member State separately.

Output and input subsides create spillover effects (as does price support) by affecting international trade prices. In a first-best framework, importing countries benefit from increased support in other countries, whereas exporting countries will suffer. In a second-best framework, even importing countries may suffer because decreasing international prices will decrease the income in the industry which is under pressure or increase government expenditure. Due to different welfare weights, this may represent a loss according to the objective function of the government, even if the real income gain to consumers is greater than the real income loss in terms of decrease in producer income and increase in government budget costs. This justifies regulation at EC level to limit subsidies to industries at Member State level. Such regulation could logically take the form of an EC tax on the Member State subsidies reflecting the negative spillover effect on other Member States. To calculate such a tax, however, is difficult because the damage to other countries has to be evaluated and there is a need to take into account the different weighting of changes in consumers' and producers' incomes and in government budget costs.

5. Agriculture and other sectoral policies

5.1. Introduction

The common agricultural policy (CAP) in terms of expenditure and in terms of historical significance, is the most important EC policy and certainly the most important sectoral policy. During the 1980s the CAP has taken roughly two-thirds of the EC budget expenditure and even if this share is declining it is likely to remain by far the biggest item on the EC budget during the 1990s.

A central requirement for understanding the motivation for, and the development of, the CAP is to see it as a set of instruments to slow down the speed of structural adjustment in an industry of declining relative importance with a geographically localized workforce with few alternative employment opportunities. The support given to agriculture may in this perspective be seen as analogous to the support given to coal, steel and shipbuilding, where the policymakers are faced with a trade-off between reducing the pain of structural adjustment and reducing the costs of distorting resource allocation. The instruments which traditionally have been used — not only in the Community but also in most other developed economies — to achieve a balance between these two objectives are price support policies. The analysis of EC agricultural policy thus provides an illustration of the application of the second-best framework established in the previous section in order to understand EC sectoral policies.

5.2. Why price support policies in most European countries in the post-war period?

The historical importance of the CAP for the European Community is reflected by the fact that its objectives are enshrined in Article 39 of the Treaty of Rome. These objectives include:

(i) ensuring a fair standard of living for farmers;

(ii) stabilizing markets for agricultural products;

(iii) ensuring availability of supplies.

These objectives were in the post-war years pursued by nearly all European countries at the time the European Community was created. The basic instruments used were price support policies. These policies must be seen in the light partly of the deficiency situation during and immediately after the war and partly of the strong pressure on farm income during the post-war period due to strong productivity growth and low price and income elasticities for agricultural products.

A price support policy works essentially by increasing the domestic price received by producers and paid by consumers through border measures. For an importer this is achieved by variable import tariffs (or import levies), and for an exporter by variable export subsidies (or export refunds).

The price support policy has the double function of stabilizing domestic markets, by isolating domestic prices from price instability in international markets, and of transferring income from consumers to producers. In an import situation price support policies will also transfer income to taxpayers in terms of tariff revenue whereas in an export situation the transfer from consumers will be increased by a transfer from taxpayers (the export subsidies).

Price support policies, compared with direct income support policies, are associated with lower administrative costs. Price support only requires control at country borders whereas direct income support typically requires control at the level of the individual farmer. Price support is less costly in budget terms than direct income support because price support transfers income from the consumers rather than from the taxpayers. Price support, on the other hand, has higher distortion costs than direct income support.

As an instrument for supporting the income of workers and operators in an industry which suffers under the pressure of structural adjustment (the first objective), price support policies compare relatively favourably with direct income support policies within a second-best framework which recognizes that the administrative and distortion costs of raising government revenue and redistributing income (see Munk, 1989):

(a) if the price support is given to a product for which the country is a net importer so that price support is associated with positive government revenue (tariff revenue);

(b) if the administrative infrastructure is weak so that the opportunity costs of government revenue and the implementation and enforcement costs of alternative transfer instruments are high ;

(c) if the income distribution among the factor owners is relatively equal so that the transfer is well targeted;

(d) if the supply elasticity is low so that the costs in terms of distortion of production are small (as will be the case if the use of intermediate inputs is low, the mobility of the primary factors is low and if the support is provided for a short time period);

(e) if the demand elasticity is low so that the costs in terms of distortion of consumption are small.

It may be argued that during the 1950s these conditions were satisfied for the agricultural sector in most of the Northern European countries. The importance of the food security objective (objective 3) at that time provided a further argument for price support.

It is therefore not surprising that all importing European countries (see Tracy, 1989), with the exception of the United Kingdom, supported their agricultural sector during this period with price support policies. The fact that the United Kingdom supported its farmers with deficiency payments may be explained by the fact that such a system in the United Kingdom with relatively few, large farms and a reliable administrative infrastructure was less costly in administrative terms than on the Continent. It also makes sense that exporting countries such as Denmark and the Netherlands had a lower level of protection than importing countries like Sweden and Germany.

5.3. The creation of the CAP

When the CAP was created, the European Community was basically a customs union: indeed its creation was a logical implication of the customs union (see section 4.3). It harmonized the level of agricultural support prices in the Member States and allocated the tariff revenue and export subsidies associated with trade in agricultural products to the EC budget. This, however, had two effects:

(i) harmonization losses: social welfare, according to the objective functions of the Member States' governments, decreased because the level of price support was changed from the preferred level;

(ii) transfer effects: the CAP redistributed income because tariff revenue and export subsidies associated with EC external agricultural trade were allocated to the EC budget (the budget transfer effects) and because agricultural products were now traded between Member States at the support prices rather than world market prices (the preferential trade effects).

The net transfer effects are the transfer effects minus the budget contribution effects. The budget contribution effects are the total budget effects split between the Member States according to the shares by which they contribute to the EC budget.

Whereas the net transfers represent a redistribution between the Member States which adds up to zero, the harmonization of the levels of support represents a net loss (measured on the basis of the objective functions of the governments joining the customs union).

The creation of the CAP, therefore, redistributed income from the countries with a relatively low agricultural production relative to consumption of agricultural products to those with a relatively high ratio. France and the Netherlands benefited from the customs union for agricultural products and Germany lost, but this was compensated partly by the creation of a customs union for industrial products where the opposite was the case and partly by the fact that the German Government had a relatively strong preference for supporting its agricultural sector. At that time, the protection of industrial products was still high compared with today. The level of protection for agricultural products, e.g. grain, was, however, as one would expect in the second-best framework applied here, higher in grain-importing Germany than in grain-exporting France.

The fact that the CAP originally was not as controversial a policy as it later became can be attributed to the fact that the difference in the ratio between agricultural production and consumption was relatively small between the original six Member States and because they had similar agricultural policies at the outset. Both the harmonization loss and the transfer effect were therefore relatively small.

For an understanding of the agricultural policy decision-making process in the Community, two observations are important.

First, countries with a relatively large agricultural production relative to agricultural consumption will, given the joint financing arrangements, prefer a higher support price than if they were on their own and vice versa.

Second, those countries where the support price has been harmonized downwards, e.g. because farmers' incomes are relatively low compared to the average incomes in the country, want the common price adjusted upwards.

Whereas the first effect is captured in a first-best framework, this is not so for the second. However, it provides a possible explanation why a country like Germany which has a negative net transfer has supported a high price support level.

5.4. The economic effect of the CAP

The representation of the CAP as essentially a price support policy is a simplification which, however, captures its essence. The CAP today also includes direct support instruments such as output subsidies, subsidies to processors and consumers to compensate for the high domestic prices and quantitative restrictions to reduce the budget costs of export subsidies. Furthermore, intervention buying has always been an important instrument to stabilize domestic prices as has the withdrawal of products from the market in the case of non-traded agricultural commodities.

In 1990 the European Agricultural Guidance and Guarantee Fund (EAGGF) represented expenditure of ECU 27 billion, 58% of all EC expenditure, or around 0,6% of Community GNP. The EAGGF consists of two sections: The 'Guarantee' section which covers the costs of income and price support to the agricultural sector and the 'Guidance' section which, through investment grants, promotes the restructuring of the agricultural sector and the agricultural processing sector. The EAGGF Guarantee Fund is by far the most costly component with expenditure in 1990 of ECU 25 billion. The agricultural policy also generates revenue to the EC budget, from variable import tariffs and from producer levies associated with the sugar policy, amounting to roughly ECU 2 billion.

As a simplification, the budgetary costs associated with the CAP can be divided into those which are associated with:

(i) providing income support to the farmers and (partial) compensation to consumers and processors for the higher than world market prices for agricultural products;

(ii) storage of agricultural products (such costs might in principle be incurred without providing income support to farmers with the objective of stabilizing agricultural prices).

The budget costs in the first group in 1990 were around ECU 19 billion whereas the costs in the second group were around ECU 6 billion (see Table 1).

Table 1

Net CAP expenditure, 1990

(million ECU)

1.	Net costs associated with price support, agricultural sector producer subsidies and subsidies to compensate consumers and processors for high prices, relative to world market prices, of agricultural products	
1.1.	Costs associated with price support	
	Import taxes (import levies)	−1 173
	Export subsidies (export refunds)	7 722
	Depreciation to world market prices of increased stocks	1 100
	Withdrawal	640
1.2.	Agricultural sector producer subsidies	
	Beef, sheep, durum and wheat premium	2 273
	Other production aid	6 635
	Co-responsibility levies	−938
	Sugar levies	−911
1.3.	Subsidies to consumers and processors	3 808
1.4.	Total (A)	19 156
2.	Storage costs and other budget costs	
2.1.	Other EAGGF Guarantee	
	Storage cost: technical expenses	366
	Storage cost: financial expenses	214
	Depreciation due to price decreases and deterioration	1 630
	Private storage	748
	ACA, MCA	307
	Guidance premium	712
	Other costs	−171
2.2.	EAGGF Guidance	1 825
2.3.	Total (B)	5 631
3.	Total EAGGF net of import and sugar levies Totals (A)+(B)	24 787
4.	Total EAGGF Guarantee	25 046
	Guideline	30 630
	Margin	5 584

Source: Court of Auditors of the European Communities (1991) and own estimates.

The budget costs in the first group (the budget costs associated with price support etc.) may be distributed among the Member States according to where they were spent. This is done in Table 2 for 1980 – 85. During that period the average budget costs in the first group amounted to just over ECU 8 billion, i.e. just over 40% of the 1990 level. In the political debate there has been a tendency to concentrate on the distribution of net budget transfers, i.e. each Member State's share of the budgetary expenditure minus each Member State's contribution to that expenditure (calculated on the basis of its share in the total contribution to the EC budget by the Member States) in order to assess the net impact of the CAP. This disregards, however, the preferential trade effects (see Table 2). This increases in general the net budget transfers. However, as the case of Italy illustrates, this is not a rule without exceptions.

The net transfer/budget contribution ratio may be taken as a rough indicator of how much the agricultural production/agricultural consumption ratio differs from the Community ratio. Table 2 shows that the differences between the original six Member States (Belgium, Germany, France, Italy, Luxembourg and the Netherlands) in 1980-85 were relatively modest, whereas the Member States which joined the EC in 1973 (Denmark, Ireland and the United Kingdom) differed significantly from the EC average.

The budget costs are even more misleading as an indicator of the total transfers to the farmers due to the CAP. The OECD (1990) has calculated the measures of the transfers through the CAP to the EC farmers for a set of agricultural products which covers around three-quarters of agricultural production. In 1990 the transfers were ECU 64 billion, of which ECU 50 billion came from consumers and ECU 14 billion from taxpayers.

The net transfers add up to zero whether the transfers are distributed among consumers, producers and taxpayers, or distributed between Member States as in Table 2. They therefore do not provide a measure of the economic costs to society of the support which the CAP provides to the agricultural sector. The real income gains to farmers are less than the transfers received and the real income losses to the consumers and taxpayers are greater than the transfers paid. The real income changes of farmers, consumers and taxpayers due to the CAP are, however, very difficult to estimate with any precision. Brown (1988) has estimated the net real income loss to the Community for 1980-85 to be on average ECU 10 billion per year (see Table 2). However, the longer the time horizon, the greater the total net real income losses. The estimate for a short time horizon may be too big, but for a long time horizon too small. The net real income loss to the owners of the resources employed in the agricultural sector would, after a period sufficiently long for capital and labour to be able to obtain employment in other sectors at normal returns, only be equal to that part of the total transfers which is reflected in higher land rent; the rest of the transfers would represent a real income loss to society.

Table 2

Transfers between Member States due to the CAP
Average for 1980-85

(million ECU)

	BLEU	DK	D	GR	F	IRL	I	NL	UK	EUR 10
Budget transfer	205	487	626	997	2 595	473	2 217	1 007	– 327	8 280
Budget contribution	310	169	2 399	131	1 904	74	1 232	437	1 624	8 280
Net budget transfer	– 105	318	– 1 773	866	691	399	985	570	– 1 951	—
Preferential trade effect	– 104	467	– 420	– 103	667	585	– 1 081	542	– 553	—
Net transfers	– 209	785	– 2 193	763	1 358	984	– 96	1 112	– 2 504	—
Net transfer/budget contribution	– 0,67	4,64	– 0,91	5,82	0,71	13,30	– 0,08	2,54	– 1,54	—
Producer real income gain	1 050	1 166	7 096	1 720	8 964	1 166	6 284	2 616	4 975	35 041
Consumer real income loss	1 260	583	9 537	1 341	8 230	510	6 594	1 873	7 316	37 246
Net real income effects[1]	– 520	414	– 4 840	248	– 1 170	582	– 1 542	306	– 3 965	– 10 485

[1] The net real income effects are the producer real income gain minus the consumer real income loss and minus the budget contribution.
Source: Brown (1988) and own calculations.

To assess the real income loss to society due to the CAP the administrative and distortion costs of raising government revenue and the administrative costs and other costs associated with the CAP should also be taken into account.

5.5. Pressure on the CAP

The pressure for change to the CAP has been created partly by its enlargement, and partly by economic developments in the EC countries.

The enlargement of the Community created a much greater diversity between the Member States with respect to the ratio between agricultural production and consumption (see the net transfer/budget contributions ratio in Table 2). The redistributional effects therefore, became relatively more important than before. Also, the losses through harmonization arguably became larger because at least one country differed significantly from the rest. Farms in the United Kingdom on average, are much larger, and the farmers are better off relative to the population in general, than on the Continent. Fewer farms imply that the administrative costs of a more efficient agricultural support system were lower in the United Kingdom than they would be on the Continent, and the higher farm income implies that the need to provide support was smaller. This explains why the United Kingdom, prior to accession, had an agricultural support system based on output subsidies, which only increased the prices received by producers but not those paid by consumers. It also explains why the United Kingdom's accession to the Community created a pressure on the CAP which was only partly resolved through the rebate on budget contribution granted to the United Kingdom.

Community domestic agricultural prices have been decreasing over the last 10 years in real terms, but the decreases in world market prices have been even steeper, increasing the gap between domestic and world market prices. Community agricultural production, however, has increased relentlessly due to strong productivity increases in the agricultural sector which have more than compensated for the decreases in real prices.

This has transformed the Community from a net importer to a significant net exporter of agricultural products and has increased EC agricultural budget expenditure strongly. It also has strained EC trade relations with other exporters of agricultural products. The rapidly increasing EC export of grain in particular has soured trade relations with the USA. The main pressure on the CAP stems, however, from the fact that it increasingly has been seen as inefficient in achieving its objectives.

As an instrument to increase the income of those farmers who are below the national average, the CAP is seen to be increasingly costly in terms of budget and distortion costs. Price policy also appears to be an inefficient instrument for maintaining social infrastructure in rural areas and also has led to increasing environmental degradation as a consequence of modern farming practices.

The evolution in the EC countries, as in most developed countries, has decreased the weight of the second-best arguments which in the 1950s and 1960s counted in favour of price support (see section 5.2). The transfer efficiency of price support has decreased as the Community has become an exporter of northern agricultural products, and the supply elasticity of agricultural production has become bigger due to increased use of intermediate inputs and capital and due to the increased mobility of labour as a result of the greater scope for part-time farming with decreasing costs of private transport. Most European countries today have a social security system which also covers farmers, which was not the case just after the war. The administrative costs of direct income support measures have decreased with modern data-processing technology. With the shrinking relative importance of the agricultural sector, the increased budget costs of switching from price support to direct income support are less likely to increase the opportunity costs of government revenue to unacceptable levels.

With respect to the two other objectives of the CAP mentioned at the beginning of section 5.2, the evolution has also decreased the attractiveness of price support policies. Today there is less reason to stimulate agricultural production for reasons of food security than just after the war, partly because agricultural production has increased significantly, partly because the risk of international crises which could cut off food supplies has decreased. The development and increased sophistication of capital markets combined with the increased size of commercial farms has decreased the need for price support as an instrument to stabilize agricultural income.

5.6. The future of the CAP

Against the background of the evolution described in the previous section, there has emerged a political will to reduce the level of price support and to replace it with less distorting direct income support, i.e. subsidies linked to primary factor use, or subsidies which are not linked to current production (so-called decoupled payments). This has been reflected, for example, in the Punta del Este declaration issued at the start of the current round of international trade negotiations in 1986 and in the OECD ministerial communiqué of 1987. It is also reflected in the proposals for reform of the CAP by the European Commission (see Commission of the European Communities, 1991a and Commission of the European Communities, 1991b).

Relatively little progress has been achieved in concrete terms with respect to a shift from price support to direct income support over the last few years notwithstanding political intentions. However, within a second-best framework, this is understandable in light of the potentially very significant budgetary implication, the substantial initial decision costs at the political level and the considerable administrative costs of establishing the legal and administrative framework for providing direct income support.

To replace the current transfers from consumers of ECU 50 billion (as estimated by the OECD) with transfers of the same order of magnitude from the EC budget would clearly pose a major problem. In the political process, transfers from the budget clearly carry a greater weight than transfers from consumers. The value to the farmers in terms of higher income of the transfers from taxpayers and consumers is, however, worth far less, especially when seen in a longer time perspective, than the transfer itself. The loss to labour and capital of removal of price support would be temporary as in the long run these resources can find employment in other parts of the economy at the same returns that they are currently receiving in the agricultural sector: only the losses to land would be permanent. There seem, however, no valid reasons why landowners should receive permanent compensation for a decline in land rent. Full compensation has not been paid in other sectors adversely affected by structural adjustment problems. The challenge is to devise a way — during a period of transition until the factor allocation has adapted to lower prices for agricultural products — to achieve the income support objectives and the other objectives of the CAP more efficiently than it is possible by price support. To pretend that this is an easy task, however, would reflect a superficial understanding of not only the political, but also the economic, problems involved.

The EC policymakers are, in fact, at a crossroads where they face a number of interrelated dilemmas with respect to the agricultural policies:

(a) In order to be more efficient at achieving the objectives of the common agricultural policy with respect to farm income, social infrastructure in rural areas and the environment, a shift from price support to direct income support should be undertaken. But how to provide direct income support still needs to be worked out and is likely to be associated with substantially increased costs to the EC budget.

(b) In order to avoid a substantial increase in EC budget costs, the responsibility for direct income support could be turned over to the Member States. This, however, would be politically difficult because it would involve a significant income redistribution among the Member States.

(c) If the shift from price support to direct income support was stretched over a number of years (say 10 years), Member States would have more time to adjust and this would make it easier to reach agreement. This, however, would create problems in relation to the USA, which requests a rapid decrease in the EC grain surplus as a condition for a GATT agreement.

(d) It would be possible to reduce EC agricultural production by quantitative restrictions on EC exports, in particular grain exports, sufficiently to satisfy the USA and other trading partners. However, quantitative restrictions are administratively costly and economically inefficient and may make it more difficult to reduce the support to the agricultural sector in the long run.

These dilemmas become more concrete when seen in relation to three alternative options for the future of the CAP:

(i) continuation of existing policies in the sense that agricultural prices will be reduced in real terms at the same rate as during the last 10 years;

(ii) implementation of the Commission's proposals for reform of the CAP (the so called Mac Sharry proposals, see Commission of the European Communities (1991b));

(iii) a shift from price support to decoupled direct income support financed by the Member States, but subject to the usual EC restrictions on State aid, with temporary compensation of the Member States.

5.6.1. Continuation of existing policies

The economic costs of continuing existing policies will very much depend on the evolution in world market prices. World market prices are not likely to fall in real terms at the same rate as in the 1980s. The gap between EC prices and world market prices therefore may be reduced if domestic prices were reduced at the same rate as during the last 10 years. However, budget costs would still increase due to increasing production and hence increasing export subsidies. The budget costs under this option would be likely to increase by 2 to 3% a year, i.e. in line with the expected increase in

GNP. The increase in budget costs would therefore not be unsustainable.[1]

A continuation of existing policies is not likely to be consistent with an agreement in GATT and therefore would be likely to lead to increasing trade tension, in particular in relation to the USA. It would also create problems in relation to the new market economies in Eastern Europe and the former Soviet Union. They are likely to ask for privileged access to the EC market. Such access, however, will be very costly to the Community and the benefit to the new market economies would be much less than the value of a direct grant corresponding to the costs to the Community of providing privileged access.

5.6.2. The Mac Sharry proposals

The key element in the Mac Sharry proposals is the reduction of grain prices close to the world market price level, and the reduction of the area planted by set-aside provisions. For this, the farmers would be compensated by direct income support linked to the area planted. In the animal sector prices would be reduced moderately and production constrained by quantitative restrictions and extensification requirements (reductions in the number of animals in relation to the area of land). The farmers here would be compensated partly by headage premiums and partly by the decrease in feed prices (which is the consequence of the proposed decreases in grain prices).

If implemented, the Mac Sharry proposals will lead to a significant reduction in grain exports, as a result of: (i) extensification of production (decrease in the use of inputs other than land) as a consequence of the shift from price support to direct income support; (ii) the reduction of the area planted due to the set aside provision; and (iii) the increased use of grain for feed.

The Mac Sharry proposals have therefore been estimated[2] in the medium term not to be more costly in budget terms than a continuation of existing policies as defined under the previous option, even if they imply a shift from price support to direct income support, and hence a replacement of transfers from consumers with a transfer from taxpayers. The Mac Sharry proposals do not suggest any reduction of direct payments over time. The fact that compensation is mainly linked to land use implies that the aid will be even more reflected in land prices than the previous price support. It, therefore, will be very difficult to remove the subsidies when land has been traded at prices which reflect these subsidies. Budget costs are therefore likely to increase in the longer term, as production picks up.

The budget implications of the Mac Sharry proposals also give ground for concern in relation to the new market economies in Eastern Europe and the former Soviet Union. To provide access to the Community for agricultural exports from these countries, under these proposals, also will be costly in the animal sector, where the pressure for providing access is greatest. Furthermore, the budget costs of integrating the agricultural sectors of these countries in the CAP under a system of direct income support linked to area planted and the number of animals would be very high and could constitute a barrier for accession.

It seems likely that on the basis of the Mac Sharry proposals it will be possible to reach an agreement in the present GATT negotiations. A multilateral trade agreement will help to reduce the budget costs by increasing world market prices for agricultural products. With the implied significant reductions in EC grain exports it seems likely that it will be possible to satisfy the USA. The limited reduction of protection in other sectors will not be of major concern to the USA and will probably not be sufficient for other trading partners to block a GATT agreement.

5.6.3. Decoupled direct income support

The last option requires, first of all, that ways of providing direct income support decoupled from production are found to compensate farmers for the income loss due to removal of price support. The administrative problems of this, especially in the economically weaker Member States, should not be underestimated. Once a breakthrough has been achieved in terms of finding a politically and administratively acceptable form for providing decoupled direct income support, the shift from price support to direct income support could be dramatic since the marginal administrative costs of increased direct income support via the new instruments could be minor. One would expect that the prices would be reduced most rapidly for those products, such as grain, where the Community is currently a net exporter.

Moreover, a shift from price support to direct income support has important implications for the role of the Community in agricultural policy which seem not yet to have been widely recognized. Price support in a customs union implies a common policy because price support is achieved by border measures. Direct payments do not require a common policy, because they do not rely on border measures.

[1] This assessment is based on simulation results produced by the ECAM model (see Folmer et al., 1989).

[2] See Commission of the European Communities (1991c).

On the contrary, there are good reasons why Member States would differ with respect to how to provide compensation and with respect to the level of such compensation. In the economically most advanced countries compensation based on previous production might be feasible; in other countries compensation could be based on structural characteristics (e.g. land area, numbers of animals) and where even these could not be observed, simply on past employment in the agricultural sector. The level and the duration of compensation in different Member States are likely to depend on the relative level of income for farmers compared to other social groups and how difficult it is to obtain employment in other sectors. How to coordinate compensation with payments from social security systems would also differ from one Member State to another.

Hence there are, according to the subsidiarity principle, good reasons why direct income support to farmers should be the responsibility of the Member States. A common policy in this respect is likely to involve a considerable harmonization loss. The schemes for direct income support adopted by each Member State naturally should be subject to approval by the Community as for other State aid schemes, such as the ones for coal and steel, in order to limit the negative spillover effects. Compensation schemes based on historical criteria (production, structural characteristics or employment) would always be acceptable because they would not involve any distortion of production decisions. Since the reduction of the common price level to the world market level would reduce the spillover effects of increased production in one Member State, direct income support based on current employment to small farms in disadvantaged areas might also be acceptable.

The payments required to compensate fully the present primary factor owners for the reduction in income due to lower support prices would be less than the transfer they receive at present and would decrease over time. The losses to labour and capital decrease as these resources find employment in other sectors, either through migration or through depreciation and retirement. The reduction in income to the landowners would be permanent and increasing over time as capital and labour leave the agricultural sector. If landowners were compensated only for the loss in land rent for the rest of their lives, cash flow could be maintained and the capital loss would only be realized at the time of inheritance or sale.

The need for compensation calculated along those lines would decrease rapidly over time, because the age profile of farmers is highly skewed towards old farmers. As with other sectors adversely affected by structural adjustments, most Member States would not find it necessary to compensate farmers irrespective of economic circumstances. Compensation therefore would be made degressive with respect to wealth and income in most Member States.

Drawing on the second-best framework established above, consideration is now given to the question of the political feasibility of a shift from price support to direct income support.

It seems in this context reasonable to start with the following two tentative observations:

(i) given the reluctance of the Member States to increase the EC budget, it will not be politically feasible to compensate farmers with anything approaching the transfer of more than ECU 50 billion (1990) they receive from the consumers due to price support;

(ii) given the significant income redistributional impact among Member States of the CAP, it would not be politically feasible to reduce EC agriculture prices to the world market price level without some compensation being provided from the EC budget to those Member States which stand to lose most from such a change.

To be politically feasible, a policy change involving a shift from price support towards decoupled direct payments must imply a social welfare improvement in relation to the objective functions of the governments in each Member State. Each Member State would evaluate a proposal concerning a change in the CAP according to the change in harmonization loss and the change in net transfers it would imply. The previous analysis suggests, other things being equal, that countries with highly developed social systems and efficient administrations will be more likely to choose a direct income support solution than less-developed countries with many small farms placed in areas without access to alternative employment. This suggests that the harmonization loss of direct income support for countries like Denmark, the United Kingdom and the Netherlands would be rather low, whereas the harmonization loss for countries like Greece, Portugal and Spain could be relatively high.

From the point of view of net transfers due to the CAP, countries which are net exporters of agricultural products, such as Denmark, Ireland, France and the Netherlands would lose whereas countries like the United Kingdom and Germany would gain from a removal of price support if no compensation is paid from the Community budget (see Table 2).

This suggests that a shift from price support to direct income support could be politically feasible if:

(a) the shift is gradual, say over 10 years, with the adaptation to world market prices being faster for agricultural commodities where the Community is a net exporter;

(b) the Member States which are net exporters of agricultural products are given temporary compensation from the EC budget in relation to the reduction in net transfer;

(c) part of the administrative costs of providing direct income support is financed by the Community.

Such a policy change is likely to increase the budget costs in relation to the EC agricultural policy in the short to medium term, depending on the speed of adaptation of domestic EC prices to world market prices, but, unlike the two other options, it offers the prospect that EC agricultural budget costs could be reduced significantly from their present level by the end of the 1990s without making any Member State worse off.

Under this scenario, the EC's problems arising from the CAP, in relation to its trading partners and in relation to the new market economies in Eastern Europe and the former Soviet Union, could be reduced significantly.

The USA might not get as big a gain in terms of reduced EC grain exports and hence higher world market prices for grains in the short term as under the Mac Sharry proposals, but could expect bigger gains in the longer run, and would in any case find it difficult to oppose a reform which is clearly based on the liberal principles promoted officially by the USA.

If this option were adopted, the costs of providing access to the EC market for agricultural exports from the new market economies would fall rapidly, not only for cereals as under the Mac Sharry proposals, but also for animal products. It also would remove the barriers to accession which the CAP implies for integrating the agricultural sectors in Eastern Europe into the CAP under the two previous options. It also is likely in the case of accession that the harmonization loss for these countries, due to the adoption of the EC level of price support, would be smaller than under the two other options, although it has to be kept in mind that, at the time when accession will be relevant, they will be at a level of development where their agriculture will be under similar pressure to Western Europe at the time the CAP was created. The structural adjustment problems in the agricultural sector in these countries will also exist under this option but, unlike the two other options, it prevents expectations about a high level of agricultural protection in the case of accession to the Community. Creating such expectation is likely to increase the costs required, eventually, to deal with these structural adjustment problems.

References

Atkinson, A. B. and Stiglitz, J. E. (1980), *Lectures on public economics*, London, McGraw-Hill.

Baldwin, R. E. (1982), 'The political economy of protectionism', in Bhagwati, J. (ed.), *Import competition and response*, University of Chicago Press.

Brown, C. (1988), *Price policies of the CAP. Retrospect and prospect*, Institute of Agricultural Economics, Copenhagen.

Commission of the European Communities. (1991a), 'Development and future of the common agricultural policy. Reflection paper', COM(91) 100, Brussels.

Commission of the European Communities. (1991b), 'Development and future of the common agricultural policy', COM(91) 258, Brussels.

Commission of the European Communities. (1991c), 'Evaluations des incidences financières de la reforme de la PAC au cours des exercices budgetaires 1993 – 1997', working paper, Brussels.

Court of Auditors of the European Communities. (1991), 'Annual report concerning the financial year 1990', *Official Journal of the European Communities*, C 324, Vol. 34, 13 December 1991.

Corden, W. M. (1974), *Trade policy and economic welfare*, Oxford University Press.

Folmer C., Keyzer, M. A., Merbis, M. D., Stolwijk, H. J. J. and Veenendaal, P. J. J. (1989), 'Modelling alternative common agricultural policies', in Bauer, S. and Henrichsmeyer, W. (eds), *Agricultural sector modelling*, VAUK Kiel KG.

Munk, K. J. (1989), 'Price support to EC agricultural sector: an optimal policy?', *Oxford Review of Economic Policy*, Vol. 5, No 2.

Musgrave, R. A. (1959), *The theory of public finance*, New York, McGraw-Hill.

Newbery, D. M. G. and Stiglitz, J. E. (1981), *The theory of commodity price stabilization*, Oxford University Press.

Oates, W. E. (1972), *Fiscal federalism*, Harcourt, Brace & Jovanovich, Inc., New York.

OECD. (1990), *Agricultural policies, markets and trade. Monitoring and outlook*, Paris.

Pauly, M. V. (1973), 'Income redistribution as a local public good', *Journal of Public Economics*, 2, pp. 35-58.

Tracy, M. (1989), *Government and agriculture in Western Europe. 1880-1988*, Harvester Wheatsheaf.

Wildasin, D. E. (1990), 'Budgetary pressures in the EEC: a fiscal federalism perspective', *American Economic Review*, 80, pp. 69-74.

Wildasin, D. E. (1991), 'Income redistribution in a common labour market', *American Economic Review* (forthcoming).

IV — Interregional redistribution

The potential role of the EC budget in the reduction of spatial disparities in a European economic and monetary union

Rémy Prud'homme

OEIL (Observatoire de l'Economie et des Institutions Locales)

Université de Paris XII, Créteil, France

Contents

This paper has been prepared for the Directorate-General for Economic and Financial Affairs of the Commission of the European Communities

Tables

Graphs

Summary

This paper discusses the potential role of the EC budget in the reduction of spatial disparities in the European Community. It begins with an analysis of the 'spontaneous' evolution of income differentials between regions and countries. It reviews the statistical evidence and the competing theoretical arguments. It concludes that the mechanisms which have made income levels converge in the past no longer operate today. In the absence of specific policies, one must fear growing or at least persistent income disparities within the European Community.

The paper continues with a discussion of the various strategies that can be utilized to help low-income areas or countries, and shows that subsidizing infrastructure is not the only — and in some cases not the best — possible strategy. The paper then shows that budget-induced transfers play a major role in reducing disparities in unitary or federal countries. This role is a function of the size of the budget, of the progressiveness of the tax system, and of the redistributiveness of the expenditure system. On these three scores, the EC budget does not fare well. This simple model is then utilized to discuss the redistributive properties of the various potential types of EC expenditure and taxes.

1. Introduction

The development of a European economic and monetary union (EMU) will have important implications for the public finances of the member countries and of the Community. In the proposed federation, what should be the functions performed and the taxes collected by the centre? What is the most desirable allocation of responsibilities between the federation, the member countries, and their subnational governments?

The theory of 'fiscal federalism' provides broad answers to these questions. From the viewpoint of efficiency, it suggests that most functions should be allocated to the lowest levels of government. More precisely, it suggests that a function should be allocated to the lowest level of responsibility, except when welfare gains can be reaped by assigning it to the next higher level, as will be the case in the presence of externalities. This prescription, it will be noted, is exactly in line with the principle of subsidiarity.

This conclusion is drawn on the basis of a model that postulates differences in tastes between the various components of the federation. The model, however, ignores differences in income or resources between these various components. It reflects a 'separate but equal' ideology.

It can be argued that our world, particularly the world of the European Economic Community, is characterized by a 'separate and unequal' reality. Differences between the components of a federation are as much in income as in 'tastes'. This has, of course, been recognized by the theoreticians of fiscal federalism, who have added distributional (as well as stabilizational) considerations to their blueprints. However, the bulk of the literature is and continues to be focused on efficiency considerations, probably because they lend themselves more easily than equity considerations to analytic developments.

Distributional considerations, however, are particularly relevant for the study of the proposed EMU. Spatial differences within the European Community are very significant. The Community is not an homogeneous area. There are great differences in output, in income, or in unemployment — and not only nor primarily in 'preferences' — between member countries, between the regions of each member country, and, *a fortiori*, between the various regions of the Community as a whole. Gross domestic product (GDP) per capita in Denmark is about five times higher than GDP per capita in Portugal; differences between the poorer and the richer regions are of course greater.

These spatial disparities may be said to pose a threat, or at least a challenge, to the proposed EMU and its desired cohesion. Are they automatically increased, or decreased, by EMU, and how? Are they likely, for economic or political reasons, to stop or to slow down the development of EMU and of the benefits associated with it? Should policies aiming at reducing these disparities be undertaken? If so, to what extent should they be undertaken by member countries or by the Community? Inasmuch as the Community should be involved, what should it do, and how? The Community is already engaged in this exercise with the so-called Structural Funds. Is it enough? It can be argued that, in all unitary and federal countries, the national budget plays a much larger and automatic redistributive role between rich and poor regions. Does it follow that the EEC budget should play a similar function? What would this imply? Most of these questions are basically political. Nevertheless, they also have in many cases a factual or analytical basis that this paper will attempt to bring to bear.

The paper begins with an analysis of spatial disparities in the Community and of how they evolve (section 2). It continues with a discussion of the various policy objectives that can be envisaged, and of their implications (section 3). This is followed by a review of the policy instruments which are available (section 4).

2. Spatial disparities and their evolution

Spatial disparities in the Community can refer to: (a) disparities between the 12 member countries; (b) disparities within countries, i.e. between the various regions of each country; and (c) disparities between the various regions of the Community as a whole, i.e. between the 166 NUTS (Nomenclature of territorial units for statistics — Eurostat) 2 regions, or the 60 NUTS 1 regions of the Community. There is an obvious, although complex, relation between these types of disparities: in particular, type (c) disparities result from the combination of type (a) and type (b) disparities. The mechanisms that increase or decrease disparities are also, to a large extent, the same ones.

The EC policymakers are interested in these three types of disparities. They are, obviously, concerned by intercountry disparities. But they are also interested in the type (c) interregional disparities, as evidenced by the existence of a formal EC regional policy. And, since these disparities are partly determined by type (b) disparities, the Community has to pay attention to what happens within each member country in terms of regional disparities and regional policies.

The importance of disparities in the European Community

There are many ways of measuring spatial disparities. Choices have to be made according to what is measured: output per capita, income per capita, consumption per capita, unemployment rates. Decisions must be taken about how it is being measured: by means of dispersion coefficients (weighted or unweighted), Theil coefficients, Gini coefficients, maximum/minimum ratios, etc. Table 1 offers only a sample of possible measurements. More figures could be produced (see, for instance, Commission of the European Communities, 1990, p. 230).

The comparison of spatial disparities is a difficult art. The various indicators of disparity are influenced by the number of regions (the more regions, the greater the disparity indicators, in general) and by the design of regions (the existence of city-regions increases disparity indicators).

Table 1

Spatial disparities — European Community and selected member countries (recent years)

	Unweighted coefficients of dispersion for:	
	GDP per capita (1986)	Unemployment rates (1989)
EC (60 regions)	0,37	0,51
EC (12 countries)	0,40	0,48
Germany (18 regions)	0,23	0,25
France (21 regions)	0,17	0,21
Italy (20 regions)	0,25	0,55
Spain (18 regions)	0,20	0,35

In the breakdown of the Community into 60 regions, Denmark, Greece, Luxembourg and Portugal each accounted for one region and the other member countries are divided into NUTS 1 regions.

Sources: Eurostat, Statistiche generali della communita, 27th ed., Luxembourg, 1990, p. 51 et seq. and p. 127 et seq.

Nevertheless, it seems beyond doubt that type (a) disparities, i.e. intercountry disparities, and type (b) disparities in the Community are larger that the type (c) disparities found in most large developed unitary or federal countries. The European Community is 'more heterogeneous' than the USA, Japan, Germany or France. This is why the issue of the evolution of disparities is so important. If they increase, either as a result of 'natural' forces, or as a consequence of EMU, they might become unacceptably large, decrease the cohesion of the Community, and either jeopardize the very achievement of a union or call for powerful correcting policies. On the other hand, if there is a process of convergence, be it natural or favoured by EMU, the cohesion of the Community will be strengthened and the need for policies decreased.

2.1. Changing views about the evolution of disparities

Many different views are held about the 'natural' evolution of spatial disparities. They can be found in the theories of regional development and in the theories of international trade. Although regional economists and international trade economists do not seem to communicate much (they attend different meetings and write in different journals), their arguments about the evolution of disparities, as well as the evolution of their arguments, are surprisingly similar. It is convenient to discuss these arguments under the headings of 'convergence' and of 'divergence'.

Convergence views

The classical and neoclassical theorists believe in the natural disappearance of spatial disparities. They generally assume perfect mobility of production factors between the regions of a given country or between nations. It is easy to argue that both labour and capital will move from low- to high-wage areas. Outmigration will decrease the supply of labour in low-wage areas and exert an upward pressure upon wages in these areas. For symmetrical reasons, inmigration will exert a downward pressure upon wages in high-wage areas. Wages will tend to equalize over regions or countries. A similar simple reasoning can be applied to capital movements, which will tend to equalize returns on capital over space. In this neoclassical world there is no room for spatial disparities; and disparities that may have occurred occasionally will be wiped out by movements of factors of production.

A similar result will be achieved even if factors of production are not mobile, provided there is trade. In a Heckscher-Ohlin world, exchanges of goods between countries (or regions) leads to factor income equalization. Countries with low wages and high interest rates will, because of trade, increase their exports and therefore their production of labour-intensive goods, in which they will specialize. This will exert an upward pressure upon wages and a downward pressure upon capital income in these countries. At the same time, and for similar reasons, trade will exert a downward pressure upon wages and an upward pressure upon capital income in countries with high wages and low interest rates. Eventually, in the absence of labour or capital migrations, wages and capital income in the two types of regions will be equalized. Trade will provide convergence.

Another, more recent, view associates convergence, or a form of it, with the 'new spatial division of labour'. Formerly, it is argued, the spatial division of labour was 'sectoral': there were countries or regions specializing in automobile production, and other countries or regions specializing in textile production, in keeping with their respective relative endowment and comparative advantages. As a consequence, trade was basically interindustry trade. Now, the spatial division of labour is 'functional': there are countries or regions specializing in the design and assembly of motor vehicles and other countries or regions specializing in the manufacturing of gearboxes or car seats. This has been made possible by increased economic (not spatial) concentration, by lower transportation costs, and is consistent with the theory of the product cycle. In a first stage, a product is conceived, designed, and produced in small quantities in a 'core' area; then, if it is successful, it will be mass-produced, according to fairly standard procedures, in lower-wage 'peripheries'. There will be a 'diffusion' of production, although the functions of the core and the periphery will be different. This theory applies both to the division of labour between the regions of a given country and between countries. This functional division of labour will also lead to one of the forms of intraindustry trade. This theory is different from, but not inconsistent with, the classical theories of convergence; it assumes capital mobility and goods mobility (but no migration), and leads to similar conclusions about convergence.

Divergence views

An increasingly large number of economists (for instance, Krugman, 1987, following Myrdal, 1957, or Kaldor, 1970), however, question the views presented above as ignoring at least four major realities: (i) economies of scale; (ii) external economies; (iii) technology and innovation; and (iv) market structures and rents.

As a result of economies of scale, a region, or a country, which happens (for whatever cause) to be specialized in a particular industry will benefit from an increase in production, which will lower its production costs, making it more difficult for other regions or countries to catch up. This is well illustrated by the case of the motor vehicle industry — a typical example of a sector with marked economies of scale in production — in which very few countries (Japan and, to a lesser extent, Korea) have been able to enter the market in the post-war period, in spite of many costly attempts to do so. The economic potential of a region (and, to a lesser extent, of a nation) is reinforced by geographical externalities, such as the existence of large and efficient labour markets, and the availability of highly specialized skills, talents or information. It is also reinforced by the role of technology and innovation, which tends to be more available in the more-developed regions and countries. A recent OECD report notes that manufacturing expertise 'grows by the cumulative effects of learning, scale, and sector cross-fertilization' and is, 'contrary to the assumptions of the orthodox theory of comparative advantage, (...) geographically concentrated' (OECD, 1987, p. 256). On this view of 'cumulative causation', as it is called, economic disparities, far from being self-correcting, are rather self-reinforcing.

The new theory of trade has added a concept of importance to this discussion: the notion of 'strategic sectors'. In the traditional trade theory, regions or countries specialize in sectors, and benefit equally from this specialization, because all sectors are equally good for the economy. But sectors are not equal, particularly relative to economies of scale and to spillover effects. Economies of scale and learning effects might lead in certain sectors to the domination of some firms and to economic rents. There might therefore be sectors which are more profitable than others, which would mean that specialization does not benefit equally all regions or nations. The countries or regions specialized in products with greater economies of scale and greater spillover effects, i.e. specializing in 'strategic sectors', are likely to benefit more from trade and/or from increased trade. They will increase their exports and lower their costs, and firms located in other regions or countries will find it difficult to compete. These countries or regions are likely to be the more developed, and will therefore reinforce their initial superiority, thanks to trade. They might also be the largest, because a large domestic market is necessary to be successful in sectors with important economies of scale. This is of relevance for the Community, because the three less-developed countries (Greece, Portugal and Ireland) are also relatively small countries.

These concepts can also be used to show the limits of some of the arguments in support of convergence views. Take the Hecksher-Ohlin analysis of how trade equalizes wages and capital income over space. This analysis assumes that all countries (or regions) have equal access to technology. It does not hold if we recognize that they do not. In fact, unequal access to technological options may be one definition of inequality between countries. The model also ignores innovations and differential rates of innovation. The new view, by contrast, emphasizes innovations and product differentiation as a major force of international (or interregional) trade, which can postpone factor income equalization indefinitely. The model also hypothesizes that countries face different and fixed relative factor endowments and factor prices. This is in complete contradiction with the existence of labour and capital movements. And the idea that inter-country differences in income or output per capita can be reduced to or even explained by differences in relative factor endowments and prices is simplistic, not to say plain wrong. The world is not divided so much between high labour/capital ratio countries and low labour/capital ratio countries, but rather between high- and low-income countries.

The new spatial division of labour argument does not necessarily lead to the conclusion that convergence will occur. For one thing, this argument assumes that all products follow the traditional life cycle and become, at a certain point, sufficiently 'mature' to have their mass-production located or relocated in less-developed regions or countries. This assumption can be challenged. It can be argued that many products never mature, that they are constantly replaced by more sophisticated, more innovative products, and that the life of products is more and more shortened by innovation and technological progress. Second, even if or when functional division of labour takes place, and leads to the creation of plants and branches in low-wage areas, it is not sure that these production plants will trigger any other development in the area. They are likely to be self-sufficient, or to be linked mostly to the headquarters which remained in the more-developed area. Thirdly, even though the relocation of a plant benefits the area where it takes place, it also benefits the area where the headquarters, and with them many tertiary or quaternary functions, remained. The value-added created by the firm is increased as a result of this new division of labour, but nothing guarantees that this increase will be equally shared between the two types of areas. Finally, it can be argued that the branch located in the low-wage area will be less mobile and flexible in case of cyclical or structural shocks, and therefore much more fragile. The area with research, finance, management, information, etc. functions will adapt more easily in the case of difficulties. The new spatial division of labour theory therefore cannot give much support to the convergence view.

2.2. Changing trends in the evolution of disparities

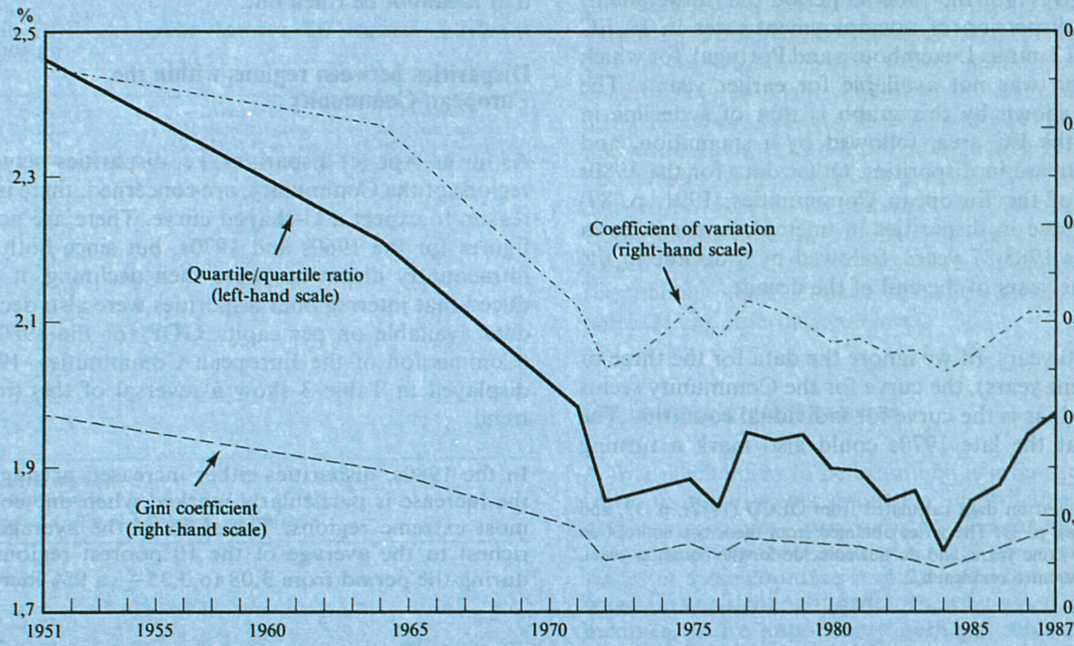
The question of the evolution of disparities can, of course, be studied empirically to show which of either the convergence or the divergence views is supported by facts. The answer seems to be that there was convergence until the mid-1970s, but that there has been divergence since then.

Disparities between regions within nations

In a seminal article, Williamson (1965) showed that, over the long term in single countries, interregional disparities tended to increase in a first phase of economic development, up to a certain point, then to decrease in a second phase of economic development. All the developed countries for which he provided data (the USA, Germany, the United Kingdom, France, Belgium and Sweden) were in this second phase. This meant that in these developed countries interregional disparities were declining. Subsequent work on Japan confirmed this view. Indeed, in the post-war period, interregional disparities declined in the developed world. This is clearly illustrated by Graph 1, which gives various measures of disparities in the case of Italy over the 1950-87 period (OECD, 1990).

However, it seems that this movement stopped in the 1970s, and even experienced a reversal in the 1980s. This is well established for the USA (Boltho, 1989, p. 109) and quite clear in the Italian case shown in Graph 1. It is also true for France. Data on average household taxable income by region (more precisely by *départements*) shows that over the

GRAPH 1: Interregional disparities in Italy, 1950-87



Sources: ISTAT, Svimez and OECD estimates.

1984-88 period incomes increased fastest in the *départements* where it was highest in 1984. There is every reason to expect this to be true for other European countries. Type (b) disparities are now increasing. Is the same phenomenon to be observed for type (a) and type (c) disparities?

Disparities between nations

As far as intercountry disparities (of type (a)) are concerned, the evidence is less clear, but not really different. In terms of GDP per capita, there are few reliable long-term series for the 12 Community countries. It nevertheless seems beyond doubt that there was convergence in the 1960s and 1970s. Low-income countries such as Greece, Portugal, Ireland and Spain were then developing faster than the more-developed economies. The matter is quite different for the 1980s, as shown in Table 2.

A standard index of disparities for the 12 EC countries shows an increase in disparities between 1980 and 1986, followed by a decline in 1986-90. However, GDP per capita in the three poorer countries (Greece, Ireland and Portugal), expressed as a percentage of the average EC level actually decreased between 1980 and 1987, a period of rapid growth, and only increased slightly between 1987 and 1990; overall, during the decade, there was divergence.

Table 2

Dispersion in GDP[1] per capita between EC countries — selected measures, 1980-90

	Dispersion index[2]	EUR 3[3] as % of EUR 12 average
1980	16,8	57,5
1990	16,2	53,2

[1] In purchasing power parity.
[2] Weighted standard deviation.
[3] Greece, Ireland and Portugal.

Source: Commission of the European Communities (1991), p. 86.

In terms of unemployment rates (for which it is easier to produce meaningful long-term series), the story sounds similar. Graph 2 gives[1] for the 1960-89 period the (unweighted) coefficient of dispersion of unemployment rates in 10 EC countries (the 12 minus Luxembourg and Portugal, for which the information was not available for earlier years). The general trend shown by this graph is that of a decline in disparities in the EC area, followed by a stagnation, and then by an increase in disparities. Other data for the 1980s (Commission of the European Communities, 1991, p. 89) shows an increase in disparities in unemployment rates in the prosperous 1983-87 years, followed by a decline in the less-prosperous years of the end of the decade.

For the past 30 years, (if we ignore the data for the three or four most recent years), the curve for the Community seems to be U-shaped, as is the curve for individual countries. The hypothesis that the late 1970s could also mark a turning point of the Williamson curve for EC countries seems supported by the available information. The least we can say is that it cannot be ruled out.

[1] Graph 2 is based on data calculated from OECD (1982), p. 37, and OECD (1989a), p. 39. The series obtained from these two sources do not cover the same years, and do not coincide for the common years. Both are represented on Graph 2.

Disparities between regions within the European Community

As far as type (c) disparities, i.e. disparities between all the regions of the Community, are concerned, there is also every reason to expect a U-shaped curve. There are no published figures for the 1960s and 1970s, but since both inter- and intracountry disparities were then declining, it can be deduced that interregional disparities were also declining. The data available on per capita GDP for the 1980-88 period (Commission of the European Communities, 1991, p. 87), displayed in Table 3 show a reversal of this (most likely) trend.

In the 1980s, disparities either increased or stagnated, and the increase is particularly marked when one considers the most extreme regions. The ratio of the average of the 10 richest to the average of the 10 poorest regions increased during the period from 3,08 to 3,35 — a 9% increase.

GRAPH 2: **Disparities in unemployment rates in EC countries, 1960-89**

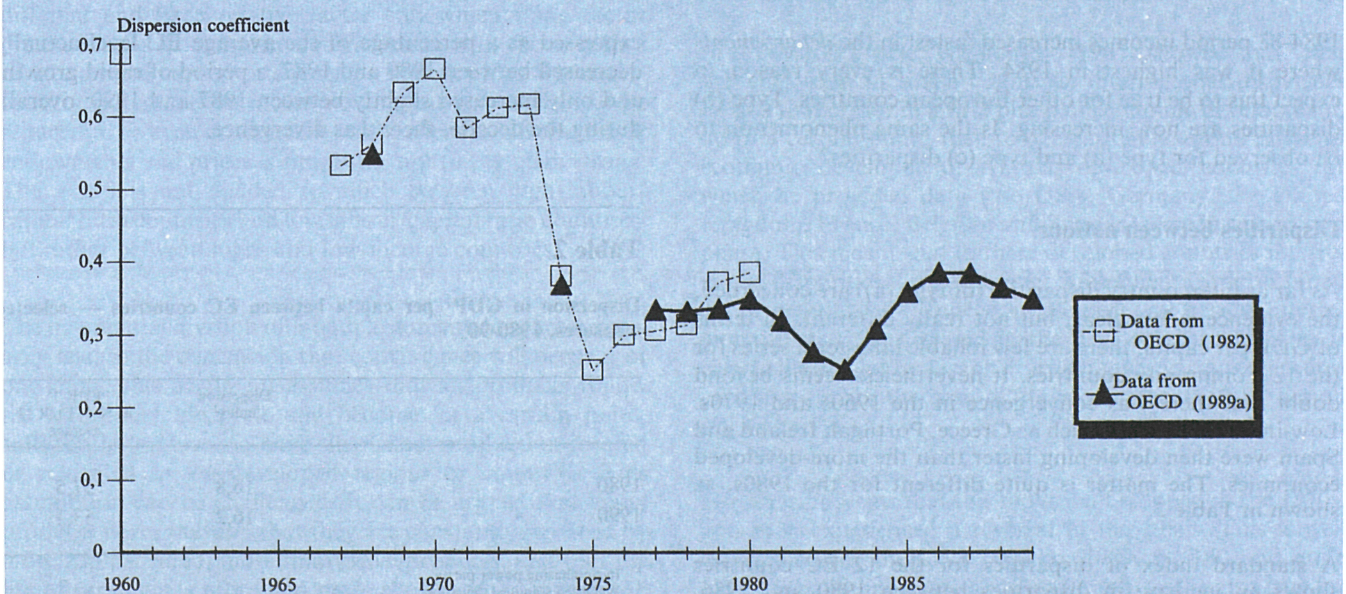


Table 3

Disparities in GDP[1] per capita between EC regions — selected measures, 1980-88

	Disparities index[2]	Average of 10 poorest regions (% of EUR 12 average)	Average of 10 richest regions (% of EUR 12 average)
1980	26,1	47	145
1981	26,5	46	146
1982	26,8	46	147
1983	27,0	45	149
1984	27,2	45	149
1985	27,5	45	150
1986	27,9	45	151
1987	27,5	45	151
1988	27,5	45	151

[1] In purchasing power parities.
[2] Weighted standard deviation.
Source: Commission of the European Communities (1991), p. 87.

For the three kinds of spatial disparities considered, the evolution seems quite similar: a decrease in the 1960s and 1970s, followed by an increase in the 1980s.

2.3. Changing realities impacting upon the evolution of disparities

The study of what happened to disparities can be used to justify both the convergence and the divergence views. Data on the 1960s and early 1970s give support to the convergence theories; data from the 1980s confirm the divergence hypothesis. This does not make it easy to choose a theory on which to base forecasts for the 1990s.

Another approach might be to relate the evolution of disparities to the business cycle. A number of arguments can be brought out to 'explain' the idea that 'convergence tends to dominate in periods of strong growth, and to recede in periods of stagnation' (Commission of the European Communities, 1980, p. 216). But this idea is not borne out by the available empirical evidence. As has been mentioned several times, the 1982-87 period experienced both divergence and strong growth. It would be very dangerous to take the association of growth and convergence as a law and to conclude that, in the future, if we have growth we shall have convergence.

A more fruitful approach might be to focus on explanatory variables that have changed over the past decades, and could therefore account for both the decline of disparities until the mid-1970s and the later stagnation and increase in disparities. Migrations, investments, and public finance are such variables. Trade is not included here for several reasons. One is that, as discussed above, its impact upon spatial disparities is not clear. Furthermore, trade regimes did not differ markedly between the two periods considered and at the intranational level did not differ at all and could therefore not account for changes in the evolution of intranational disparities. Finally, the changes that occurred within the Community, with the joining of several members, are discussed later on. Table 4 lists these changing variables and summarizes their impact upon disparities at both the national and international levels.

Changing migration patterns

A first mechanism to be examined is migration. Migrations from poorer to richer countries, in principle, contribute to decreasing spatial disparities. By decreasing the supply of labour in the poorer countries, they are supposed to raise wages in these countries and for opposite reasons, to lower wages in the richer countries, thereby equalizing wages and incomes. More importantly perhaps, migrations could reduce disparities because migrants were leaving agricultural areas where their marginal productivity was lower than the average productivity. Their departure then led to an increase in output per worker, and per inhabitant.

Table 4

Variables with an impact upon spatial disparities

	Within countries		Between countries	
	Yesterday[1]	Today[2]	Yesterday[1]	Today[2]
Production factors				
Migration	–	+	–	+
Investment	–	+	–	+
Public finance				
Size of budget	–	+	=	–
Taxation	–	+	=	=
Expenditure	–	+	=	= or –
Trade				
Trade	=	=	=	=

Note: + denotes an impact that, all other things being equal, led to an increase in disparities; – an impact that decreased disparities; = an impact that was neutral or negligible upon disparities.
[1] Until the 1980s.
[2] Since the early 1980s.

Today, migrations are quantitatively and qualitatively different. First of all, there is less migration, at least within countries. The decreasing impact of migration upon disparities is therefore reduced. Then, the demand for labour in richer regions and probably also richer countries is no longer a demand for unskilled industrial workers, but rather a demand for qualified or highly qualified personnel. Migrants from low-income regions or EC countries might well be the most talented and educated people of such countries or regions, and their departure probably makes growth more difficult in these areas. The impact of migration upon regional disparities is therefore neutral or perhaps aggravating.

Changing investment determinants

Capital movements provide, of course, the most important mechanism of regional development. Yesterday, capital tended to locate wherever labour costs were lower or lowest, as described in textbooks. This movement was intensified by the increased mobility of capital and of goods. It favoured the less-developed regions or countries, and reduced spatial disparities. It is the main factor underlying the decline of the Williamson curve mentioned above.

It is doubtful that capital movements continue to play this role. The importance of low wages in the location of investments has greatly declined. This can be seen in surveys of the causes of locational decisions: labour costs are rarely cited as a main or even important cause. It is easy to understand why.

The share of wages in production costs has declined everywhere, not only because of short-term macroeconomic policies to restore profitability, but because the share of capital relative to labour increased in production functions. In France in the 1980s, for instance, the number of workers remained nearly constant whereas the stock of capital increased by about 25%. This cannot but decrease the importance of relative labour costs in locational decisions.

More generally, the importance of cost minimization is declining in our advanced economies, and explains less and less the location of economic activities. Competition is fought more on products than on costs. What counts for the success of an enterprise is not so much to turn out standard products at a low cost, but the ability to turn out products of a higher quality, of a greater reliability, of a more fashionable design, and to do it very quickly in order to meet an ever-changing demand. Models of spatial development or of international trade based on cost minimization are less and less useful for understanding and predicting change.

Production has become more complicated, more fragmented, more specialized, more related to and dependent upon other firms. For most sectors and firms, the ratio of goods purchased to sales has increased.[1] Production is no longer the textbook transformation of raw materials into finished product by means of capital and labour. It has become the management of flows of goods and information. Hence the importance of communications, transportation, quick and reliable access to highly specialized firms, information, goods and, above all, talents.

Proximity to these necessary inputs is a must, or at least a great advantage. The importance of agglomeration economies has increased. Evidence of that can be found in relative land prices (which capture some of it). Until the early 1980s, at least in France and Italy, the ratio of land prices in large cities to those in smaller cities tended to decrease. Since then, it has increased. Almost by definition, agglomeration economies are present in the most-developed regions or countries.

The only force that could counteract this trend would be the development in these areas of agglomeration diseconomies, particularly of congestion, pollution, and social unrest — not so much because they would increase costs, but because they would increase risks and uncertainties. This time has not yet come and it should be noted that it can be postponed, because many agglomeration diseconomies can be fought and reduced by appropriate policies. This is certainly the case for congestion and pollution, if not social unrest. These appropriate public policies are carried out at a cost. But this cost can be reduced by technical progress. For the time being, and for the coming decades, there are no reasons to expect agglomeration diseconomies to wipe out the benefits of agglomeration economies.

It seems therefore likely that changes in the structure of production increase the relative attractiveness of the more-developed areas. For most, if not all, of the modern (and difficult to measure) factors of competitiveness, the most developed countries and regions are better, or much better, endowed than the lagging countries and regions. This is true, for instance of the quality of the labour force: amongst people aged 15 to 19, the share of people receiving education or training is about twice as large in Denmark, Germany or the Netherlands as it is in Portugal, Greece or Ireland. This is equally true for research: 75% of expenditure on research and development in the Community is concentrated in

[1] Another way to put it is to say that for many firms the ratio of value-added to output has decreased. The case of the motor vehicle industry is quite clear in this respect; the big assembly firms outsource an increasingly large number of the spare parts they 'assemble'.

Germany, the United Kingdom and France (32% of the EC population). To put it otherwise, the more-developed countries of the Community spend more than 2% of their GDP on research and development, whereas the poorer spend less or much less than 1%. On a per capita basis, Greece spends 15 times less than Germany on research and development.

It is hard not to conclude that mobile private capital will preferentially locate in these richer regions. Limited data available on the location of the most mobile capital, Japanese investments, as presented in Table 5, support these views.

Table 5

Japanese direct investments in Europe, 1986-88

	Total investments[1] (million USD)	Population (million)	Investments/ capita[1] (USD)
Belgium	95	9,9	10
Germany	341	62,0	6
Spain	177	38,9	4
France	315	56,2	6
Italy	55	57,5	1
Luxembourg	1 171	0,4	2 927
Netherlands	1 280	14,8	87
United Kingdom	2 471	57,2	43
Switzerland	256	6,7	26
Other European countries in OECD	225	54,2	4
Total — OECD Europe	6 387	357,8	1

[1] Average for years 1986, 1987 and 1988.
Source: Calculated from OECD (1989b), p. 69.

Japanese investments were in recent years particularly attracted by countries such as Luxembourg (admittedly a special case), the Netherlands, the United Kingdom and Switzerland, and to a lesser extent by France and Germany. These countries are all centrally located in Europe, and are relatively high-income countries. By and large, Japanese capital movements contribute to increasing disparities between countries. The available information suggests that, in spite of the efforts of regional policymakers, mobile Japanese capital also prefers the most developed regions within each country. In Spain, for instance, it seems to locate overwhelmingly in Catalonia, which offers easy access to the Spanish market together with the advantages of a large, developed, sophisticated metropolitan area.

The less mobile domestic capital can also be shown to favour richer countries. The ratio of investment in machinery and equipment to GDP is not correlated to GDP per capita.[1] This means that investment in machinery and equipment per capita is a function of GDP per capita. The richer countries invest much more per head, or per worker.

Changing public finance patterns

Public finance mechanisms can also play an important role in the potential reduction of spatial disparities, at both the national and EC levels. In spite of the emphasis put on this idea by the MacDougall Report (Commission of the European Communities, 1977), this mechanism is often neglected, particularly in theoretical models of regional economists. At the national level, there are very few empirical studies of the amounts of budget transfers from richer to poorer regions. The theoretical underpinnings, however, as represented in Graph 3, are quite simple.

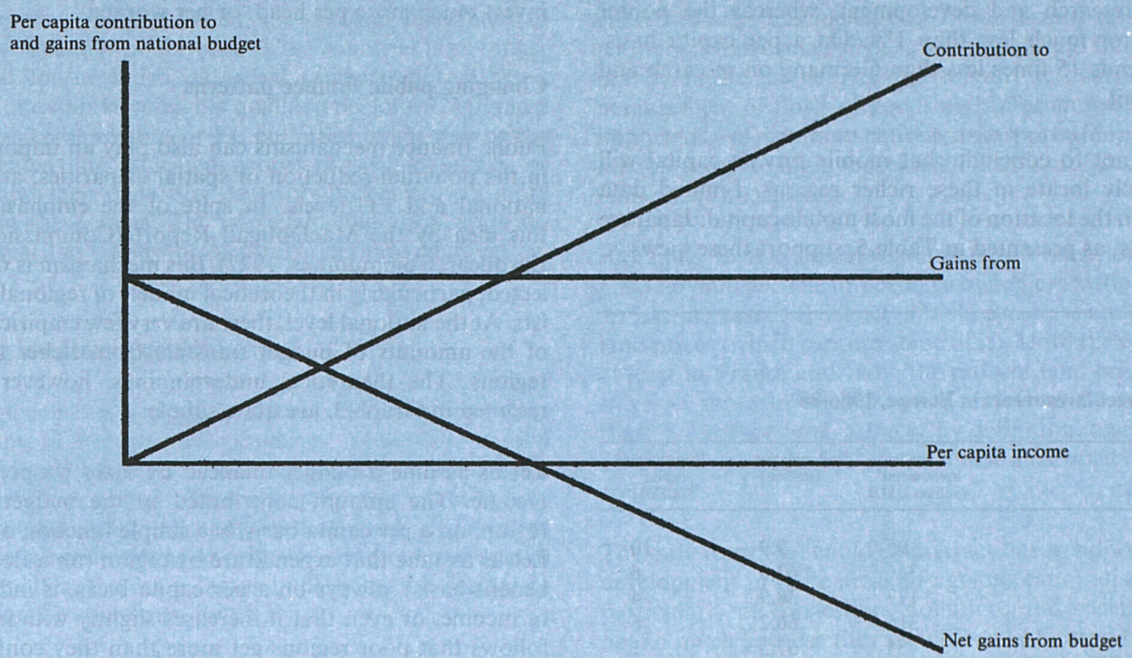
Let us assume a budget financed by taxes proportional to income. The amount contributed to the budget by each region, on a per capita basis, is a simple function of income. Let us assume that expenditure by region (on a flow and/or benefit basis), always on a per capita basis, is independent of income, or even that it increases slightly with income. It follows that poor regions get more than they contribute to the budget, and that richer regions get less than they contribute. The budget transfers income from richer to poorer regions.

The amount of these transfers depends upon the total size of the budget, the progressivity of the tax system, and the spatial allocation of expenditure. The larger (as a percentage of GDP) the budget, the greater the transfers. As can be seen from Graph 3, even a proportional (and regressive) tax system can induce transfers, but of course the more progressive the tax system, the greater the transfers. As can also be seen from Graph 3, even if expenditure increases slightly with income, the budget will lead to transfers, but it is obvious that the total amount transferred will increase when the slope of the gains from the budget line decreases.

In the 1970s, these three factors changed. They were modified in the direction of greater transfers. The total size of national budgets increased rapidly. The progressivity of most tax systems also increased. Regional policies, and the associated allocation of public expenditure, favoured low-income regions. All this implied significant increases in automatic budget spatial transfers that must in turn have contributed to decreasing interregional disparities.

[1] A regression analysis of 1990 gross fixed capital formation in machinery and equipment/GDP versus GDP per capita for the 12 EC countries has a positive sign but is not significant ($R2 = 0,023$).

GRAPH 3: **Budget-induced transfers**



In the 1980s, on the contrary, these factors were modified in the direction of smaller transfers. The total size of national budgets decreased, partly because many governments tried to limit public spending, partly because, in many countries, decentralization increased local budgets at the expense of national budgets (which are, of course, the only budgets that have the automatic redistributive spatial property discussed here). Progressivity decreased. Regional policy expenditure also decreased. All this meant smaller automatic interregional transfers and associated increases in interregional disparities.

At the national level, the trends observed — i.e. the recent upturn of the Williamson curve — are thus quite coherent with the trends in public finance realities.

Things are somewhat different at the international level, i.e. for EC intercountry disparities. In the 1970s the EC budget was too small to induce transfers worth speaking of, the progressivity of the tax system (or lack of it) was not changing, and the spatial allocation of expenditure, basically expenditure on agriculture, was not modified. EC public finance was therefore neutral as far as intercountry disparities were concerned. Today, however, the size of the budget is increasing, and so is the share of the Structural Funds, even though the progressivity of the EC tax system has not changed. The EC budget leads to small, but growing, net transfers from the richer to the poorer countries of the Community. It thus contributes (modestly) to reducing intercountry disparities.

Future trends

The analysis of the mechanisms that impact upon regional disparities in the Community suggests that, in the absence of powerful countervailing policies, these disparities are likely to increase, both within and probably also between member countries, and therefore also between regions of the Community as a whole.[1] This is because 'tomorrow' is more

[1] Krugman (cited in Commission of the European Communities, 1990, p. 214) presented a model that shows that interspatial disparities will be greater when: (i) economies of scale are greater; (ii) transport costs are lower; and (iii) the size of the footloose manufacturing sector is greater. While this model does not explain the reduction in interspatial disparities observed in the 1960s and 1970s, it leads to predict an aggravation of interspatial disparities in the future. This is because there are reasons to expect economies of scale to increase, transport costs to decline, and the size of the footloose manufacturing sector to increase.

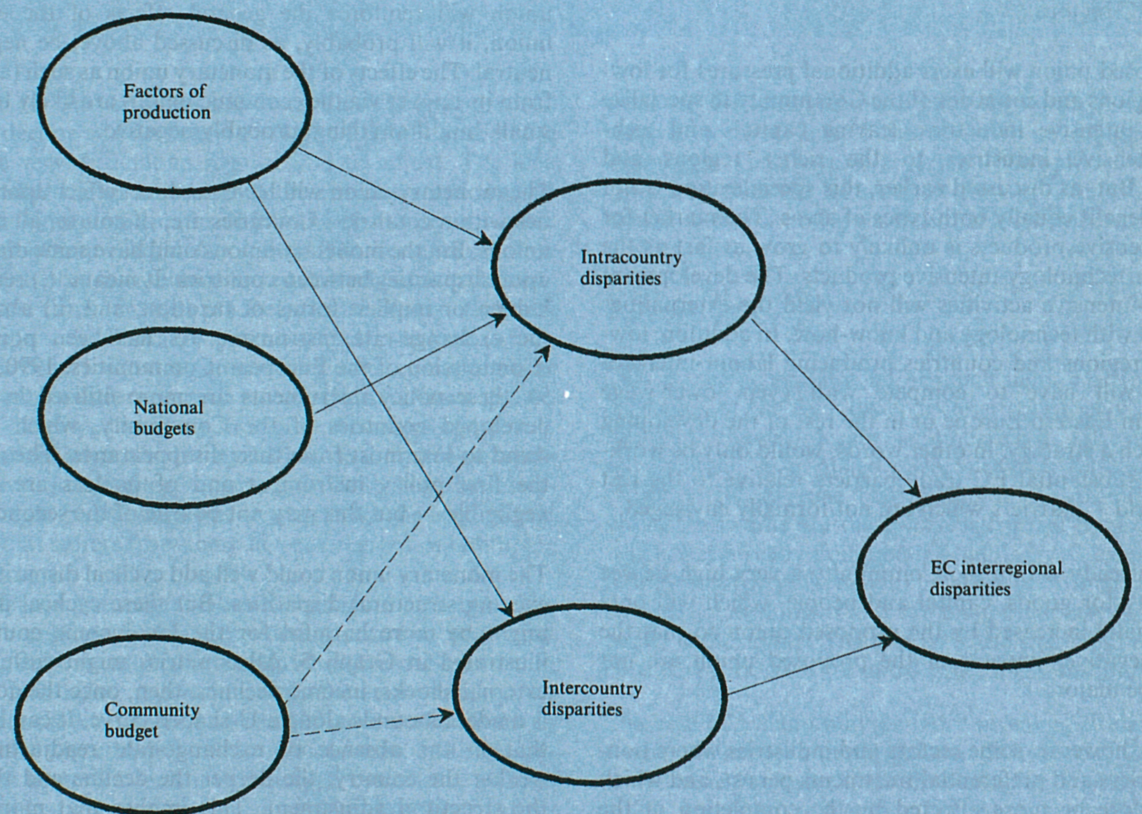
likely to be like 'today' than like 'yesterday' in terms of Table 4.

The case of type (b) disparities, between the regions of each country, seems quite clear. In recent years, all the mechanisms identified exerted pressures in the same direction, that of an increase in disparities. There is no reason why this would change in the coming years. Labour movements, capital movements, budget sizes and tax progressivity are not likely to change much. Short of strong and specific expenditure policies aiming at reducing disparities, the same causes should produce the same effects, and interregional inequality should increase.

The case is not so clear for type (a) disparities between the EC countries. Of course, the main factor here will be the efficiency of the economic and social policies that will be conducted by each member country, which is beyond the scope of this analysis. What about the impact of the other factors? Capital movements will probably, as in recent years, continue to favour the richer countries. Increased migrations between the countries of the Community cannot be ruled out but it is not certain that it would contribute to decreasing intercountry disparities, for the quality-of-the-migrants reasons discussed above. The impact of the other mechanisms, associated with public finance, however, could in theory be different. This impact will depend upon the decisions that will be taken about the size of the EC budget, the tax and expenditure structures, which are discussed in section 4 below. But, in the absence of strong policies to the contrary, the mechanisms identified suggest a stagnation or a slight increase in intercountry disparities.

Graph 4 sums up the most likely outcomes. Disparities within countries should be expected to increase. Disparities between countries might increase slightly or remain at their present levels. As a result, disparities between the various EC regions are likely to increase.

GRAPH 4: Forces impacting upon EC interregional disparities



2.4. The impact of economic and monetary union upon the evolution of disparities

The foregoing analysis would apply even if the Community were to remain as it is or has been in the past decade, and would make sense for non-EC countries. How is it affected by the proposed economic and monetary union?

Impacts of economic union

Economic unions in general have an impact upon spatial disparities because they affect the factors and variables that determine the evolution of disparities. They are accelerators of these evolutions.

By reducing or lifting barriers to movements of goods, capital and people, economic unions facilitate and amplify the consequences of these movements. These consequences, which were disparities-reducing in the 1960s and 1970s, have been shown to be mostly disparities-increasing in the present economic environment. The logical conclusion is that the proposed economic union is likely to contribute to increased disparities within and between EC nations, and *a fortiori* between EC regions.

The proposed union will exert additional pressures for low-income regions and countries of the Community to specialize in labour-intensive industries, leaving capital- and technology-intensive industries to the richer regions and countries. But, as discussed earlier, this specialization is not likely to benefit equally both types of areas. The market for labour-intensive products is unlikely to grow as fast as the market for technology-intensive products. The development of labour-intensive activities will not yield the externalities associated with technology and know-how. In addition, low-wage EC regions and countries producing labour-intensive products will have to compete with even lower-wage countries in Eastern Europe or in the rest of the developing world. Such a strategy, in other words, would only be workable with substantial EC trade barriers relative to the rest of the world — barriers which are not formally envisaged.

There is already within the Community a very high degree of mobility for goods, capital and people, which will only be marginally increased by the proposed union so that the (mostly negative) impacts of the proposed union are not likely to be major.

There are, however, some sectors and industries where non-trade barriers and preferential treatments persist, and which will therefore be more affected by the completion of the common market: rail transport equipment, telecommunications equipment, food industries, textiles, pharmaceuticals, etc. The share of these industries in total industrial output and employment is substantially higher in Greece and Portugal than in the other EC countries. These countries could therefore, relative to other EC countries, either benefit more (if they increase their exports) or lose more (if they increase their imports) from the opening of trade in these sectors. It is difficult to know which of these two possibilities will occur, although one can note that these sectors are probably characterized by economies of scale, and that this is likely to give the larger and/or richer nations an initial advantage which could well be increased by the opening of trade. What is sure is that there will be more restructuring 'in all countries' in these (until now) less-open industries. It is likely that the more prosperous countries will be in a better position to undertake such restructuring successfully. In the poorer countries, the size of the sectors to be restructured will be larger, and the public funding and human resources needed for restructuring will be scarcer.

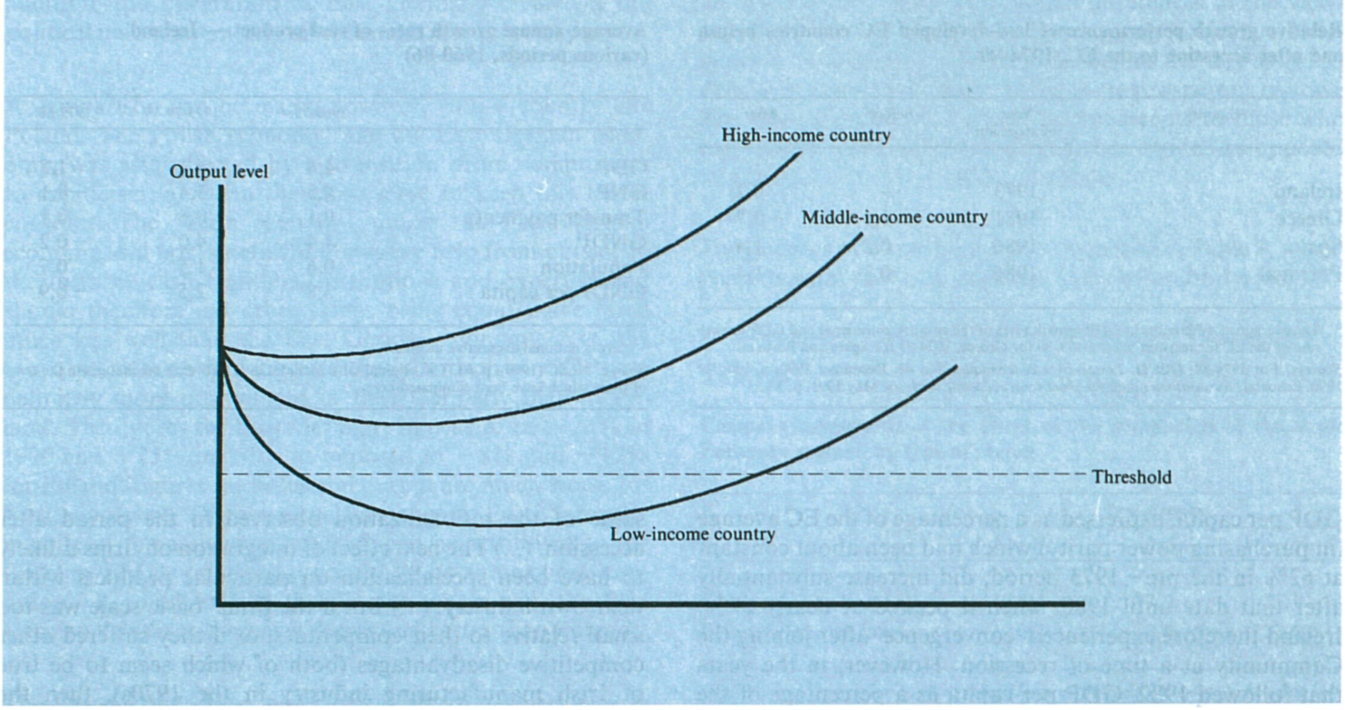
Effects of monetary union

What can be the impact of the monetary union on intercountry and interregional disparities? Inasmuch as the monetary union will reinforce the general effects of the economic union, it will probably, as discussed above, be negative or neutral. The effects of the monetary union as such (as distinct from its impact via the economic union) are likely to be very small, but, if anything, probably negative.

The monetary union will have no direct effect upon disparities within countries. Countries are, of course, all monetary unions. But the monetary union could have some direct effect upon disparities between countries. It means: (i) renouncing hidden or implicit forms of taxation; and (ii) abandoning the exchange-rate instrument. As has been pointed out (Commission of the European Communities, 1990, Chapter 9), these policy instruments are more utilized in the less-developed countries of the Community, which therefore stand to lose most from their disappearance. The impact of the first policy instrument and of its loss are probably negligible — but this may not be true of the second.

The monetary union could well add cyclical disparities to the existing structural disparities. But these cyclical disparities might be more harmful for the low-income countries, as illustrated in Graph 5. All countries might suffer cyclical external shocks: income declines, then, once the adjustment is made, rebounds along a U-shaped curve. It can be argued that in the absence of exchange-rate readjustment, the weaker the country, the deeper the decline and the longer the structural adjustment. This implies that more income will be forgone than in the more-developed countries.

GRAPH 5: Structural adjustment paths as a function of income level



However, for the very weak countries, it can be hypothesized that the decline will go below a threshold level, from where it will be very difficult to recover and to adjust. The idea of a threshold level comes from the consideration that an economy is not a collection of independent enterprises but a network of interrelated enterprises. The disappearance or the collapse of a given enterprise creates negative externalities for other firms, or more precisely for the firms with which the enterprise in difficulty had close relationships, which tend to be firms located in the same region or country. These negative externalities are much more serious for firms located in a less-developed country or region, because the number of enterprises with which they had close contacts or could easily have close contacts is smaller. These negative externalities might be so serious as to jeopardize the existence of the firm that suffers from them in weak regions or countries.

This threshold phenomenon is well-known in regional economics. In regions highly dependent upon one particular industry (such as mining or steel), when the decline in that industry falls below a certain point, the entire local or regional economy collapses and cannot recover. Similarly, in rural areas, when basic agricultural activities and employment goes beyond a certain threshold, a cumulative process of 'desertification', as it is called, sets in. Another analogy could be drawn with water pollution: the more organic material is discharged into a lake, the longer it takes for the lake to recover, but if the quantity of organic material discharged goes beyond a certain 'eutrophication' level or threshold, then the lake cannot recover. The existence of a similar phenomenon at the national level must be considered, and feared.

Past experience

Past experience cannot be of much help. The relative performance of the four lower income countries of the Community in the past decade, summarized in Table 6, does not tell us much. It is mixed. Greece, which was doing better than the EC average before joining the Community did worse afterwards but the reverse is true for Spain. Portugal, which was already doing better than the EC average before joining improved further its relative performance after accession but nothing of that can unambiguously be attributed to EC membership. The sample is too small and the periods considered too short to allow generalizations and forecasts.

The case of Ireland may be more revealing. Ireland, a relatively low-income country, joined the European Community in 1973 and has therefore been a member for more than just a few years. In addition, it has been extensively studied (NESC, 1989). The Irish story is not very encouraging.

Table 6

Relative growth performance of less-developed EC countries before and after accession to the EC, 1974-90

Country	Year of accession	Before[1]	After
Ireland	1973	—	0,2
Greece	1981	1,1	−0,7
Spain	1986	−0,2	1,4
Portugal	1986	0,3	1,4

[1] The average of differences in GDP growth rates of the country considered and GDP growth rate of the EC for relevant years (1974-80 for Greece, 1974-85 for Spain and Portugal).

Sources: For 1974-88: OECD, *Perspectives économiques*, No 48, December 1990, p. 190; for 1990: Eurostat, *Eurostatistics data for short-term economic analysis*, May 1991, p. 37.

Table 7

Average annual growth rates of real product — Ireland (various periods, 1960-86)

	1960-73	1973-79	1979-86
GDP	4,4	4,1	1,5
GNP	4,3	3,4	−0,1
Transfer payments	0,1	0,6	0,1
GNDI[1]	4,4	4,0	−0,2
Population	0,6	1,5	0,7
GNDI per capita	3,8	2,5	−0,9

[1] Gross national disposable income.

Source: NESC (1989), p. 63. The original table includes in GNDI data on changes in the terms of trade which have been eliminated here.

GDP per capita, expressed as a percentage of the EC average (in purchasing power parity) which had been about constant at 62% in the pre − 1973 period, did increase substantially after that date until 1980, when it peaked at nearly 67%. Ireland therefore experienced 'convergence' after joining the Community at a time of recession. However, in the years that followed 1982, GDP per capita as a percentage of the EC average declined, to about 62% in 1988 and 63% in 1989. There was, therefore, a process of 'divergence' at a time of economic recovery.

The study cited also offers data on a problem of importance for other less-developed countries, or regions for that matter: the different behaviour of GDP and GNP. Gross national product grew more slowly than gross domestic product because a significant part of the Irish growth resulted from foreign investments, which gave rise to an increase in net factor income outflows. This was in part corrected by an increase in transfer payments, particularly transfers from the EC budget. The figures are presented in Table 7.

Of course, this relatively unfavourable performance cannot be unambiguously attributed to joining the economic union. But the same can be said of the relatively good performances of Spain and Portugal in the years that followed their accession to the Community. It is obviously difficult to discriminate between the impact of the union and the impact of all the other factors discussed above. This was attempted in the study of Ireland cited, which concludes as follows:

'Indeed, it is possible to interpret the entire experience of manufacturing, since accession, in terms of the response of firms to economic integration. The most immediate effect of economic integration was almost certainly the 'cold shower' effect. (...) The removal of inefficient practices accounted for some of the rationalization observed in the period after accession. (...) The next effect of integration on firms is likely to have been specialization on particular products within their own industry. (...) But if the firms' basic scale was too small relative to their competitors, or if they suffered other competitive disadvantages (both of which seem to be true of Irish manufacturing industry in the 1970s), then the breathing space offered by removal of inefficiencies, and an element of specialization on particular products, would only have been temporary. (Then) the adjustment to intensified international competition tended to become the process of long-run decline, inherent to international specialization between industries. (...) What was observed in the 1980s was precisely further contraction or elimination of many of the indigenous firms in exposed and relatively large-scale activities. Thus the experience of Irish manufacturing industry since accession can be seen to be consistent with a sophisticated and realistic understanding of how trade and integration can work where there are initial differences in levels of development, technology, and scale of production. The analysis of the Irish experience in these terms suggests that some of the severe problems of manufacturing industry in Ireland in the period 1980 to 1986 should be seen as effects of economic integration, unredressed by counteracting policies.' (NESC, 1989, p. 206).

The case of East Germany is also of interest, because it is an extreme or polar case of a monetary as well as economic union. It is of course very difficult to analyse, because the end of the story is not yet known and because German unification is a union with specific characteristics: the suddenness of the process, the level at which currencies were exchanged, the transition from a communist to a capitalist system, the magnitude of the budgetary transfers from West

Germany. One would have to assess the impact of all these characteristics in order to identify the impact of EMU. In addition, the integration of East Germany created a full political union, not merely an economic and monetary union.

A comparison can be made, however, with a country like Poland. The Polish economy, like the East German economy, was also affected by a 'transition' from communism to capitalism, and can therefore serve to keep this factor constant. The Polish economy, unlike the East German economy, did not benefit from massive help from outside in the form of cash transfers, institutions and expertise and should therefore (all other things being equal) have fared much less well than the East German economy. Yet, the available information suggests that the drop in GDP was definitely more pronounced in East Germany than in Poland. The figures for East Germany appear to be −25% in 1990 and −25% in 1991, as opposed to −8% and −12% for Poland (figures for industrial output are much worse for both countries). This lower performance in East Germany, in spite of the assistance received, can be attributed to the German EMU, or more precisely to its timing and conditions. It could well be that, in the longer run, the East German *Länder* will recover faster and better than Poland.

The East German case, nevertheless, illustrates very clearly the dilemma of an economic and monetary union between countries with large output and productivity differentials. Either wage differentials are in line with productivity differentials or they are not. If they are, people will move out in large numbers, creating all sorts of difficulties in both departure and arrival areas. If they are not, the low-productivity area becomes a high-cost area, the enterprises of this area cannot compete, and a process of cumulative decline sets in.

Businessmen's views of the issue

Businessmen's perception of realities may be mistaken, although there are no reasons to believe that businessmen would be less wise than economists, and some reason to expect their views to be more self-fulfilling than those of economists. The fear that EMU could impact differentially upon countries or regions as a function of their income seems to be shared by businessmen. The European Commission commissioned a survey of 9 000 companies' assessment of the effects of the completion of the single European market.

It showed that there are in every country enterprises that expect to benefit from the completion of the common market. More than one-third of the businessmen interviewed see it as an improvement of opportunities. Only one-sixth see it as an aggravation of threats. The rest (about half) balance threats and opportunities, or do not know enough to have an opinion. But there are regional differences in the views expressed. Businessmen located in lagging (Objective 1) regions or in declining (Objective 2) regions are not as confident as businessmen located in the more prosperous regions. The ratio of those who expect improvements to those who express fear is below 2/1 in the lagging regions as opposed to nearly 3/1 in the prosperous regions.

The findings of this survey are summarized in Table 8, which presents what could be called an index of optimism.

Table 8

Company assessment of the effect of the completion of the single European market, by type of region

	Type of region		
	Lagging	Declining	Prosperous
Effect on the company	17,4	17,9	25,1
Effect on the region	14,2	9,4	23,4

Note: Companies were asked to assess the incidence of the single European Market upon their own firms and their region as positive, neutral or negative. The figures quoted are based on their replies, where an index of 100 would correspond to a positive assessment by all firms and an index of −100 to a unanimous negative assessment.
Source: Commission of the European Communities (1990), p. 231.

For Europe as a whole, firms located in the more prosperous regions are more optimistic than firms located in the problem regions, both for themselves and for their region. If the forecasts of companies are to be believed, the completion of the economic and monetary union will benefit everybody, but will benefit more those who are in the already more prosperous areas. In short, it will increase spatial disparities. This assessment is very much in line with what is suggested by the abovementioned analysis.

3. Policy objectives

The widening of regional disparities in Europe in the context of an economic and monetary union is therefore more than a danger; it is a likelihood in the absence of strong countervailing policies. This has long been — more or less clearly — realized, and explains the development of 'regional policies' both within countries and at Community level. At the latter level, the main instruments of regional policy are the European Investment Bank, the European Regional

Development Fund and the introduction of a regional dimension in the most important Community policies, particularly in the operations of the other Structural Funds. The 1988 reform of the Structural Funds embodies this concern, and provides, amongst other things, for a doubling of the size of the Structural Funds in real terms between 1987 and 1993. The renewed emphasis on 'cohesion' only underscores this concern. 'Regional policy in the EC', or more precisely policies for the reduction of spatial disparities (relative to what they would be in the absence of specific policies), raises a number of issues.

Why reduce spatial disparities?

A first set of issues relates to the rationale for policies aiming at the reduction of spatial disparities in the Community.

It could be argued that there is no need to worry about spatial disparities, be they between regions or between countries, and that, in an effective 'community', what counts are interpersonal differences, not interspatial differences. The case for policies aiming at reducing interpersonal, not interspatial, disparities rests on the arguments that they are fairer and broader.

They are fairer in the sense that the poor must be aided irrespective of where they happen to be located. Focusing transfers on areas might lead to two undesirable outcomes: some poor people will not be aided because they live in rich areas, while some rich people will be aided because they live in poor areas. Furthermore, there is no guarantee that transfers given to low-income regions or countries will effectively benefit the poorer citizens of these countries.

Policies aiming at reducing interpersonal disparities are also broader in the sense that (in most cases) they will automatically achieve a reduction in interspatial disparities as well. Poor regions or countries are poor because there are many poor people living there, nearly by definition. Helping poor people will automatically help poor regions or countries.

It is on the basis of such considerations that regional policies have been scaled down in several countries. In the USA in the 1970s, an official committee recommended the substitution of existing 'places-oriented' policies (mostly urban policies) by 'people-oriented' policies. In the United Kingdom in the 1980s similar ideas gained currency. Several points can be made about (or rather against) these lines of argument.

A first one is formal. A reduction of interpersonal disparities does not necessarily lead to a reduction of interspatial disparities. If the average low-income country (or region) is more egalitarian than the average high-income country, transfers to poorer citizens might well benefit primarily the richer country, thereby increasing the intercountry disparity.[1]

A second one is more economic. A low-income country (or region) is not merely an area where there are low-income people. It is also a place where there are fewer economic opportunities, less infrastructure, fewer agglomeration economies and other locational externalities. Increasing individual incomes in the area is not the same thing as increasing the development potential of the area. It is like curing the symptoms rather than the illness.

The third point is political. Countries (and even regions) are social and political entities. They exist beyond the individuals that compose them, in the minds of these individuals. In their utility functions, the citizens of one country (or region) enter not only their own income but also the income of their fellow citizens, much more than the income of inhabitants of other countries (or regions). Intercountry (interregional) disparities are not merely statistical artefacts; their perception is a sociological reality. Whether we like it or not, there is a political demand for action to reduce intercountry (or interregional) disparities, and the demand is as much for the action as for the reduction.

All this suggests that the reduction of interpersonal disparities is not a good substitute for the reduction of interspatial disparities. Rather, we have here two policy objectives that are related and complementary, but are also distinct.

A somewhat related issue has to do with the justification of the reduction of spatial disparities. Should spatial disparities be reduced for economic, social or political reasons? The basic arguments are social and political: there is a demand for it. It would be nice to show that reducing intercountry disparities in a federation (or interregional disparities in a country) will bring economic benefits as well, and increase growth in the federation (or the country) as a whole. This unfortunately cannot be done. There is even a presumption that it is not true. The reduction of interspatial disparities — like the reduction of interpersonal disparities — probably involves a loss in economic development.

[1] Consider a country (or region) A consisting of three individuals or groups with incomes of 200, 200, and 200; and a country B consisting of three individuals with incomes of 100, 400, 400. Consider further an interpersonal disparities-reducing policy, financed by a 5% proportional income tax and aimed at increasing the income of people with an income lower than 200, that would raise the income of the person with 100 to 175. As a result of this policy, incomes in A will become 190, 190 and 190, and incomes in B will become 170, 380 and 380 (assuming, for simplicity's sake, that transfers are not taxed). The average income in A relative to the average income in B will be changed from 200/300 to 190/310. The reduction in interpersonal disparities will therefore be accompanied by an increase in intercountry disparities.

This question, however, may be a false issue in the case of intercountry and interregional disparities in the Community. Reducing spatial disparities may have a direct economic cost in terms of financial resources required. However, failing to reduce disparities may also imply costs, albeit indirectly, in terms of jeopardizing EMU politically and thereby failing to reap the benefits of economic integration.

What disparities should be reduced?

Not all spatial 'disparities' are undesirable. A distinction could be made between those disparities that are hierarchical, and those which are not. For attributes that cannot be ranked, such as industry-mix (a higher share of food industry is in itself neither better nor worse), disparities are another word for diversity, and should be encouraged rather than reduced. For attributes that can be ranked, like income (a higher income is in itself clearly better), disparities within the Community must be contained or reduced, for the reasons indicated above.

Seven main areas of disparities can thus be considered. Their relationships are indicated in Graph 6.

In principle, policies could aim at reducing disparities in any, or all, of these areas. Reducing disparities in consumption could be seen as the only final objective, with the other areas being instrumental. In reality, however, disparities in infrastructure endowment or in employment are seen as undesirable in themselves and their reduction has to be considered as an end in itself.

Several disparity-reducing strategies can be identified, according to where the focus — and the available resources — is placed:

(i) the 'production', or structural, strategy puts the emphasis on the reduction of disparities in output and consequently in primary income and could be described as a supply-oriented strategy;

(ii) the 'delivery', or indirect, strategy puts the emphasis on the reduction of disparities in public service levels, and more precisely on privately consumed collective goods, such as education; it is a consumption-oriented strategy;

(iii) the 'transfers', or social, strategy puts the emphasis on the reduction of disparities in disposable income by means of transfers; it is a demand-oriented strategy.

The three strategies can of course be combined. In particular, it is clear that some infrastructure investments can serve both strategies (i) and (ii), because some infrastructure, such as transport or telecommunications, are used by both enterprises and households.

The EC regional policy has primarily been of the first type. Funds and loans have been allocated to the poorer regions of the Community for the development or creation of infrastructure; to a lesser extent, loans have contributed to productive capital formation. By contrast, much of the regional policies undertaken by member countries are of the delivery or transfers types, and impact upon public service levels or upon disposable incomes, i.e. upon consumption. Centrally provided public services (as in the case of education in France or Italy) or grants to subnational governments for the provision of public services do contribute to reducing, often very significantly, spatial disparities in public service levels, and hence in total consumption levels. Centrally provided transfers in the area of welfare payments, medical assistance, unemployment compensation and retirement pensions, although not area-targeted, often contribute greatly to increasing the income of people living in poorer areas — not because these people live in such areas, but simply because they are poorer.

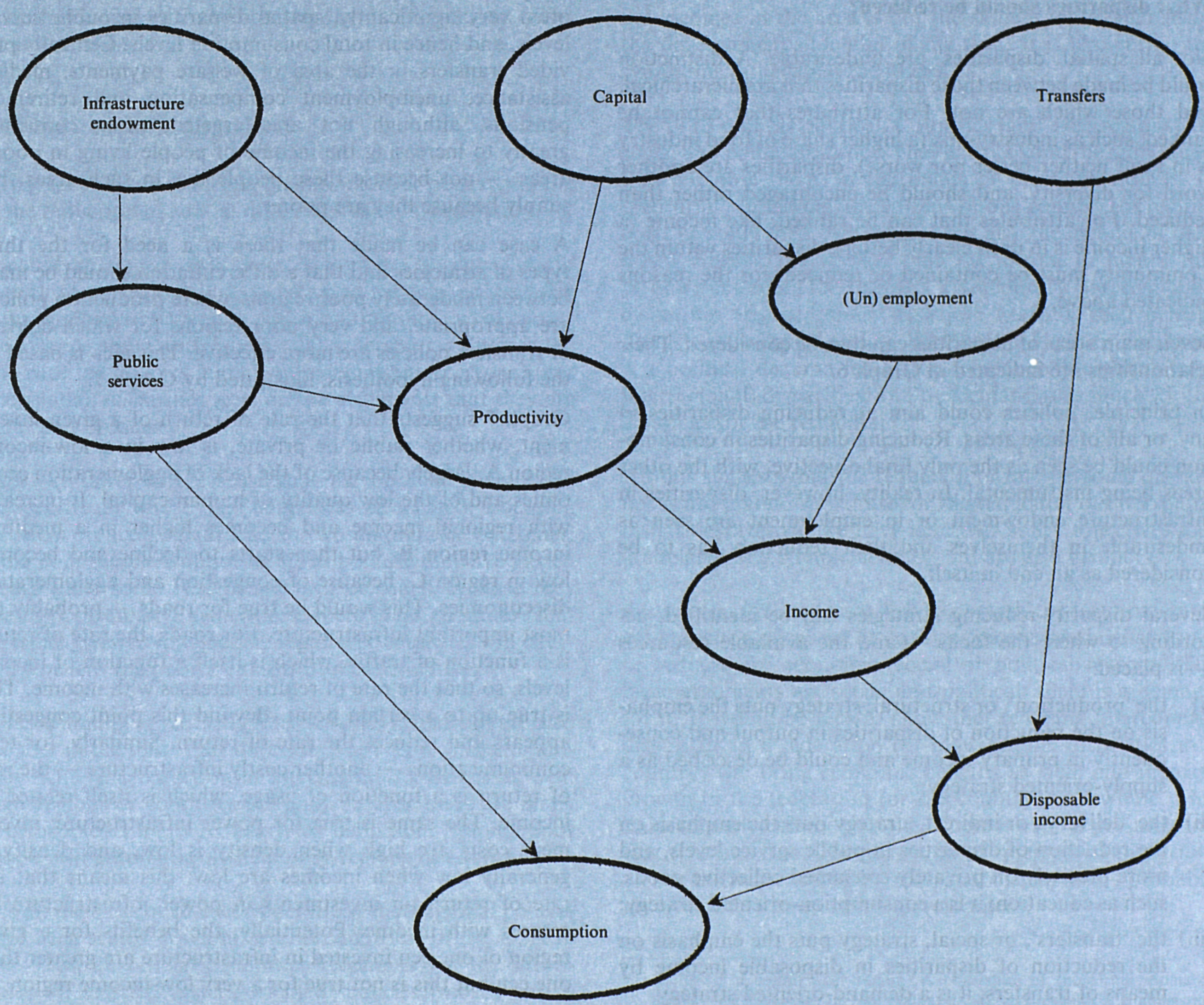
A case can be made that there is a need for the three types of strategies and that a differentiation should be made between moderately poor regions, where production policies are appropriate, and very poor regions for which delivery or transfers policies are more effective. This idea is based on the following hypothesis, illustrated by Graph 7.

Graph 7 suggests that the rate of return of a given investment, whether public or private, is low in a low-income region A, largely because of the lack of agglomeration economies and of the low quality of human capital. It increases with regional income and becomes higher in a medium-income region B, but then starts to decline and becomes low in region C, because of congestion and agglomeration diseconomies. This would be true for roads — probably the most important infrastructure. For roads, the rate of return is a function of traffic, which is itself a function of income levels, so that the rate of return increases with income. This is true up to a certain point. Beyond this point congestion appears and reduces the rate of return. Similarly, for telecommunications — another costly infrastructure — the rate of return is a function of usage, which is itself related to income. The same is true for power infrastructure; investment costs are high when density is low, and density is generally low when incomes are low; this means that the rate of return on investments in power infrastructure increases with income. Potentially, the benefits for a given region of one ecu invested in infrastructure are greater than one ecu but this is not true for a very low-income region.

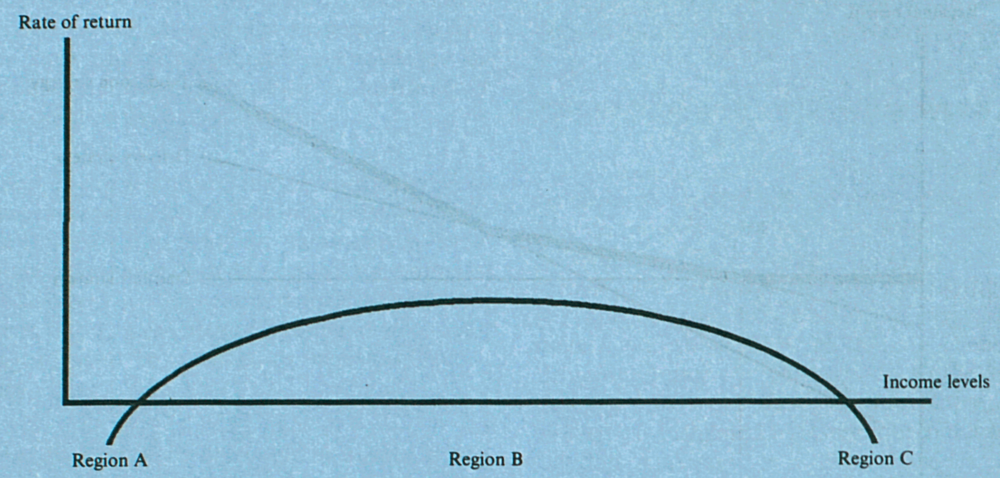
By contrast, the benefit for a given region of one ecu given in the form of an income transfer is equal to one ecu (minus the reduction in output associated with an income effect, if any[1]), irrespective of the income level of the region.

[1] A transfer will be financed by a tax that might lead to a deadweight loss; but the burden of this loss will be borne by a different, richer, region; from the viewpoint of the receiving region, it should be ignored.

GRAPH 6: Main areas of undesirable disparities



GRAPH 7: **Rate of return on infrastructure as a function of income**



The case of the delivery strategy of centrally providing public services is probably half way between the other two. Costs probably decrease slightly with income levels, because efficiency and density increase, up to a certain level of development, at which unit costs begin to increase. The benefit to a region of one ecu given in this form therefore increases slightly with income levels.

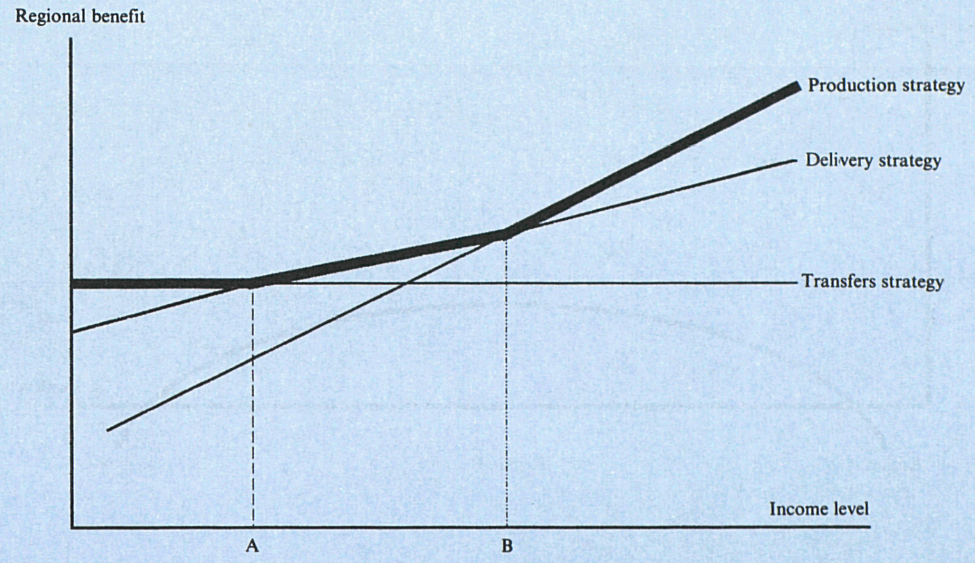
This would suggest that the best strategy to improve the lot of lagging regions changes with income levels, as illustrated in Graph 8. When regional income is very low, i.e. lower than A, the transfers strategy will have the highest yield. In a second phase, for income between A and B, the delivery strategy is to be preferred. When regional income is higher, i.e. greater than B, the production approach is the most effective.

This simple model does not tell us where the specific weak regions and countries of the Community lie and therefore what strategies should be applied to each case. It nevertheless suggests that for Portugal and Greece, and even more so for the less-developed areas of these countries (and also of Italy, Spain and East Germany) the production strategy may not be the only one desirable, and that the other strategies must be seriously considered.

Another dimension has to be added at this point: the incentive effects of the various strategies. As pointed out by Goodhart (in an unpublished note), and by others, redistributive policies might slow down rather than facilitate the adjustment process of low-income areas. They might unduly reduce incentives to migrate, to work, to innovate, to take risks, and thus create welfare-reliant, inefficient societies. This description probably applies, to a certain extent, to some regions of Canada or Italy.

Such a danger, however, varies with the type of strategy adopted. It is definitely greater with a transfers strategy than with a production strategy, and greater with a production strategy than with a delivery strategy. The abovementioned superiority of the transfers strategy for very low-income areas must therefore be qualified or questioned. Either it must be replaced by a delivery of public services strategy, or else transfers must be designed in a way that explicitly takes migrations and efficiency into account.

GRAPH 8: **Regional benefits associated with various assistance strategies**



Another way to express the same idea might be to say that reducing disparities in disposable income might prevent the reduction of disparities in primary income, i.e. in output and productivity. Low disposable income is a strong incentive to increasing output and productivity, which itself in turn increases disposable income. There are no doubts that the reduction of disposable income disparities by means of transfers will weaken the incentive to adjust and produce in the lower income regions. Part of the benefit of additional efforts and achievements will be lost in the form of a reduction in assistance. This decreases the benefit/cost ratio of additional efforts, and therefore the amount of additional efforts that will be undertaken.

Who should reduce spatial disparities?

Assuming that a reduction of spatial disparities is a desirable Community objective, there remains the question of who should undertake policies to that effect? What should be the role of the Community in this effort?

For the reduction of intercountry disparities, the answer is quite obvious: only the Community can play a role. If, as has been argued, market forces are not sufficient to reduce these disparities, or will contribute to widen them, then they will not be reduced in the absence of a strong EC public finance policy.

For the reduction of intracountry disparities, the answer is not so obvious. Should it be done by the various national governments, or by the Community? Does the principle of subsidiarity apply, and exclude Community action in this area?

The fact that differences between the regions of each country are an important constituent of differences between the regions of the Community, and as such an EC concern, is not enough to justify a positive answer. Two arguments can be made against EC involvement. One is that there are differences in tastes between member countries relative to the desirable degree of 'equality'. Evidence of this can be found in the varying degrees of spatial and interpersonal inequality between countries. A fairer regional income distribution is a public good, but a public good that is not valued similarly in Denmark and in Italy and which will be difficult to value at the EC level. The other argument is based on efficiency. Even if interregional disparities reduction objectives could be achieved at the EC level, their implementation would be better left to the national governments. The implementation of such objectives requires a knowledge of regional realities and a constant adjustment of instruments that can only be found at the national levels.

On the other hand, it can be argued that relying only upon national governments would be: (i) unsafe; (ii) unfair; and (iii) unwise. The first two arguments are commonly utilized in the public finance literature to justify central government intervention, as opposed to decentralized local or regional government intervention, in the area of interpersonal equalization. But they can easily be extended to the case of interspatial disparities.

Reliance upon national governments would be unsafe, in the sense that individual countries cannot necessarily be counted upon to undertake the appropriate (from the viewpoint of the Community) policies to reduce interregional disparities.

It would be unfair, because the richer regions of the poorer countries would have to pay, whereas the poorer regions of the richer countries (which may be just as rich as the former) will be subsidized.[1] This might increase, rather than decrease, overall interregional disparity. It might also lead to the unequal treatment of equals which is a definition of unfairness.

It would also be unwise, in the sense that EMU could — rightly or wrongly does not matter here — be blamed for increasing inequalities between the regions of Europe and even between the regions of the member countries, and that this could be used as an argument against EMU.

It seems reasonable to conclude that the Community has legitimate reasons to be concerned about interregional disparities and to develop policies to reduce them. So have the various countries, of course, for the disparities within their borders. The issue therefore is not who should be in charge of these policies but, rather, how can the policies of the various actors be jointly organized and coordinated?

How much would it cost to reduce spatial disparities?

A very rough order of magnitude of expenditure that would be required to eliminate or substantially reduce disparities can be inferred from the information available about the integration of East Germany. The per capita output of the former GDR was about equal or slightly higher than the per capita output of Greece and Portugal, and its population represented about 85% of that of Greece and Portugal. Bringing Greece and Portugal up to the level of the more-developed EC countries is therefore about as difficult and as costly as bringing East Germany to this level. Admittedly, German unification is a much more ambitious endeavour than EMU. The comparison is nevertheless interesting.

The expenditure of the German Federation in the five East German *Länder* in 1991 has been estimated at some DM 145 billion, or about ECU 75 billion. By way of comparison the 1991 EC budget amounts to ECU 56 billion, with Structural Funds of about ECU 15 billion. The amounts spent in Greece and Portugal by the EC budget are around ECU 6 billion. This is 12 times less than what is done for East Germany. Doing for Greece and Portugal alone what is done for East Germany would require a massive increase and a complete restructuring of the EC budget. Spain and Ireland are more developed, but also (taken together) more populated, and would also require an effort of a similar magnitude.

4. Policy instruments

The foregoing discussion suggests that there is and will be a real need to decrease spatial disparities within an economic and monetary union, and that this task must, to a certain extent, be undertaken by the Community through its budget. There remains the question of how this could best be done.

A simple model of budget-induced transfers

A starting-point for the discussion of this issue is a simple model of budget-induced transfers. Consider a country (or a federation) with a population P, of per capita GDP y and

[1] Consider a country A consisting of two regions a and b, with incomes of 100 and 200; and a country B consisting of two regions c and d with incomes of 200 and 300. Consider a redistributive policy consisting of a 10% tax on the richer region, the proceeds of which are granted to the weakest region. The following table contrasts the results of the redistributive policy as applied at the decentralized national level and at the centralized supranational level:

Regional income of:	a	b	c	d
Before redistributive policies:	100	200	200	300
After decentralized national policies:	120	180	230	270
After centralized supranational policies:	130	200	200	270

The change introduced by the centralized policy is clearly better than the one introduced by the decentralized policy.

of GDP Y, composed of regions (or of States) i, of population Pi, of per capita GDP yi, and of income Yi. The budget E of our country is balanced.

Let: ti = the per capita taxes paid by region i to the central budget

ei = the per capita expenditure or benefits of the central budget in region i

gi = the per capita budget-induced transfers for region i

Gi = the budget-induced transfers for region i;

a, b, c and d = parameters describing the tax and expenditure systems

We have:

$$ti = a\, yib \quad (1)$$

$$ei = c + d\, yi \quad (2)$$

$$gi = ei - ti \quad (3)$$

a is an indicator of the budget size. b reflects the progressivity of the tax system. $b = 1$ means a proportional tax system; $b > 1$ a progressive one. d denotes what could be called the 'equalizingness' of the expenditure system; $d = 0$ means that expenditure per capita benefits all regions equally and is independent of regional per capita income; $d < 0$ that it decreases with income and $d > 0$ that it increases with income.

$$gi = c + d\, yi - a\, yib$$

$$Gi = c\, Pi + d\, yi\, Pi - a\, yib\, Pi$$

$$E = a\, \Sigma\, yib\, Pi$$

We can eliminate c by introducing the balanced budget constraint $\Sigma\, Gi = 0$:

$$c\, P + d\, Y - a\, \Sigma\, yib\, P = 0$$

$$c = E/P - d\, y$$

(3) becomes:

$$gi = E/P - a\, yib - d\,(y - yi) \quad (4)$$

Equation (4) shows that the budget-induced transfers for region i are a function of four factors:

(i) they are a function of the size of the budget E of the country (or federation), which in turn depends upon a and b, the parameters of the tax system and upon the regional income distribution;

(ii) the magnitude of the transfers also depends upon the progressivity of the tax system, as indicated by b: for $b > 1$ and for higher values of yi, a yib will be large, and the transfer negative;

(iii) transfers are also a function of the equalizingness of the expenditure system, represented by d, the slope of the expenditure curve; if the expenditure system is equalizing, i.e. if expenditure is greater in low-income regions, then the lower the income of region i, the greater the positive transfer it will receive;

(iv) for a given region i, the transfer is of course also related to its relative per capita income, or more precisely to the difference between its income and the average country income.

This simple model can be further simplified. If the tax system is proportional, $b = 1$, and (4) becomes:

$$gi = E/P - a\, yi - d\,(y - yi) \quad (4a)$$

One can also take the expenditure system to be equalization-neutral, i.e. independent of regional income. In this case, $d = 0$, and (4) becomes:

$$gi = E/P - a\, yib \quad (4b)$$

One can also consider the two modifications jointly. In this case, (4) becomes:

$$gi = a\,(y - yi) \quad (4c)$$

The model shows that there are only three main avenues to increase spatial transfers within the Community: (i) increase the size of the EC budget; (ii) increase the equalizingness of EC expenditures; and (iii) increase the progressiveness of EC taxes. They will be discussed in turn.

The spatial impacts of budget size

All other things being equal, an increase in the size of the budget will lead to an increase in interspatial transfers. The simplified model was applied to the 1990 EC intercountry distribution of income and population, with different values of a, the tax rate, or in other words the budget size as a percentage of GDP, in order to get orders of magnitude of the redistributive impact of a budget in a country (or federation) with the EC regional income structure. The assumption of a proportional tax ($b = 1$) is not unrealistic, at least in the present EC context. The assumption of expenditure unrelated to income ($d = 0$) is probably not unrealistic either. In the present context, the moderately unequalizing effect of the large agricultural expenditure probably balances out the strong equalizing impact of the smaller 'structural' expenditure. This latter assumption, however, would become unrealistic in a budgetary context characterized by a rapid growth of the Structural Funds, which are, by definition, inversely related to income. The values for the parameter a, the size of the budget, are all much higher than the present value, which is about 1%. Table 9 gives some of the results of this simulation.

Table 9 gives orders of magnitude of the transfers that could be induced in the Community by an EC budget of different sizes. It does so with the assumptions of a proportional tax system, and an equalization-neutral expenditure system. Per capita transfers are given for the poorest country, Portugal (but they are not very different for Greece), and for the second richest country, Germany (but they are not very different for Denmark). The results suggest three points.

For the richer countries, the (negative) budget-induced transfers are small, even in the case of a large (30% of GDP) budget. On the contrary, for the poorer countries, (positive) budget-induced transfers are large, even in the case of small (5 or 10% of GDP) budgets. This asymmetry results from the uneven distribution of population between poorer and richer countries in the Community. Only 34% of the EC population live in countries the income of which is lower than the EC average. It is quite different from what can be found in several member countries of the Community, in which high incomes are concentrated in a few richer regions, as in the case of France. In this country, the weight of the budget-induced interregional transfers rests heavily on Ile-de-France, the Paris region: what is contributed per capita there is much higher than what is received per capita in the poorer regions.

The third point, however, is not so encouraging. Disparities (assessed here as the ratio of income in the poorer countries to the EC average) are only slightly reduced by budget-induced transfers. A moderately large (10% of GDP) budget would only improve the relative position of the two poorer countries from 34 to 40% of EC average and have an even less visible impact upon the relative position of the four poorer countries. This reflects the fact that initial disparities between EC countries are very large indeed.

There are two determinants of the size of the budget of a central (or federal) government. One is the consolidated government tax and/or expenditure ratio to GDP, which is the outcome of political and historical considerations, and which must be taken as constant for our purposes. The other one is the centralization ratio, the ratio of central (or federal) taxes and/or expenditure to total consolidated taxes and/or expenditure.

Theory (the theory of fiscal federalism) offers some insights as to what this — or rather these — centralization ratios should be. It explains which taxes, and which expenditure, should be assigned to what level of government. The answer is very different for taxes and for expenditure.

The taxes that could and should be allocated to subcentral governments (to national, regional or local governments in the case of the Community) are: (i) taxes that do not induce tax bases to move away out of the jurisdiction, so as not to distort resource allocation over space; (ii) taxes that are not

Table 9

Budget-induced transfers as a function of budget sizes, 1990

Size of the budget (% of GDP)	0	2	5	10	30
Transfers per capita					
Portugal (USD)	:	253	638	1 276	3 830
Portugal (in % of GDP per capita)	:	4,4	11,2	22,3	67,0
Germany (USD)	:	−111	−278	−557	−1 169
Germany (in % of GDP per capita)	:	0,5	1,2	2,3	6,9
Relative GDP per capita					
Portugal and Greece	33,7	35,1	37,1	40,1	53,6
Portugal, Greece, Ireland and Spain	57,0	57,8	59,1	61,1	69,9

Expressed in USD at current market prices and exchange rates, not purchasing power parities. Figures are calculated on the basis of equation (4c) as described in the text. 'Relative' GDP/per capita means 'relative to the EC average'.
Sources: Data on GDP: OECD, *OECD in figures*, 1991.

susceptible of being shifted to other jurisdictions; and (iii) taxes that are not imposed upon natural resources or imports or exports. Very few taxes meet these criteria. This is the case of real property taxes, benefit charges, payroll taxes to a certain extent, origin-type product taxes, retail sales tax. But the most productive and income-elastic taxes, such as the progressive income tax, value-added taxes, death duties, natural resources taxes, import and export taxes, are best allocated to the higher level of government. As can be seen from Table 10, in all existing countries, including federal countries, most taxes are assigned to the higher level of government. The centralization ratio for taxes is about 70% in federations (excluding Belgium, which is a very young federation), and well over 90% in unitary countries.

Table 10

Centralization of taxes and expenditure — selected countries (recent years)

(%)

	Centralization ratios for: Taxes	Expenditure
Federal countries		
Australia (1988)	80,4	74,4
Canada (1988)	50,6	50,3
Germany (1988)	70,0	61,9
USA (1988)	76,5	68.0
Austria (1988)	79,5	78,7
Switzerland (1984)	61,6	55,6
Average for six federal countries	69,8	65,0
Belgium (1988)	93,5	93,1
Unitary countries		
France (1988)	91,1	89,3
Italy (1988)	96,4	70,5
United Kingdom (1987)	90,1	88,2
Spain (1986)	94,5	87,9
Average for four unitary countries	93,1	84,0
EUR 12 (1988)	2,6	2,3

Tax (expenditure) centralization ratios are defined as taxes (expenditure) of consolidated central government divided by taxes (expenditure) of consolidated general government; taxes and expenditures of social security are included; for Italy, the figures for general government are not available in the source, and have been estimated; figures for EUR 12 are also estimates.
Source: IMF, *Government finance statistics*, 1989 and 1990.

The expenditure that could and should be assigned to sub-central governments from an allocative efficiency viewpoint is much more numerous, i.e. the expenditure on goods and services that are not produced with economies of scale at the central level, or do not carry with them spillover externalities. This would mean most goods and services, except for defence, research, foreign affairs, justice, road provision, some forms of environmental protection and possibly higher education would result in fairly low centralization ratios. The allocative efficiency viewpoint, however, is not the end of the assignment story. Stabilization and redistribution viewpoints have also to be taken into consideration. They call for higher centralization ratios. Social security, in particular, is a central government function in most countries. In practice, as indicated in Table 10, centralization ratios are lower than tax ratios, but not much lower. The average for federal countries is 65%, and remains above 80% in unitary countries.

It should be added that these figures underestimate expenditure centralization. In many countries, expenditure undertaken by subnational governments, and counted as such in published statistics, is in fact 'decided' by central or federal governments. In France, for instance, certain welfare expenditure (assistance to children, to the handicapped, etc.), which used to be a central government responsibility, has been (in 1984) allocated to *départements*, a lower level of government, and is now counted as subnational expenditure. But most of this expenditure is not at the discretion of *départements*. *Départements* do not have the freedom not to undertake it as it is compulsory under national laws. For such expenditure (or a large share of it) the *département* is more an executing agency of the central government than an independent body. In Italy, similarly, expenditure decentralization is often more apparent than real. Part of the money allocated by the central government for the safeguard of Venice is handed out to the commune of Venice and to the Veneto region and spent by these subnational authorities — and counted as subnational expenditure in statistics. But in fact it is spent for a purpose and with detailed specifications decided by the central government. Subnational expenditure should therefore be multiplied by a coefficient (lower than one) that would reflect the degree of autonomy with which it is decided.

In theory, there are no reasons why the optimal tax centralization ratio would be equal to the optimal expenditure centralization ratio. This means that intergovernmental transfers or grants are required.[1] In practice, grants from central (federal) governments to lower levels of government are very widespread and account for a substantial share of central government expenditure, and for an even larger share

[1] The theory of fiscal federalism has some difficulty in reconciling the principle that the budgets of the subcentral governments should be balanced with the idea that optimal tax decentralization and optimal expenditure decentralization will result in transfers from central to sub-central governments. This reconciliation is in part done by the theory of intergovernmental transfers.

of subnational government resources. The differences between tax centralization ratios and expenditure centralization ratios shown in Table 10 reflect such intergovernmental transfers. This would be a measure of these transfers if taxes were the only resources of governments. But since this is not the case, and since central governments rely much more than subcentral governments on deficit financing, the differences in Table 10 are a poor and underestimated indicator of the magnitude of grants.[1]

Table 10 also shows the EC budget in a federal perspective. The centralization ratios of both taxes and expenditure are tiny when compared with the similar ratios for mature federations, not to mention unitary States. From an allocative viewpoint, and even more from the stabilization and redistributive viewpoints, the present size of the EC budget seems too small.

There are several counter-arguments to this line of reasoning, which was the line adopted by the MacDougall Report. A first one is 'political'. Governments and public opinion in member countries are probably not yet ready for transfers of taxes and expenditure from the Member States to the EC budget. This is in part precisely because such transfers would imply net transfers from richer to poorer countries, an outcome which is obviously in conflict with the philosophy of *juste retour* which has more or less been adopted officially by many member countries. The only thing that can be said here is that such a philosophy is in conflict with the stated goal of cohesion.

A second counter-argument, or rather observation, is historical. It is true that the share of the upper level in all federations is much larger than in the Community, but it is also true that these federations all existed before the massive increases in public budgets that took place in the 20th century, so that not too much can be concluded from the comparison. The Community could become a federation of a new type having followed a different path.

A third point is technical. It can be pointed out that many of the benefits of tax and expenditure centralization can also be obtained by coordination For instance, there are good reasons to think that the taxation of a mobile tax base like capital cannot be left freely to Member States, but this does not mean that capital taxation should become an EC responsibility; it can also mean that Member States should coordinate and harmonize their capital taxation. In this particular instance, the coordination should even be worldwide, or at least OECD-wide.

A final counter-argument is economic. Even if EC member countries were politically determined to increase the EC budget in order to help the less-developed nations or regions of the Community, it is not sure that the means would achieve the goal. Economic development and self-sustained growth are not simply a function of the amount of resources transferred. In some cases, too much assistance can even be counterproductive and slow down rather than accelerate the development process.

It is probably true that the large and perhaps growing disparities between EC countries and regions will not be reduced without a strong EC public finance policy, which implies a substantial increase in the size of the EC budget. But this is a necessary, not a sufficient, condition of a reduction in disparities. And it is an instrument which is not easy to manipulate.

Let us assume, for the sake of the argument, that a substantial increase of the EC budget is not impossible, and that some centralization of expenditure and taxes can take place. What kinds of expenditure and taxes could best be transferred from national (or even subnational) budgets to the EC budget?

The spatial impacts of expenditure types

In theory, EC budgetary expenditure (or its increase) could take three main forms: (i) transfers to households and enterprises; (ii) production of public goods and services consumed by households, enterprises and governments; (iii) transfers to national or subnational governments. The third category can be further divided, because these grants can be made to national or to subnational governments, and can be conditional or unconditional, thus producing six categories of expenditure. These expenditure categories can be combined with the three expenditure strategies discussed in section 3 above, as shown in Table 11.

At present, there are only three types of EC budgetary expenditure. The expenditure of the European Agricultural Guidance and Guarantee Fund, which makes up the bulk of expenditure, comprises transfers to households and enterprises that are at the service of the 'production' strategy.

[1] The difference between the tax ratio (2,6) and the expenditure ratio (2,3) for the Community does not reflect grants, that do not exist, nor deficit financing of the EC budget, which does not exist either, but reflects the fact that in the EC countries total government expenditure is higher than total taxes whereas EC budget expenditure and EC budget taxes are equal. The figures given (2,3% and 2,6%) are substantially lower than the figures often quoted on Community expenditure in relation to total Member States budgets (4%). This is because our figures relate Community taxes and expenditure to Member States general government taxes and expenditure, including subnational governments and social security taxes and expenditure.

Table 11

Typology of budgetary expenditure

Category / Strategy	Production (supply-oriented)	Delivery (demand-oriented)	Transfers (consumption)
Transfers to households and enterprises	E	—	P
Production of public goods and services	P	E	—
Transfers to governments:			
Conditional grants to national governments	E	P	P
Block grants to national governments	U	U	U
Conditional grants to subnational governments	P	P	P
Block grants to subnational governments	U	U	U

Note: E = existing; P = potential; U = undetermined, i.e. could serve any of the three strategies.

The expenditure of the Structural Fund can be considered as conditional grants to national governments, which are of course given to serve a 'production' strategy. The expenditure in the energy, industry, technology and research sectors is expenditure on public goods and services which indirectly benefits households and enterprises, and is part of a 'delivery' strategy. But many other types of expenditure could, in theory, be utilized. Transfers cannot serve a delivery strategy, and expenditure on the production of public services cannot serve a transfer strategy. Block grants to national governments can serve any of the three strategies, according to how the money granted will be used, and count therefore as one type of expenditure. The same is true of block grants to local governments. In all, 12 types can be identified.

The question then becomes: which of these 12 types of expenditure are most appropriate for the reduction of spatial disparities in the Community? If the EC budget were to expand, in what direction should it grow? Two criteria can be used to try and answer this question: (i) is the expenditure equalizing, i.e. susceptible of benefiting the poorer regions of the Community more?; (ii) is the expenditure growth-promoting, i.e. susceptible of promoting self-sustained growth of the benefiting region?

The use of the first criterion is obvious. Expenditure that will automatically or specifically benefit the poorer regions (the expenditure for which the *d* of the budget-induced transfers model is negative) will, all other things being equal, contribute more to the reduction of regional disparities.

But this criterion is not enough. Certain expenditure contributes more to growth than others, as was discussed above. Some may even be detrimental to long-term growth, because of the negative impact upon incentives. Hence the need for the second criteria of growth-promotion.

An assessment of the different types of expenditure is presented in Table 12.

Transfers to households and enterprises for production purposes, such as agricultural price support, are not necessarily equalizing. In the case of the agricultural fund (EAGGF), they are not as they benefit richer regions as much or more than poorer regions. Their growth-promoting effect is also doubtful. With regard to the cohesion objective, they are one of the worst forms of budgetary expenditure.

Transfers to households for social purposes, such as unemployment compensation or welfare benefits, would certainly be very equalizing. They may not contribute much to growth, although in very poor regions, where other types of expenditure may contribute even less (as suggested in Graph 8), they may be a least-cost solution. The danger here, as mentioned above, is that excessively generous transfers might reduce migrations and/or wage flexibility. A possible solution in this case would be to make such transfers conditional upon migration and/or wage flexibility.

The production of public goods and services for supply-oriented purposes, such as the construction of inter-European highways or telecommunications networks, or research, is potentially equalizing, depending upon what goods and services are provided and where they are provided. It is most probably growth-promoting. It could be argued that this form of expenditure is one of the most desirable, if it were not for two difficulties. One is that, in the low-income areas, such infrastructures will for quite a while be underutilized and will therefore have a very low rate of return. The other is that, for those publicly provided goods and services that are pure public goods (such as research), the likelihood is that they will be much more utilized by the more-developed areas than by the less-developed areas and might therefore be counter-redistributive.

The centralization of transfers to households and enterprises, and of the production and distribution of public services, appears to be desirable from a disparity-reducing viewpoint. It is hard to defend from an allocative viewpoint. There are few economies of scale or externalities at the EC level to justify it. Producing goods and services and allocating trans-

Table 12

Impact of various types of budgetary expenditure upon the reduction of spatial disparities in the EC

	Equalizing impact	Growth-promoting impact
Production-oriented transfers to households and enterprises	Not necessarily	Doubtful
Demand-oriented transfers to households	Yes	Not strong
Delivery of production-oriented public goods	Potentially yes	Yes
Delivery of other public goods	Probably	Yes
Conditional production-oriented grants to NG	Yes	Yes
Conditional demand-oriented grants to NG	Yes	Not strong
Block grants to NG	Yes	Unknown
Conditional production-oriented grants to SNG	Yes	Yes
Conditional demand-oriented grants to SNG	Yes	Not strong
Block grants to SNG	Yes	Unknown

Notes: NG = national governments; SNG = sub-national governments.

fers from Brussels is probably done at some efficiency cost. A trade-off must be found between these two conflicting considerations.

There is an alternative to that trade-off: grants. In principle, nothing prevents the EC budget from making grants to national or to subnational governments. In a federation, or in a unitary country for that matter, grants are the mechanism used to reap the benefits of expenditure decentralization and of tax centralization, and to achieve spatial redistribution objectives.

However, there is a price to be paid. The use of grants weakens an important political mechanism for balancing the social utility of public expenditure against the social disutility of taxes. When, for any government, expenditure has to be financed out of taxes, there is a presumption that some optimal package of taxes-cum-services will be arrived at. Not so for grant-receiving governments. The question of how high is this price, however, must be asked.

In theory, a grant to a subnational or subfederal government can be analysed as an increase in income; the after-grant ratio of public expenditure to total income (the tax ratio) should remain equal to the pre-grant ratio; the grant should then lead to a cut in taxes, an associated increase in private expenditure and an increase in public expenditure equal to the amount of the grant multiplied by this tax to income ratio; if this tax ratio is not very high (which is typically the case for local governments, but would not be true for the components of a federation) the increase in public expenditure is modest. This is considered to frustrate the purpose of the grant. In practice, however, and for reasons not quite elucidated, this increase is higher than it 'should' be.[1] This 'flypaper effect', as it is called in the literature, reduces, but does not eliminate, the 'leakage' associated with the grant. In the case of grants mostly aimed at redistributing income, however, it is not sure that the final allocation of the grants between public and private expenditure matters much.

Designing an intergovernmental grants system for the Community is beyond the scope of this paper, but the three issues that would have to be decided if such a system were to be developed can be briefly mentioned: should grants be conditional or unconditional? Should they be made to national or to subnational authorities? How should they be allocated?

Unconditional or block grants are subsidies given with no strings attached. The receiving governments can do what they please with them. Block grants have two main advantages: they are very simple to administer and they maximize welfare as perceived by the lower-level governments. Conditional, or specific, grants are subsidies given for purposes

[1] This can be illustrated by the following example:

	Pre-grant	Post-grant	Idem, with 'flypaper effect'
Tax	30	23	28
Grant	—	10	10
Public expenditure	30	33	38
Private expenditure	70	77	72
Total	100	110	110

decided or agreed upon by the giving government. Specific grants can be more or less specific; they may relate to a well-defined project (a particular bridge), to a particular function (Erasmus scholarships), to a broader function (education), or even to a large expenditure category (investment). Conditional grants are difficult and costly to administer, because they require a priori a great deal of information on the needs and conditions of the receiving governments, and a posteriori some form of monitoring. Their main advantage is that they make it possible for the giving government to induce or to influence the receiving government and that this may be justified by spillover externalities. Whereas block grants are primarily redistributive, specific grants may be redistributive and allocative. In some cases, however, specific grants do not reach their stated objectives. This happens when the amount of expenditure that would have been made on the subsidized function or project is higher than the subsidy. In that case, most of the subsidy is devoted to expenditure on other functions or projects.

We have already discussed the possible negative impacts of both block and specific subsidies upon migration and wage flexibility. Reducing or eliminating these impacts implies designing subsidies conditional upon satisfactory migration and wage flexibility. Transfers to countries, or to regions, would be a function of: (i) income or unemployment levels; (ii) migration levels, possibly relative to some long-term trend; and (iii) wage increases. Such formulas would be difficult to sell politically, and to operate administratively, but would make good economic sense.

Should the Community — in case it were to embark on a grants programme — give grants to member countries only, to subnational governments only, or to both types of governments? The experience of federal and unitary countries is that they do both. In the USA, the federal government gives grants not only to the States, but also directly to local governments (which also receive grants from the States). In France, the central government subsidizes the three levels of subnational governments (regions, *départements* and communes). The allocative arguments could probably justify grants (specific grants) to member countries and to subnational governments. If it is thought that higher education has to be subsidized by the Community (because of the spillovers associated with the migration of graduates from the place where they have been educated, which could lead to a sub-optimal provision of higher education), then subsidies should go to the governments in charge of higher education, which may be regional governments in some countries.

The redistributive arguments, which are the strongest ones, certainly call for subsidies to subnational governments. Disparities between regions are a legitimate concern for the Community and can be remedied in part by block grants to regional or even local governments. The number of regions, or even of local governments, is not such as to make such a system unmanageable, because block grant schemes are not very demanding in terms of information. Such grants would also, automatically, involve redistribution between member countries.

How should a given amount of subsidies be allocated between the eligible governments? Many criteria can be used, and are used, to that effect (in the grants systems that exist in nations). The most common ones are equality, tax capacity, 'needs', and 'level of development'.

'Needs' (the greater the needs of a government, the larger the subsidy) are in practice extremely difficult to assess in a non-distorting fashion. Not only must different needs be identified and assessed, but they must be aggregated and therefore weighted, a nearly impossible task. It is difficult to think that the Community could implement a needs-based formula. Tax capacity refers to the tax base of grant-receiving governments. This criterion makes sense for the subsidy systems administered by a given nation, because the subnational governments in this case have similar tax systems, the bases of which can be compared. This criterion would not make sense for a subsidy system administered by the Community. The member countries, and *a fortiori* the EC regions or local governments, have different tax systems and it would not be possible to compare their bases and their 'tax capacities'. The taxes levied both nationally and subnationally reflect at the same time the tax capacity and the tax effort of the various tax-raising governments.

This leaves us with the criteria of equality and of levels of development. The criterion of equality means that each receiving government gets the same amount per capita ($d = 0$ in the language of the budget-induced model developed above). As has been shown, this will lead to redistribution (provided the tax system that finances the scheme is not a poll-tax system). The level of development criterion would set per capita grant as a function of per capita income. The function can easily take different forms. The assessment of per capita income is in practice more delicate, particularly at the regional level, and becomes practically impossible at the local level.

The case of specific grants is different, and more complicated. The criteria of equality and of levels of development can be used, but it is difficult not to apply a criterion of needs, which refers to the needs for a particular function or project and does not involve too much of an aggregation problem. In practice, the implementation of specific subsidies often involves some element of discretion on the part of the giving government — an undesirable feature.

All this suggests a subsidy system consisting primarily of block grants to regional or perhaps local governments and of some specific grants to national and subnational governments, allocated primarily with income-based formulas.

Spatial impacts of taxes

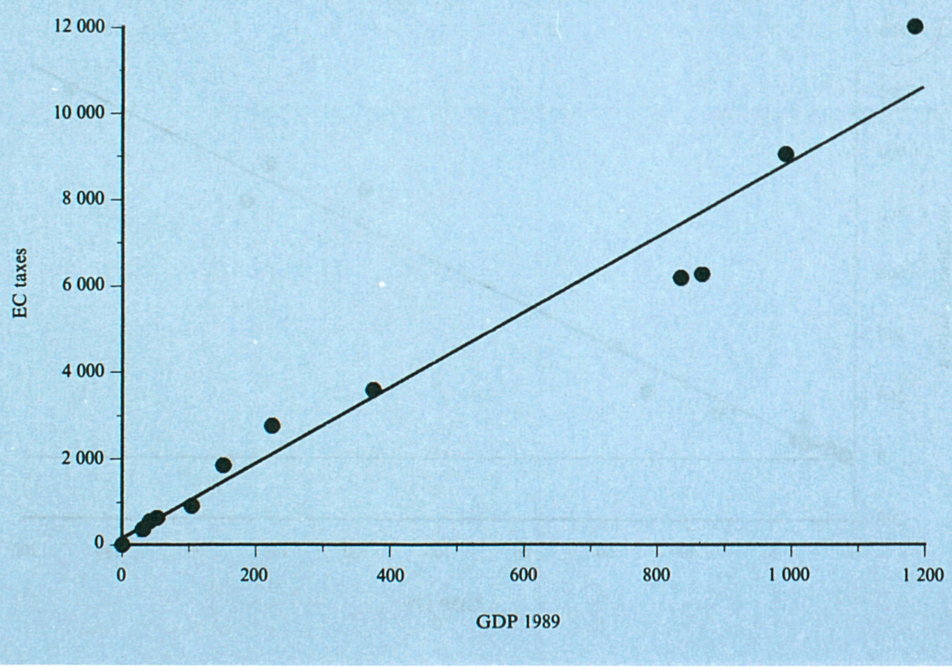
From an allocative viewpoint, many, if not most, existing taxes could be transferred to the higher level, although, as mentioned above, the benefits of tax centralization can also be obtained by tax coordination. From a redistributive viewpoint, however, some taxes are better candidates than others. As shown by the budget-induced transfers model discussed above, the more progressive a tax, the more redistributive it will be.

At present, the EC tax revenues can be expected to be broadly proportional, because the most important resource is the tax levied at a constant rate on the value-added tax base of member countries, which is roughly proportional to GDP. In reality, the present tax system appears to be slightly regressive, as suggested by Graph 9.

Taxes paid are broadly proportional to GDP. But the fact that the intercept of the regression is positive suggests a minor regressivity (which is confirmed by the negative slope of the regression of taxes/GDP versus GDP/capita).

The idea of an EC tax assessed on energy is often put forward. There are strong arguments in favour of such a tax. It would not be too difficult to administer. It has a welfare justification, for two reasons. First, pollution externalities are associated with energy consumption (particularly with oil and coal consumption), and some of the pollutants discharged (SO2, NOx, and particulates) are in part transported over long distances, across national borders. Moreover, there are 'demand externalities' associated with it; a country that reduces, at a cost, its energy consumption decreases world demand and world prices, for the benefit of other countries as well, and therefore ought to be encouraged to do so, or discouraged not to do it, by means of a tax. Would a tax on energy be progressive? Slightly. It happens that the regression of energy consumption against GDP has a negative intercept, as shown in Graph 10, which means that a tax on energy would be slightly progressive. This is somewhat surprising, however, because the energy intensity

GRAPH 9: **Taxes paid in proportion to GDP in the European Community, 1990**



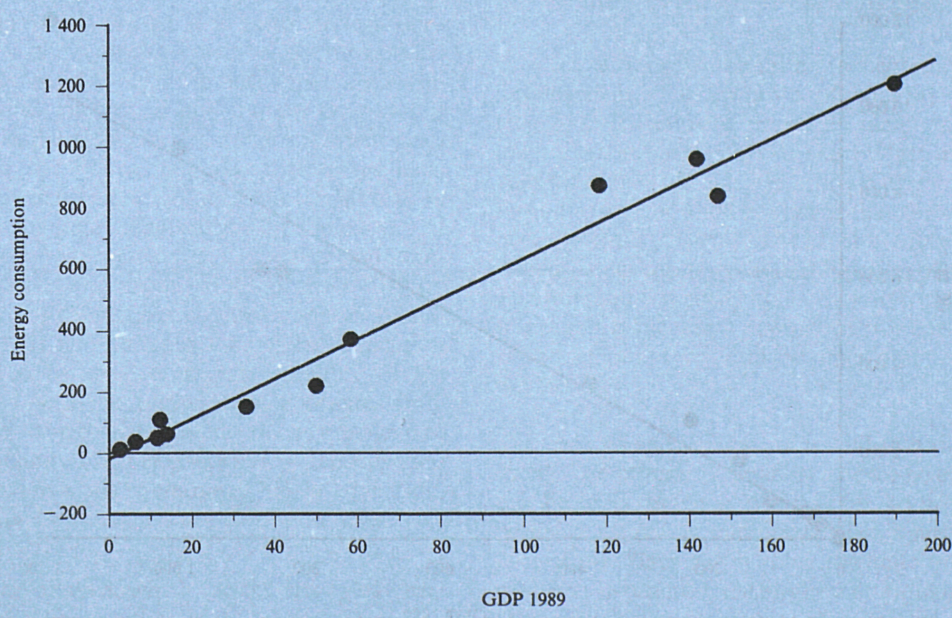
(energy consumption per ecu of GDP) of the poorer EC countries is higher than that of the richer countries — with the exception of Luxembourg, which may create a bias in the regression reported in Graph 10.

The most progressive taxes would of course be income taxes. Individual income taxes would be, or could be made, the most progressive, although the political and practical obstacles seem formidable. Corporate income taxes would most probably also be progressive, even with a flat rate, and are probably a better candidate.

5. Conclusion

The findings of this paper can be summarized in a few simple propositions. Spatial disparities in the European Community, between countries and between regions, are larger than spatial disparities in unitary countries or in federations. These disparities, in the absence of strong public finance policies, are likely to increase. This trend will not be changed by EMU and could even be exacerbated by it. These disparities, and their persistence, are inconsistent with the stated goal of 'cohesion' and a threat to EMU. The most important ingredient of the strong public finance policies required to alter this trend and to redistribute income spatially within the Community would be an increase in the EC budget that would bring the tax and expenditure centralization ratio, defined as the ratio of EC budget taxes or expenditure to total government taxes or expenditure in the Community (now below 3%) more in line with the ratios found in the major federations (around 70%). Such an increase, particularly for taxes, is quite acceptable and even desirable from an allocative viewpoint. Some expenditure, particularly grants, are more redistributive than others, while also being acceptable from an allocative viewpoint. Some taxes, particularly corporate income taxes, would also be more redistributive than others. On the other hand, not all redistributions of income, resources, or consumption, will necessarily promote self-sustained growth in the lagging regions or nations of the Community. Some forms of redistribution may even hinder growth. Designing budgetary actions and policies that will at the same time reduce spatial disparities within the Community and be politically acceptable will indeed be very difficult.

GRAPH 10: **Energy consumption in proportion to GDP in the European Community, 1990**



References

Boltho, A. (1989), 'European and United States regional differentials: A note', *Oxford Review of Economic Policy*, V-2, pp. 105-115

Commission of the European Communities. (1977), 'Report of the study group on the role of public finance in European integration', (MacDougall Report), Volume I: General report; Volume II: Individual contributions and working papers, published in *Studies, Economic and Financial Series*, Nos A 13 and B 13, Luxembourg, Office for Publications of the European Communities.

Commission of the European Communities. (1990), 'One market, one money', *European Economy*, No 44, October.

Commission of the European Communities. (1991), *The regions in the 1990s*, fourth periodic report on the social and economic situation and development of the regions in the Community, Luxembourg, Office for Official Publications of the European Communities.

Davezies, L. (1990), *Réflexions sur les comparaisons internationales de disparités interrégionales*, OEIL, Université de Paris XII, Créteil, France.

Kaldor, N. (1970), 'The case for regional policies', *Scottish Journal of Political Economy*, 17.

Krugman, P. R. (1987), *Strategic trade policy and the new international economics*, Cambridge, MA, MIT Press.

Masson, P. and Mc Donald, P. (1991), 'Les conséquences macro économiques de la réunification allemande', *Finances et développement*, Vol. 28, No 1, pp. 6-9.

Myrdal, G. (1957), *Rich lands and poor*, New York, Harper & Row.

NESC — National Economic and Social Council (1989), *Ireland in the European Community: Performance, prospects and strategy*, Dublin, NESC (Publication No 88), 573 pp.

OECD. (1982), *Historical statistics 1960 – 80*, Paris.

OECD. (1987), *Structural adjustment and economic performance*, Paris.

OECD. (1989a), *Economic outlook. Historical statistics 1960 – 87*, Paris.

OECD. (1989b), 'Investissement international et entreprises multinationales. L'investissement direct international et le nouvel environnement économique' (Table ronde de Tokyo).

OECD. (1990), *Italie — Etude économique de l'OCDE*, Paris.

Van Rompuy, P., Abraham, F. and Heremans, D. 'Economic federalism and the EMU', in 'The economics of EMU', *European Economy*, special edition No 1, pp. 107-135.

Williamson, J. (1965), 'Regional inequality and the process of national development: a description of the patterns', *Economic Development and Cultural Change*, 13, pp. 3-45.

The spatial implications of economic and monetary union

Pedro Santos

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

Tables

Graphs

Summary

The focus of this paper is the likely impact of economic and monetary union (EMU) upon the pattern of economic development in the European Community.

EMU comprises the abolition of all barriers to the circulation of goods, services and factors of production, plus the pooling of a certain number of economic policies, namely monetary and exchange-rate policies, under a single currency. In neoclassical economics, there is a general presumption that the opening of trade, and a fortiori, *factor movements, will work towards the convergence of income levels in the countries or regions concerned. Critics of the neoclassical approach highlight, on the other hand, the kind of factors which have brought, with industrialization, the polarization of economic activities and higher regional disparities: growth dynamics, with economies of scale, externalities and conglomeration effects, endogenous technological development, etc. In the absence of deliberate corrective policies, economic integration would tend to accentuate those forces.*

The experience of the European Community suggests that convergence tends to prevail in periods of rapid economic growth and recede in periods of stagnation. Business surveys on mobile investment plans and on the prospective competitiveness of different kinds of regions, on the other hand, highlight the vulnerability of lagging and declining regions to the increased competitive pressures resulting from economic union. One of the conclusions of those surveys, and of recent research on convergence and divergence mechanisms, is that many of the determinant factors of that vulnerability can be influenced by the course of economic policy in the countries concerned.

Monetary union has even more complex effects upon relative regional performances, depending on domestic adjustment policies and the perceptions of economic agents. The additional constraints imposed upon the less-favoured Member States may in principle encumber their development efforts, but there could be some positive impacts, namely in terms of macroeconomic stability, foreign investment and the cost of finance.

A recurrent argument in the discussion of the development of the European Community is that the deepening of economic integration should be accompanied by enhanced structural policies aimed at reducing economic disparities between regions.

As far as EMU and its implications are concerned, this issue can be examined from two different points of view:

(i) whether EMU poses an additional challenge to the objectives of balanced development of the EC territory, or of 'social and economic cohesion';

(ii) whether the existence and possible aggravation of spatial disparities constitutes a challenge and a hindrance to the achievement of EMU itself.

The second question rests largely on political considerations — although some strictly economic arguments have also been put forward. In fact, the requirement of greater economic cohesion can be incorporated in the very definition of 'economic union', and not merely as an enabling condition. The focus of the present note is the first question, namely how EMU pursued by itself (i.e. without any explicit regional objectives and policies) can predictably influence the pattern of spatial development of the Community's economy.

1. Economic union

The main component of economic union as it has been defined by the Community organs[1] is the internal market for goods, services and factors of production. That goal does not depart in any way from the present treaties, but rather can be seen as realizing them fully. It is this component of EMU, or 'common market' to use the original designation, that has received the most attention from analysts, including those who concern themselves with the regional effects of the European Community.

To take a textbook definition,[2] economic union is also about the pooling of a certain number of economic policies, or at least some degree of coordination of these policies at Community level. This element of economic union is less well-defined a priori than the single market, and its potential regional consequences are therefore even more difficult to predict. Whereas for the single market the question of regional impact pertains to what may be called positive economics, the common policy element is in itself a normative answer to this and other questions.

1 See Commission of the European Communities (1990a), p. 22.
2 See Balassa (1961) and also Commission of the European Communities (1990a), p. 23.

1.1. The neoclassical view

A long-standing debate, which was somewhat rekindled by the creation of the European Community, exists between the neoclassical and the regional economics traditions. These two traditions still form the basis of the 'convergent' or 'divergent' views of, or the 'spontaneist' and 'interventionist' approaches to, economic integration.

The neoclassical (Heckscher-Ohlin) theory of international trade predicts that the opening of trade will by itself lead to an equalization of production factor prices (wages and capital income) from a general situation where they are different at the outset. In fact, unless factor prices were different in the first place, no trade would take place. The main implication of this theory for spatial developments under economic integration would be that a country with a low capital to labour ratio could, just by opening trade and specializing in labour-intensive industries, reach productivity and wage levels similar to its trading partners. Its overall income per capita (and not just wages) would also rise, and factor mobility is not even necessary for that result.

Mobility of the factors of production is also seen, in the neoclassical tradition, as a force promoting convergence in the levels of economic performance of regions and integrating countries. For instance, as long as wage levels are lower in one region, labour will flow out to the regions of highest pay. Also, since profits are likely to be higher due to lower labour cost, capital will flow into the low-wage region from the others. The process will eventually bring about a convergence of factor incomes (and living standards) in all regions. According to those theorists, the persistence of regional disparities within countries and integrated areas is mainly the result of the immobility of some factors of production and to time-lags in the adjustment process.

1.2. Limitations of the neoclassical approach

Critics of the neoclassical approach point out that the proposition according to which trade will bring about a convergence of national incomes is based on unrealistic assumptions: production technologies are the same in both countries, and only factor endowments differ. Under these assumptions, it is not so surprising that, once the countries have specialized according to relative factor abundance, they should enjoy the same levels of income and welfare.

In reality, however, it cannot be maintained that 'technologies' (generalized to include everything that affects output beyond the quantities of factors of production) are the same in all developed and lagging areas. Access to technology is not free but is conditioned by many factors. Productivity is also influenced by many factors specific to the economic structure of countries and regions, such as those related to human capital and infrastructure. A variety of contributions have extended the sources of comparative advantage to include such things as technology, market structures and successful government policies.[1] These contributions emphasize acquired, rather than 'given' comparative advantage, and show how the opening of trade, specialization and even factor movements may fail to bring about a convergence of incomes. By specifying innovation and technology as endogenous, and using new growth theory concepts, it is possible to show how regional growth rates diverge, while existing specialization patterns are accentuated by international trade.

As for productive factor movements, if they are to bring about convergence of productivity and incomes it is necessary to adopt the assumptions of convex production functions and absence of externalities. Without those assumptions, it is conceivable that outflows of factors of production may instead bring about a cumulative process of decline in a region. Disinvestment in a region will at first cause unemployment and a decrease in the prices of local factors (including land). Other economic activities may in principle benefit from that, but will also be affected negatively through the markets for their output, and other externalities. As for outmigration, it tends to skim off the most able elements of the labour force, leading to a deterioration of the skill and age structures of the population. This will in turn lead to a decrease in population and investment, etc.

1.3. The divergence school

Cumulative growth and decline, or peripheralization, processes have been at the centre of the 'divergence' view of the regional impact of integration. According to that view, the main effect of a customs union is to increase the attractiveness of the already developed centres for any activities that are created or moved. The key point in that reasoning is the role of economies of scale and of agglomeration, which favour production in a central location rather than dispersed over a large area. They are the same forces which explain the concentration of economic activities around a few poles or regions in industrialized countries.

Some economists in fact view economic development as always taking place under the influence of growth poles, and spreading to some extent to the surrounding regions. These

[1] For a brief survey, see Abraham and Van Rompuy (1992).

developed poles arise partly by historical accident, or by the presence of some natural resource or geographical feature (seaport, etc.) and thereafter develop mainly through the cumulative forces referred to above, independently of the original cause. At first sight the removal of economic barriers between regions and, later, countries cannot but increase the influence of the existing poles (or some of them) to a larger area. Unless a region can summon up the conditions for the rise of a growth pole, it will through integration acquire a subaltern position, become dependent on other regions and probably lag behind them in development.

1.4. The concept of economic potential and peripherality

A region's capacity to become a growth pole is related to its centrality and to the economic conditions in the regions near to it. Those ideas are captured in the notion of 'economic potential' used by some economists to establish a hierarchy of central and peripheral regions within an economic area. To measure the potential for a particular region, an economic indicator (usually GDP) is calculated for all the regions of the area considered, and weighted by the inverse of the distance to the region in question:

$$P_i = \sum_{j \neq i} \frac{M_j}{D_{ij}} + \frac{M_i}{D_{ii}} \quad \text{with} \quad D_{ii} = \frac{1}{3}\sqrt{\frac{\text{area}}{p}}$$

In the case of the Community, the best-known exercise along these lines was performed in 1986 by a group of consultants for the EC Commission, and covers the Community of 12.[1] As expected, the economic centres of the Community are situated in north-eastern France, Germany and the South-East of England, while Ireland, Portugal, Spain, southern Italy and Greece account for most of the peripheral areas. The study conveys two main ideas in terms of regional problems and regional policy at EC level:

(i) A number of indicators show that the overall level of development of the regions is unequivocally correlated with their potential measure, and that lagging regions are by and large also peripheral ones.

(ii) The degree of peripherality of those regions will increase with economic integration, since the potential of the centre will increase, almost by definition, faster than any other with the enlargement of the integrated area.

[1] Keeble et al. (1988).

It is important to stress at this point that peripherality according to this concept of economic potential is more than a natural handicap some countries have to contend with. As well as depending on geography, it depends on the pattern of economic activity throughout the whole area and on the existence of accessibility infrastructure, which is taken into consideration when computing distances in the above formula. Both these factors can be influenced through structural policies, which seek to offset geographical disadvantages, promoting the economic potential of peripheral regions. The first message of the abovementioned study (relating peripherality to the weakness of economic structures) emphasizes the need for such policies.

The second idea, which is an implicit one, has a more ambivalent interpretation. If integration accentuates peripherality, it does so only in relative terms. In fact, the economic potential of all regions, as it has been defined, increases every time barriers to trade are removed. In terms of opportunities for growth and development, this would appear to benefit everybody. Does the concept of economic potential apply in absolute or relative terms? There is no explicit answer to this question.

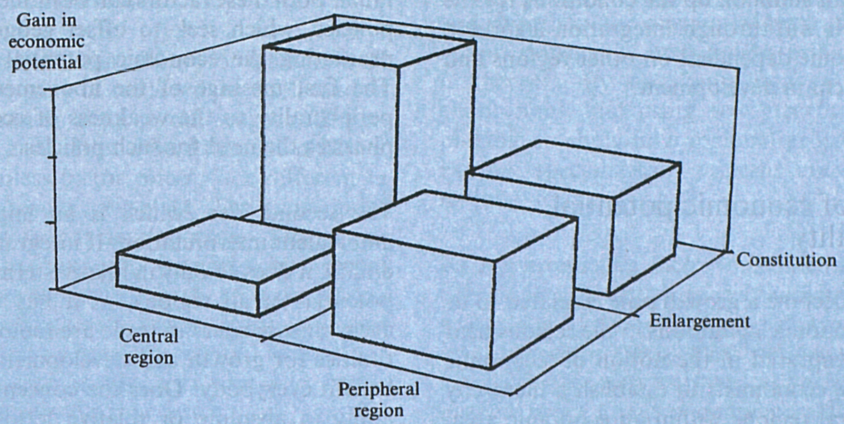
Another point that should be clarified is that of the reference situation against which one is evaluating the impact of integration upon relative or absolute economic potential. Starting from a point where countries or regions are in isolation and then introducing an economic union, the economic potential of the centre increases more, by definition, as seen. But considering the enlargement of an existing union to a peripheral region, the economic potential of the latter increases more than that of the centre, as can also be easily seen schematically in Graph 1.

What this approach therefore yields is a warning as to the possible negative regional impact, in terms of relative economic potential, of a simultaneous and uniform reduction in barriers between all the regions in the area considered. To the extent that the European single market can be portrayed as such a move, and that the regional impact depends upon relative economic potential, this warning should be taken into consideration.

1.5. Recent views on location factors

The above measure of economic potential based on GDP is, however, nothing but a proxy for the locational advantages of a particular region from the point of view of investment and new economic activities. To go deeper than this, one needs some explicit theory of location which can include the

GRAPH 1: Increase in economic potential of a central and a peripheral region from the constitution or enlargement of an economic union



effects of economic integration. Such theories or views on the geographic organization of economic activity have been around for a long time and were traditionally based on the development patterns typical of the industrial revolution, or what has been called the Fordist model: mass manufacture, benefiting from economies of scale and leading to the emergence of industrial centres. Economic development according to this model seemed destined to evolve from those centres to the periphery, in what may be called a diffusion process.

The emergence of new technologies and extensive economic restructuring of Western economies in the 1970s challenged these concepts and instigated a new literature which attempted to foresee the long-term spatial organization of the post-industrial society. Some of the characteristics of the new activities seem to put a premium on physical proximity to infrastructure, skills, business services and other firms, which are to be found in urban agglomerations. At the same time, some intermediate size (and relatively peripheral) centres have been able to attract a good share of the new activities, and we have witnessed the emergence of the South-East in France, Flanders in Belgium, the Centre of Italy and the South-East of Spain. These represent considerable changes, not merely an extrapolation of the previous regional trends.

One important change is the decrease in the share of raw materials and labour in the total costs of the manufacturing sector. The development of transport and telecommunications and the building-up of the respective infrastructure means, for instance, that industry is less dependent on the location of natural resources or low-cost labour. But it also means that it is less dependent on the location of markets, or on that of decision centres or other industries. The prevalent idea is that, less and less, location for specific industries is determined by a single dominant factor. Instead, companies are looking for a combination of characteristics that suit a particular project, and the decision in favour of a particular location is often a close one, and determined by non-cost (qualitative factors).[1] These qualitative factors, such as availability of skills, infrastructure, social and cultural facilities, quality of life, promotion by the local or national governments, etc. tend to gain importance with respect to traditional cost factors such as the price of labour, land, etc. On the whole, however, it is rather difficult to elect any single model of location determinants.

[1] NEI (1993).

1.6. An example with economies of scale

The new location factors and the future spatial organization of the post-industrial society may still be surrounded by a great degree of indeterminacy, but this should not detract from some basic insights which are useful in the more limited context of this paper: the differential impact of EMU, not the prediction of long-term global trends. Economic union may be seen as a reduction in the transaction costs between countries and it is useful to consider, in this respect, a simple example given by Krugman and Venables.[1]

Suppose a firm has the choice of producing a good in a central country (Belgium) or a peripheral one (Portugal) or both. Demand is assumed fixed, so the firm seeks to minimize its costs. The costs are composed of: production costs, which are lowest in Portugal, higher in Belgium and even higher if production is split between the two locations (economies of scale); and shipping costs, which are highest when the production is concentrated in the periphery, lower when it is concentrated in the centre, and lowest when it is decentralized. This is shown in Table 1.

Table 1

Hypothetical effects of lowering trade barriers

Place of production	Production costs	Shipping costs		
		High	Medium	Low
Belgium	10	3	1,5	0
Portugal	8	8	4	0
Both Belgium and Portugal	12	0	0	0

With shipping costs at their highest level, minimum total cost is achieved by producing in both markets. If shipping costs are halved, production will concentrate in Belgium. Finally, if they are reduced to zero, all production goes to Portugal. This suggests that partially reducing trade barriers (here represented by shipping costs) may have a perverse regional effect, but completely eliminating them will favour the periphery. How is this to be reconciled with the views previously mentioned?

In this illustrative example, one is abstracting here from dynamic considerations, and from complex location factors such as externalities and the like. The figures in Table 1 imply that, shipping costs aside, the periphery has a comparative advantage in this particular activity. The only advantage of the centre consists of lower product shipping costs. Once this advantage is eliminated (zero shipping costs) it is no surprise that the firm moves to the periphery. Given the periphery's 'built-in' comparative advantage, what is remarkable about this example is that a partial reduction of barriers can nevertheless result into a relocation of production towards the centre — a feature which comes from the assumption of economies of scale. The authors believe that this model is general enough to indicate a general tendency for the concentration process to reverse itself when barriers to trade fall sufficiently low.

Depending on the form of the production function and on the shipping costs, one can expect different industries to be at different points on this U-curve, and to have differently shaped U-curves or no U-curve at all (see Graph 2). Their reactions to integration moves will vary accordingly.

The conclusion of this simple example is not therefore one of 'regional optimism' or 'pessimism'. It strictly concerns the impact of the integration process in itself, and brings to mind some points which are worth stressing:

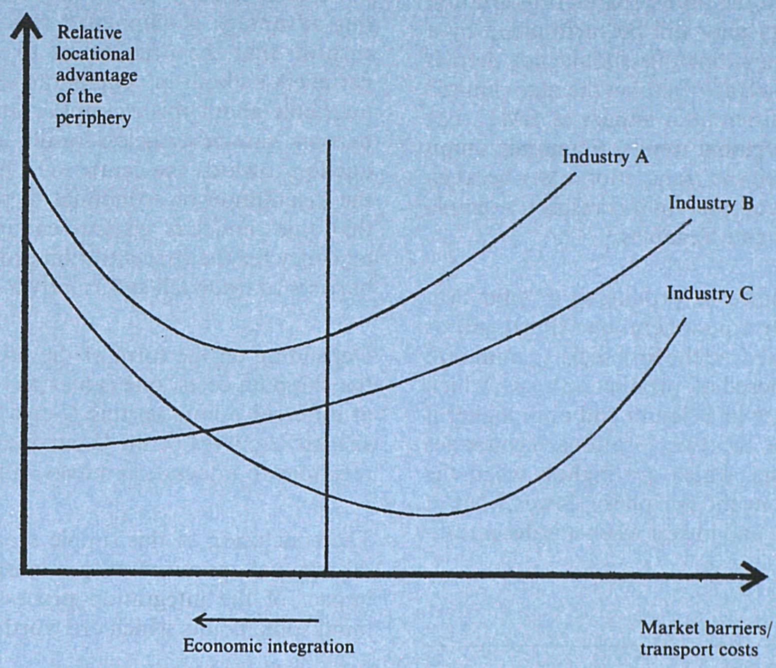
(i) The use of shipment costs to represent market barriers reminds us that international integration among countries and spatial integration at country level (mainly through the extension of infrastructures) can be seen as two aspects of one and the same continuing process. In that case, the observed changes within the spatial organization of some countries, as mentioned above, can be seen as illustrative of similar phenomena at EC level induced by economic integration and EMU.

(ii) The example (used by the authors as an introduction to more formal models) focuses on the 'variable' integration, and not on the general determinants of regional equilibria. It shows that integration, everything constant, can induce an ambiguous response in location patterns, as opposed to any presumptions that it always means a displacement towards the centre of the market, or towards lower production costs. It also suggests that, if there is a gradual and comprehensive integration process, its final stages may be more favourable to the periphery than the intermediate ones.

(iii) It is unlikely, as in the example, that transport costs vanish completely, and with them the advantages of central location. Even a full dismantling of economic barriers may leave peripheral regions still in a very disadvantaged position in terms of transport costs, communications, access to services, human capital, etc. Simply, one does not know in which section of the U-curve

[1] Krugman and Venables (1990).

GRAPH 2: **The U-curve of location decisions**



the Community is. It seems important, therefore, to complement market integration with positive steps to improve those areas if the favourable side of the U-curve is to be reached. The deficiencies of the periphery in any domain that can be thought of as increasing transport costs should accordingly be addressed.

1.7. A multipolar model

Another qualification to centre-periphery models which is useful in the case of economic integration is the consideration of multiple centres. In an integrated economic area there need not be a single developed region, coinciding more or less with the geographical centre and radiating development impulses to the periphery. A look at the USA is enough to show that its economic centres are mostly at the geographical periphery. Instead, the system of centres in an economic area evolves according to:

(a) economic laws that determine the size and area of influence of each centre, according to the functions it performs within a multilevel, hierarchical structure — this was the object of traditional theories of economic geography, which departed from the assumption of a featureless area;

(b) natural features of some locations, plus the influence of cumulative developments and historical accident.

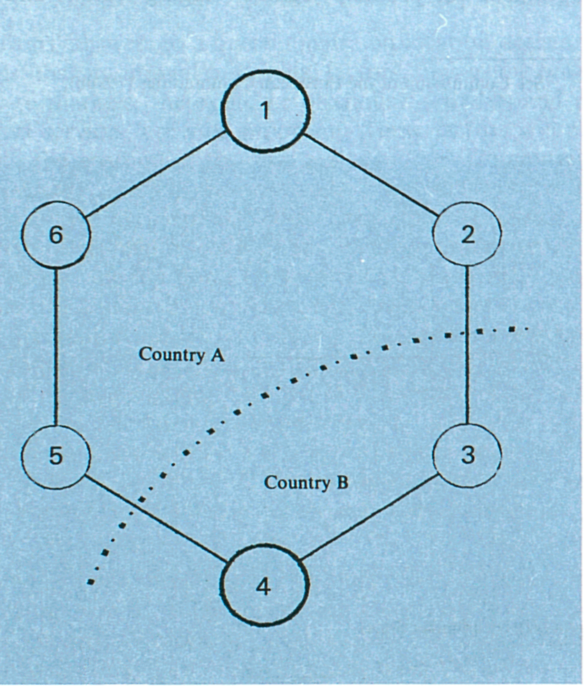
Indeed, within each country, within each region, there is a centre and a periphery, i.e. the system replicates itself at successively lower levels. Nobody has formalized in a model the impact of integration upon such a system, which would no doubt be analytically difficult, but simple examples can once more be constructed to illustrate some of the possibilities.

Let us look at the following example based on Krugman (Graph 3). Suppose that there are six regions belonging to two countries. Country A consists of regions 1, 2, 5 and 6 and country B consists of two regions, 3 and 4. Following a standard approach, each region is modelled as a particular point and arranged in a circle, with transport costs between each pair of regions varying accordingly. Suppose further that, before economic union, there was one region in each country where manufacturing was concentrated: regions 1 and 4.[1] After integration, assume that the new equilibrium still consists of regions 4 and 1 producing for the whole area. In this equilibrium, region 4 has grown relatively to region 1. In other words, the peripheral (smaller) country B has benefited most from integration because in an integrated area, B's production centre captured its natural hinterland from country A.

This example, and the corresponding model, formalize an earlier insight of some authors who in the 1960s investigated the potential effects of a customs union: one group of regions which are undoubtedly likely to benefit from integration are the border regions. From being national peripheries they may in fact find themselves close to the centre of the union. In Graph 3, region 4 exhibits the characteristics of a border region, not able to develop its potential as a centre of production because of the artificial proximity of a border (which does not coincide with the boundary between the natural economic influence areas of regions 1 and 4). An illustration is offered by the German ex-Zonenrandgebiet, which constituted the periphery of the former Federal Republic. The disappearance of the intra-German border dramatically changes their status into rather central regions, both from the German and the European point of view.

The main lesson from this type of consideration is that both before and after economic union, there is not one centre and one periphery, but rather a hierarchical system of local centres and peripheries, and that even at the highest level there may be more than one centre. The impact of the integration process upon this system may lead to qualitative transformations, which cannot be characterized merely as accentuating or attenuating the disparities between one centre and one periphery.

GRAPH 3: **Economic integration in a multipolar model**



1.8. Some empirical evidence

As seen above, there are mechanisms which can explain, at least theoretically, both centripetal and centrifugal forces inside an economic union. In the absence of some quantification, or empirical evidence, one cannot predict what the net effect will be. The mechanisms stressed in the usual discussions of these matters are often based on economies of scale, imperfect competition and externalities, all of which are difficult to model. Also the problem of the reference situation — i.e. the world without integration — becomes acute here, since by definition only the actual world is empirically observable. Nevertheless some attempts have been made, at least, to study the general evolution of the spatial organization of the economies, as countries go through different stages of development, or embark upon economic integration.

A well-known reference is the work of Williamson (1965) who looked at the past evolution of regional income asymmetries within developed countries. As a result of his research, he proposed that there are in general two stages in this evolution: in the early stage asymmetry rises as growth takes place in one or more limited areas; after a certain development level, however, diffusion effects prevail and the asymmetry recedes. The first stage is therefore one of divergence, while in the second there is convergence. Even if historical data seem to fit this conclusion well, the only explanatory variable is the development level, and one is left to wonder what mechanisms are at work here.

The U-curve model previously illustrated might just help to answer this question. Although there are admittedly many more forces at work than just economies of scale and trans-

1 The example is presented by the author as an informal generalization of a two-region model where a mobile economic activity (manufacturing) can be located in either region or in both. The equilibrium location depends on: the size of the manufacturing sector relative to the immobile sector; the intensity of economies of scale; and transport costs. Similarly, in a multiregion model, equilibrium production could be concentrated in one region, or located in all regions or some of them.

port costs, the development of a country is in general accompanied by improved spatial integration, through technology, infrastructure and better functioning markets. These lead to a reduction in shipping costs, as in the model.

Another empirical regularity abundantly demonstrated by historical experience, both in the Community and elsewhere, is that overall convergence tends to materialize in periods of rapid growth, while in periods of stagnation divergence usually gains some ground. Some of the reasons explaining these tendencies are no doubt the higher proportion of declining sectors and marginal firms in problem regions, and their higher dependency on public investment, which mean that they are worst hit in a period of recession. In this sense EMU will be a positive influence upon real convergence in the Community, by encouraging capital formation and boosting overall capital formation.[1]

A look at the trend of regional income disparities in the Community confirms this observation: while until the mid-1970s there was a marked convergence of income levels (both among the original six member countries and including the countries which make up the present twelve) the recession after 1975 provoked a resurgence of disparities to about the 1970 levels. In the late 1980s there was some moderate overall convergence, but it is too early to judge whether this represents a durable resumption of the catching-up process as suggested by Graph 4.[2]

1.9. Survey results

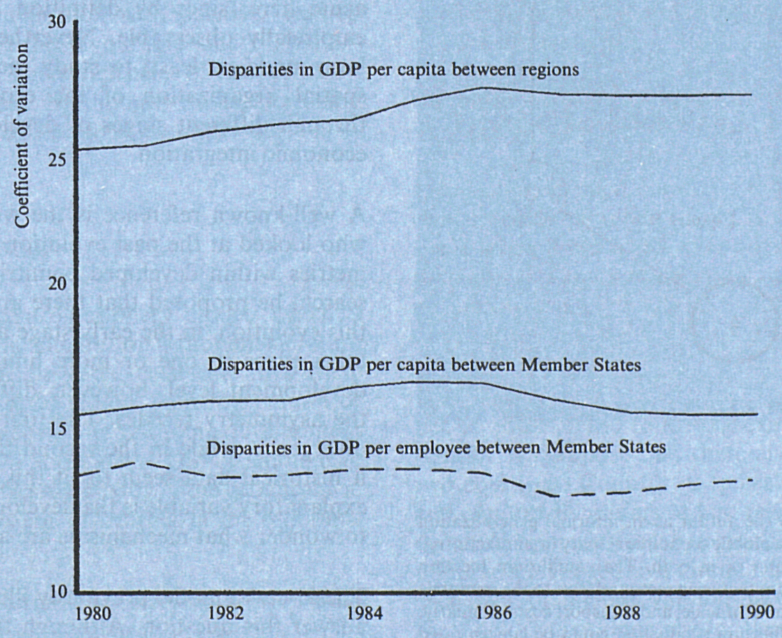
Surveys on the opinion of firms and economic agents provide a useful complement of information particularly when a policy issue becomes rather complex from the analytical point of view. This approach has often been used by the Commission, to look, for instance, into firms' expectations about the single market and EMU and their planned strategies in those contexts.

The questionnaires have shown in general that firms' expectations are positively influenced by the prospects of the European single market and by that of monetary union. However, research has shown that those positive expectations are regionally differentiated: expectations are less optimistic for problem regions (lagging regions and those

[1] Baldwin (1990).

[2] See Commission of the European Communities (1990b).

GRAPH 4: **Regional disparities among EC regions**



suffering from industrial decline) than for the more prosperous ones.[1]

In many cases, expectations for traditional (declining) industrial regions turn out to be worse than for lagging regions. This means that the concentration and spatial reorganization of mobile activities are more of a threat to those regions than to the ones which have never had an industrial base.

Another empirical study[2] conducted with a view to identify trends and changes in location factors for economic activity in Europe views EMU as an additional factor (beside technology, deregulation, global interdependency, etc.) which will sustain or further increase the high levels of mobile investment (both from within and outside Europe) which have been observed as from the second half of the 1980s. Although there is a consensus that the deepening of European integration will lead to increased rationalization movements and to a reorganization of activities within a European area (instead of national markets), it is much less clear what the regional implications will be.

The firms' answers to a questionnaire on location decisions suggest that traditional centripetal factors, such as the proximity to markets, the existence of similar activities and of support services, are still important. These factors will reinforce the position of the core regions of the Community in the European-wide reorganization of economic activities spawned by EMU. On the other hand, the new trends in location determinants (see Section 1.5) mean that intermediate regions offering good infrastructure, labour skills and quality of life stand a good chance of reaping some benefits from that reorganization, while some traditional centres may lose from it. On the whole, the rationalization of economic activities and increased mobility of investment mean that competition will intensify among regions to attract those investments, although the pressure, as already suggested, is more likely to be felt by the established centres, with the competition from the intermediate and emerging regions.

Lagging and peripheral regions seem at present to have little role in this process. Their opportunities for attracting new intra- or extra-European multinational investment are mostly in the domain of manufacturing plants, while corporate headquarters, research and development and service activities are in general oriented to a short list of core and intermediate regions. Within that context, the prospects of lagging regions depend basically on their capacity to improve their infrastructure and labour skills while maintaining their cost advantage over the central regions.

1.10. Economic convergence at member country level

Measures of dispersion of regional variables like those in Graph 4 give only a highly synthetic indication as to the magnitude and evolution of regional disparities in the Community. In fact, there are several different types of problem regions in the Community and not all the changes and trends in regional development patterns in a territory show up in such aggregate indicators. It would be a complex task to look at the past and potential impacts of economic integration at regional disaggregated level, but the intermediate step of looking at the convergence of real GDP by member country is a useful one. In fact, EMU concerns mostly changes in policy instruments at national level, and since the second enlargement, about one half of interregional disparities in the Community are intercountry disparities.[3]

The period 1986-90 has witnessed a reduction in real income disparities in the Community. The relative position of three of the four least-favoured countries, Spain, Ireland and Portugal, has improved in each year of the period. Overall, the relative position of these three Member States improved from 67,7% of the Community average to an estimated 72,3% in 1992 (Table 2). The resumption in convergence since 1986 coincided with a marked upturn in the Community's overall growth rate, which confirms that the convergence process of the least-favoured countries must be supported by a more favourable growth environment in the more prosperous Member States.

The consistent improvement in the Spanish, Portuguese and Irish positions since 1986 was unfortunately not mirrored by the performance of Greece, where structural problems have until now prevented a resumption in the catching-up process.

As regards nominal convergence, some progress has occurred in 1986-90, but further efforts are required (Table 3). Within the four least-favoured Member States, Ireland is the one where nominal convergence has been best accomplished: domestic inflation has been consistently below the EC average and the general government deficit has decreased dramatically. In Spain, the inflation differential has narrowed and the fiscal position is currently better than in the Com-

1 See IFO (1989).
2 NEI (1993).

3 Breakdown based on the Theil index.

Table 2

Relative GDP per capita (EUR 12 = 100)

	1960	1975	1985	1986	1987	1988	1989	1990	1991[1]	1992[1]
Greece	38,7	57,4	56,8	55,8	54,2	54,3	54,1	53,4	52,8	52,4
Spain	59,6	81,1	71,8	72,2	73,9	74,4	75,9	76,7	77,1	77,8
Ireland	60,8	62,8	65,2	63,5	64,9	65,2	67,2	68,8	69,2	70,4
Portugal	38,8	52,3	52,1	52,7	53,8	54,0	55,2	56,2	56,9	57,7
Total	52,7	71,8	65,9	66,0	67,1	67,6	68,7	69,3	69,6	70,2

[1] Forecasts (November 1990).
Source: European Economy, Supplement A, No 2/3 1991.

Table 3

Indicators of nominal convergence

	Inflation differential[1] to EC average (%)			General government deficit (% of GDP)		
	1980-85	1986-90	1991-92[2]	1985	1990	1992[2]
Greece	10,6	13,2	10,7	13,8	18,9	10,7
Spain	3,1	2,3	0,8	6,9	3,7	2,0
Ireland	2,2	−0,9	−1,8	11,2	3,4	3,5
Portugal	13,9	7,8	5,8	10,1	5,8	5,0
Token entry — EC	8,9	4,2	4,8	5,2	4,1	4,4

[1] Private consumption deflator.
[2] Forecasts (May 1990).
Source: European Economy, Supplement A, No 2/3 1991.

munity as a whole. In Portugal, although the budget deficit has decreased significantly since 1985, the inflation differential has not been sufficiently curbed. Both Spain and Portugal have experienced, during 1986-90, buoyant levels of domestic demand, which have made it more difficult to reduce domestic inflation. In Greece, nominal convergence has deteriorated in particular with regard to the unsustainable level reached by the public sector deficit. The situation is expected to change significantly with the medium-term adjustment programme adopted by the Greek authorities in mid-1990.

2. Specific aspects of monetary union

As well as improving economic efficiency and macroeconomic management through the removal of an important source of uncertainty, monetary union is seen by the Community as a last important step towards achieving a fully integrated market, comparable in dimension to those of the USA and Japan, for goods, services and factors of production. In this sense, much of what has been said previously about the potential spatial effects of economic union is equally valid for monetary union. There are, however, some channels of impact which derive from the specific nature of monetary union itself.

2.1. The exchange-rate instrument

The direct consequence of monetary union will be the abandonment of the exchange-rate instrument by each individual member country. As stressed in *European Economy* No 44,[1] Chapter 6, the utility of the exchange-rate instrument for individual countries comes from the possibility of asymmetric shocks which do not affect the whole Community in a uniform way. That possibility exists for any individual country in the Community, but some reasons have been pointed out why the catching-up countries might be particularly affected:

(i) Common shocks (impacting on the whole Community) will have different effects across countries if these differ in terms of economic structure, private agents' behaviour, government preferences, etc. It is arguable that the lagging countries have more singularities in those respects than the rest of the Community among themselves (e.g. due to the higher degree of intraindustry specialization of the latter).

(ii) If the economies are strongly distorted in the initial position, it is difficult to determine and maintain a fixed exchange parity at an early stage. This will only be possible after a number of economic reforms come into force.

(iii) Structurally lagging economies require, if they are to stay in a growth path compatible with macroeconomic equilibrium, the maintenance of real wage levels below that of the more developed regions. It has been argued (informally) that a common currency will increase pressure for the equalization of wage levels, which would pose a problem for the catching-up of those economies.

There is, however, no evidence that the catching-up countries need to impose any special level or trend upon their real exchange rates in order to achieve higher long-run growth. The abovementioned business survey on the competitiveness of countries and regions[2] does not suggest, either, that exchange policy is a more critical consideration for the competitiveness of lagging regions than for the other two groups (declining and prosperous regions).

[1] Commission of the European Communities (1990b)
[2] IFO (1989).

Within the five countries concerned by Objective 1 of the Community's Structural Funds, it is for Greece and Portugal that the choice of abandoning the exchange-rate instrument seems more critical. Ireland, Italy and Spain have already renounced an active exchange-rate policy by participating in the ERM (although Spain is still not in the narrow band and Italy has only recently joined it). In the latter two countries, moreover, the lagging regions have always been in a monetary union with the more developed ones.

2.2. Implicit taxes and fiscal adjustment issues

Another main implication for macroeconomic management of a monetary union geared towards the price stability objective lies in the additional constraints bearing on budgetary policy, which may temporarily affect the economic expansion of some Member States, including the least-favoured ones. The arguments in this field are rather intricate, but the following major aspects can be distinguished:

(a) National governments will neither be able to collect the seigniorage tax nor to borrow on preferential terms from the bank system. Seigniorage revenue is higher in Greece, Portugal, Spain and Italy than in the rest of the Community. Other implicit or hidden taxes on the financial sector have also been important, especially in Portugal and Greece. On the other hand, a reduction of present real interest rates might be possible under EMU, through the reduction of the risk premium.

(b) The rule of 'no bailing-out' and concerns for the stability of the union will increase pressure for a prompt inflection of public finance towards a stable path. The precise objectives pursued by multilateral surveillance and discipline have not been spelled out at the Maastricht Summit, and the new rules for the EC Structural Funds after 1993 should make allowance for the specific problems that raises for the catching-up countries.

(c) The absence of the exchange-rate instrument and the effective loss of autonomous monetary policy will imply a greater role for public finance as a general macroeconomic stabilization instrument.

(d) Being in a more unfavourable initial fiscal position of high debt ratios and unsustainable deficits, Italy, Greece and to some extent Portugal have less room for manœuvre. To this, one should add the narrowness of their tax bases and the fact that, with EMU, stronger tax competition will put a limit on taxation levels throughout the Community.

These considerations point to a conflict between the pressures upon public finance, on the one hand, and catching-up and regional objectives, on the other, since the latter are largely dependent on public investment and development expenditure.

EC financial support through the Structural Funds comes in the form of matching grants with an additionality requirement, which means that the eligible national expenditure must be kept to a high level. Even if these requirements could be relaxed and Community expenditure substituted for national expenditure, that would at best partially solve the conflict: public finance would be stabilized, but not the economy itself. If the economy is near full employment, for example, any increase in domestic demand via public investment would lead to inflation in the non-traded sector, and eventually to a loss of competitiveness and a crowding-out of the private sector.

One must, however, separate the basic problems of catching-up and fiscal adjustment of the lagging economies from the implications of EMU by itself. In fact, those countries would not be able to remain for very long on a divergent fiscal path, even outside EMU. The catching-up objective would remain, and resorting to inflation and hidden taxation are not efficient long-run strategies. The changes implied by EMU are in the choice of instruments and the speed of transition to a more stable regime. This transition will not, admittedly, be simple for some of the lagging countries, but it remains to be seen whether, or to what extent, it will force them temporarily to sacrifice some of their growth objectives.

2.3. Private investment

Another important channel of impact of EMU upon real convergence is through foreign direct investment. This is considered essential for the lagging countries, if they are to participate in the efficiency gains and increased specialization expected from the single European market. As well as having a positive impact upon the overall business climate, by further opening those countries to international trade, EMU will have an indirect impact upon cross-border investment flows, which may be even more important for long-run convergence than the static gains from trade itself. Moreover, there is some empirical evidence[1] that monetary integration, specifically, has a positive impact on those investment flows.

Monetary union could also improve the rating of countries with higher-than-average inflation rates. The view that high inflation constitutes a deterrent to foreign investment has in fact been expressed by some firms, and is believed to have affected those countries which remained outside the ERM.[2]

Also confirmed by business surveys[3] is the fact that private investment in the lagging regions is negatively affected by the lack of development of financial markets, and the crowding-out of weaker local borrowers due to excessive budget deficits and direct monetary control. These factors should in principle be positively affected by EMU and financial integration, but there are arguments which suggest that EMU might entail some disruption at the level of financial intermediaries, not necessarily to the advantage of weaker local borrowers.[4]

To summarize, the consideration of specific aspects of monetary union (loss of exchange-rate instrument and additional constraints on public finance) does not make the regional impact of EMU any more determinate, in the sense that greater convergence or divergence can be expected. A lot will depend, namely, on the domestic constraints and policy reactions of each Member State.

3. Conclusions

The object of the present paper was the potential effect of EMU upon different types of regions or countries in the Community. This issue is not to be confused with those of general spatial development trends, or the need for regional or cohesion policies in the union.

The above discussion may have conveyed the idea that predicting the spatial pattern of the impact of EMU is a complex and risky task, even more so than is the case for other aspects of EMU. The lack in economic history of comparable experiments make the empirical validation of the bewildering variety of results in the theoretical literature all but impossible. One can attempt, however, to summarize the main conclusions which could be considered relatively robust in the framework of the existing research:

1. Economic theory is somewhat divided between the views that integration will accentuate regional disparities and that it constitutes the best opportunity for the catching-up of lagging regions. Empirical evidence is insufficient to corrob-

[1] See Morsink and Molle (1991).

[2] NEI (1993).

[3] See IFO (1989).

[4] See Branson (1989).

orate either view. The history of the Community has been characterized by a long-run convergence of income levels of the participating countries, although this process has not been uniform in time. In general, it has been observed that convergence tends to predominate in periods of faster growth.

2. Models based on the notion of economic potential (market), while not denying the advantage for a peripheral region of belonging to a large economic area, stress the fact that, as integration proceeds, the potential of the centre increases faster than that of the periphery.

3. Models incorporating both elements of market size and difference in production costs show that location tendencies may not change monotonically as integration proceeds (the U-curve). In general, it would be in the interest of peripheral regions to take integration as far as possible and to counter their locational disadvantage by improving transport and other infrastructure.

4. The generalization of centre-periphery models to a multipolar structure opens the possibility that not only the global centre will benefit from integration but also other intermediate centres, especially those in border regions.

5. Recent research on location factors predicts that EMU will increase the mobility of investment across national borders, which can have as much influence upon the pattern of spatial development as trade flows by themselves. Determinants of location have become more complex and multidimensional than in the past, with new qualitative factors gaining relevance, but 'traditional' factors like the proximity to markets remain paramount, which underlines the importance of the concept of economic potential.

6. Survey results also confirm that: (a) competitive pressure among regions will increase both in the product markets and in the attempt to capture or retain mobile investments; (b) this is likely to affect in particular the regions suffering from industrial decline, with the main beneficiaries being some emerging regions with intermediate centres and good infrastructure; (c) although expectations in lagging regions are generally more pessimistic than for the central and prosperous ones, a number of policy-dependent elements are pointed out as affecting negatively both their competitiveness and locational attractiveness, such as the lack of infrastructure, labour skills, credit, information and active regional promotion policies.

7. Monetary union in particular will entail a far-reaching change in the macroeconomic regime, and its implications for the less-favoured member countries are even less certain, depending to a large extent upon the reactions of economic agents. These countries may experience particular difficulties in so far as their economies are more distorted, less diversified and their competitiveness more dependent on lower labour costs than the rest of the Community. Some of these countries also require a fiscal adjustment effort before they embark on EMU. On the other hand, they should be able to benefit from increased foreign investment flows and enhanced credibility, provided that the appropriate policies are implemented.

References

Abraham, F. and Van Rompuy, P. (1992), 'Convergence-divergence and the implications for the Community structural policies', *Cahiers économiques de Bruxelles,* 135, pp. 279-318.

Balassa, B. (1961), *The theory of economic integration,* New York, Richard D. Irwin.

Baldwin, R. (1990), 'On the microeconomics of the European monetary union', *European Economy,* special edition, 1990.

Branson, W. (1990), 'Financial market integration, macro-economic policy and the EMS' in Braga de Macedo, J. and Bliss, C. (eds), *Unity with diversity within the European economy: the Community's Southern frontier,* Cambridge, Cambridge University Press.

Commission of the European Communities (1990a), 'Economic and monetary union', Communication of the Commission to the Council, 21 August 1990, Luxembourg, Office for Official Publications of the European Communities.

Commission of the European Communities (1990b) 'One market, one money. An evaluation of the potential benefits and costs of forming an economic and monetary union', European Economy No 44, October 1990.

IFO — Institut für Wirtschaftsforchung (1989), *An empirical assessment of factors shaping regional competitiveness,* study performed for the Commission of the European Communities, Directorate-General for Regional Policies, Luxembourg, Office for Official Publications of the European Communities.

Keeble, D., Offord, J. and Walker, S. (1988), *Peripheral regions in a Community of twelve Member States,* Luxembourg, Office for Official Publications of the European Communities.

Krugman, P. and Venables, A. (1990), 'Integration and competitiveness of peripheral industry' in Braga de Macedo, J. and Bliss, C. (eds), *Unity with diversity within the European economy: the Community's Southem frontier, Cambridge, Cambridge University Press.*

Morsinsk, P. and Molle, W. (1991) 'European direct investment in Europe', in Buergenmeier, B. and Mucchielli, J. (eds) *Multinationals and Europe 1992: strategies for the future,* London, Routledge.

NEI — Netherlands Economic Institute (1993), *New location factors for mobile investment in Europe,* study performed in cooperation with Ernst and Young for the Commission of the European Communities, Directorate-General for Regional Policies, Luxembourg, Office for Official Publications of the European Communities.

Public interventions to promote economic efficiency: Implications for the EC budget

Declan Costello

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

Tables

Summary

In line with Article 3b of the Maastricht Treaty, this paper considers the appropriate assignment of public functions concerning allocation policy to the EC level in accordance with the subsidiarity principle, i.e. government intervention to correct market failure such that resources are efficiently allocated. Respect of the subsidiarity principle requires that three conditions be fulfilled before a policy is assigned to the EC level, namely, that there is a convincing rationale for public intervention, that there are large welfare gains associated with centralization, and that voluntary cooperation among the Member States cannot resolve problems of common interest. These three conditions are examined in Section 2.

Market failure (i.e. a non-efficient outcome) arises due to the existence of spillover/externalities, public goods and industries where increasing returns to scale are prominent. Under first-best conditions, governments can return the economy to an efficient outcome through the use of several policy instruments, most notably regulation, taxation and sometimes public expenditure. However, in a second-best policy environment, governments possess incomplete information and public interventions are not costlessly undertaken. Government as well as market failure therefore arises, and one cannot assume that the outcome of public intervention will automatically be welfare-improving above the market solution. In practice, the design of public intervention is extremely complex as one searches for best rather than optimal solutions. Furthermore, the inability to separate equity and efficiency objectives implies that even in public functions considered within the realm of allocation policy, distributional and social preferences can play a determining role.

Traditional fiscal federalism literature yields neat clear-cut solutions for the assignment of policy authority in multitiered governments; however, the advent of second-best literature greatly complicates the analysis. Ideally, a cost-benefit analysis should be undertaken bearing in mind all welfare implications of centralization. In general the benefits of centralization emanate from the internalization of spillover effects and the exploitation of economies of scale, whereas costs largely concern preference suppression. It is repeatedly emphasized that policy competency is not synonymous with the level of budgetary expenditure, and that frequently regulation is the most powerful policy instrument in the allocation field. A strong case often arises for assigning regulation and policy design to the central (EC) authority leaving implementation and expenditure-intensive activities under the responsibility of subcentral (Member State) authorities. Hence, EC involvement in allocation policy is usually not expenditure-intensive.

Sections 3 to 10 apply the analysis of Section 2 to the main allocation policies undertaken in industrialized economies, considering the rationale for Community involvement and the budgetary implications thereof. Already EC expenditure on allocation policies, as measured by spending on 'economic affairs and services' (an IMF classification) are substantial, equivalent to approximately 20 % of what central governments spend. Although much of the EC spending relates to agriculture, comparisons of expenditure intensity belie the significance of the Community's role through regulation and policy formulation.

In the field of research and development (R&D), the main reasons for EC involvement stem from the spillover benefits of research results across frontiers (a process that will be reinforced as economic integration deepens) and the exploitation of scale economies. In addition, there are grounds for supporting R&D in lagging regions as a means to promote real convergence. EC expenditure on R&D has risen to over ECU 1,9 billion in 1992 and proposals are currently being discussed to increase this to over ECU 4 billion by 1997. Although EC expenditure in 1991 was only 3,4 % of that undertaken by Member States (5 % if defence is excluded), the significance of EC involvement is much higher in three research fields, namely, 20 % for energy research, 13 % on infrastructure and general planning of land use and 12 % for R&D on industrial production and technology.

The grounds for EC involvement in environmental policy rest upon the interjurisdictional spillover effects of ambient pollution, the need to protect the integrity of the internal market, the exploitation of economies of scale and the benefits of enhanced negotiation power in international forums. Expenditure on environmental protection does not correspond with the degree of public intervention, and there are good reasons for separating regulatory and expenditure functions among different tiers of government. Community expenditure relating to the environment is substantial, mostly operating through Structural Funds and R&D transfers. However, direct EC expenditure on environmental protection is much more limited, and small in relation to Member States' spending, pointing to the potential for future increases. Also, additional support may have to be provided to catching-up countries if they are to meet binding environmental standards established in Community legislation.

Infrastructure provision from a purely national perspective has led to insufficient cross-border links being provided, inefficient network design, unnecessary duplication of infrastructure in border regions and the promulgation of technical incompatibilities that segment national infrastructures. Community involvement to rectify the above deficiencies is largely a coordination and planning role, but is rendered difficult by the presence of regional and distributional goals in infrastructure policy, the close link between the service and network provision (e.g. telecommunications) and moves towards the private provision of certain infrastructures in some Member States.

Community finance for infrastructure reflects the presence of both allocation and distribution objectives, and is made available through three main sources. The Trans-European Networks initiative has been formally recognized in the Maastricht Treaty, with spending set to increase to around ECU 1 billion in the coming years. Most EC spending on infrastructure currently comes from the Structural Funds, spending which will rise in line with the Delors II package agreement and the coming on stream of Cohesion Fund transfers. Finally, a major part of EIB loans are for infrastructure projects (over ECU 12 billion in 1992). Although existing levels of EC spending are small compared with those undertaken at Member State level, they nonetheless account for a significant share of total spending in lagging regions, but will only close the existing infrastructure endowment gap in the long run.

To conclude, integration may increase interjurisdictional spillovers, and so justify the assignment of additional allocation competences to the Community level. However, there appears to be no overwhelming case for other than modest increases in Community expenditure, say 0,1 to 0,2 % of GDP. The main role for the Community with respect to allocation policy remains a regulatory and coordination one. Justification for an enhanced Community role is predominantly equity- and cohesion-based rather than on grounds of improving allocative efficiency.

1. Introduction

The Maastricht Treaty calls for public functions to be assigned to the European Community in accordance with the subsidiarity principle. More precisely, Article 3b of the Treaty on European Union states that 'in areas that do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community'. Other papers in this volume (Walsh, 1992; Munk, 1992)[1] examine the literature on fiscal federalism, and the relevant economic criteria for deciding upon the assignment of public functions in multitiered governments. This paper seeks to apply the analysis to the allocation function of governments (i.e. interventions to correct market failure in order to obtain an efficient allocation of resources), and more especially to the European Community level.

The subsidiarity principle is decentralist. A rigorous application requires a number of conditions to be fulfilled before assigning a public function to the EC level, with the burden of proof falling on the parties favouring centralization.[2] Firstly, that there is a convincing rationale for government intervention; secondly, that there are significant welfare gains associated with centralizing policy competency at EC level; and thirdly, that intergovernmental cooperation cannot adequately solve problems of common interest. Section 2 addresses from a general perspective these three conditions with respect to allocation policies. Conventional public sector economics is employed to highlight the cases when governments should intervene to achieve a more efficient allocation of resources, and the instruments available to such market failure. Subsequent sections apply the analysis of Section 2 to the main allocation policies undertaken in industrialized economies, asking in which fields is EC policy competency required and what are the budgetary consequences thereof. Areas examined include R&D, environment policy and the provision of infrastructure, with the latter subdivided into surveys on telecommunications, transport, energy and certain educational infrastructures.

A detailed quantification of the welfare effects associated with the assignment of the abovementioned allocation functions to the Community is beyond the scope of this paper; nonetheless, it possible to specify the broad factors shaping centralization decisions, i.e. conduct a type of subsidiarity audit. Where possible, data are presented on relevant expenditure in Member States and in existing mature federations. Expenditure scenarios based on these figures should in no way be considered as policy recommendations for future developments in EC spending: they serve merely as benchmark indicators for illustrative purposes only.

---

1 See also Tresch (1981), Boadway and Wildasin (1984) and King (1984).

2 The principle is wider than commonly understood, encompassing the relationship between private and public spheres, with maximum leeway being afforded to the former (*Common Market Law Review*, No 27, 1990).

2. An economic application of the subsidiarity principle to allocation policies

2.1. The rationale for government intervention for allocative purposes, and the role of public expenditure

Traditional public sector economics is founded upon the concepts of consumer sovereignty, perfect competition, Pareto-optimality and well-behaved social welfare functions. These first-best assumptions about market conditions and the functional behaviour of market agents yield the two fundamental theorems of welfare economics; first, that a competitive market equilibrium will be a Pareto-efficient one, and second, that a Pareto-efficient outcome can be reached which produces the desired distribution of income. The role of the government is straightforward; since markets yield a Pareto-efficient outcome, its sole task is to redistribute income according to societies' distributional preferences (which the market cannot rank). Redistribution is costlessly achieved through lump-sum transfers and taxes which do not distort economic decisions of market agents.

Public sector economists have relaxed these restrictive assumptions by introducing three forms of market failure (discussed below), whereby market forces yield a non-Pareto-efficient outcome. The role of the government is then twofold, to correct market inefficiency by returning the economy to the utility possibility frontier, and secondly, to achieve desired income distribution through lump-sum transfers. Under first-best analysis, it is always possible for public intervention to return the economy to a socially optimal outcome.

Governments possess a wide range of policy instruments to correct market failure, the majority of which do not involve budgetary expenditure. These include regulation, taxation and the coordination of the activities of private economic agents. Therefore, public spending cannot be equated with the degree of public intervention, since regulation, the coordination of private activities, information provision, etc. are frequently far more powerful policy instruments, especially in the context of multitiered governments. The three types of market failure which occur are as follows:

(i) Spillovers/externalities are non-market interactions between economic agents that are not picked up by the price system. For example, if production results in pollution, this imposes a cost on society: the absence of public intervention will lead to a suboptimal outcome as net marginal benefits of an economic activity are not equated with its net marginal costs. Private markets fail to successfully internalize spillovers either because property rights are not defined, or because enforcement costs are excessive. Under first-best conditions, the optimal policy response is to apply a Pigouvian tax, i.e. a per unit tax/subsidy exactly equivalent to the spillover effect. However in practice, a free-rider problem occurs, whereby those benefiting from an unpriced externality have no incentive to reveal their preferences for which they would be charged (and vice versa). The public sector may succeed where the private sector fails if it knows, or can in some way determine, the preferences of economic agents.

(ii) Public goods are simultaneously (jointly) consumed by several market agents, and can be considered as non-exclusive consumption externalities. A pure-public good is one where there is complete 'non-rivalness' and 'non-exclusiveness' in consumption.[1] Governments can achieve an efficient allocation by supplying an amount of public goods determined according to the Samuelson optimality condition. This is where the net marginal benefit of supplying an additional unit of a public good is equated with its marginal cost of production. Financing of public goods would come from lump-sum taxation as pricing would be inefficient since the marginal cost of consumption is zero. In practice, the 'purity' of public goods varies, with respect to both rivalness and exclusivity conditions. For example, non-rivalness in consumption is violated where congestion occurs (e.g. road traffic). Similarly it may be possible to exclude consumption, e.g. the operation of toll-roads. Optimality conditions then become more complicated to define, since in addition to determining optimal supply, one must also ascertain the optimal number of persons who should use the public good, and also whether there is an optimal tariff charge.

(iii) Increasing returns to scale implies that output occurs where prices are not equal to marginal cost, thus precluding a perfectly competitive outcome. Unchecked, monopolistic market structures may emerge, with output below and prices above the competitive market outcome. A socially optimal outcome can be attained through public regulation or production that operates marginal cost pricing.

[1] The term 'non-rivalness' refers to the condition that the use of a public good by one economic agent does not prevent or impinge upon the use of the same public good by another economic agent. For example, a ship benefiting from a lighthouse does not prevent other ships from also benefiting from the guidance provided by the same lighthouse. The term 'non-exclusiveness' refers to the condition that it is impossible or prohibitively costly to restrict the consumption of a public good to only certain economic agents, e.g. fresh air.

The straightforward policy responses to market failure under first-best assumptions are often impossible to apply in the real world. Second-best analysis relaxes various market and behavioural assumptions in an attempt to provide a more realistic model. In particular, transactions are no longer assumed to be costless, market agents are no longer considered to possess perfect knowledge and certainty, and the unfeasibility of lump-sum redistribution transfers is recognized. Applying this to the three forms of market failure given above, it is evident that the application of a Pigouvian tax, the use of the Samuelson optimality condition, and marginal cost-pricing in industries with increasing returns no longer provide adequate policy prescriptions.

The upshot of second-best analysis can be summarized under three main headings. Firstly, the separation of allocation and distribution policies no longer remains tenable. All allocation decisions have equity implications which cannot be offset by lump-sum transfers. Trade-offs occur between these competing objectives, and redistribution has to be conducted through instruments other than lump-sum transfers, including those typically classified as being in the domain of allocation policy. Secondly, all public interventions (taxation, regulation and public good provision) are costly both from an administrative viewpoint and due to the distortions they cause to market functioning. Thus, government as well as market failure arises and hence public intervention cannot automatically be assumed to be welfare-improving above the market outcome. The net welfare effect of public intervention can only be determined on a cost-benefit basis, bearing in mind equity as well as efficiency considerations. As a result, it is extremely difficult under second-best conditions to define generalized optimal public intervention rules, since the best policy will depend upon the nature, structure, combination and magnitude of the distortions introduced to a first-best framework. Thirdly, it is no longer possible to isolate distorted sectors of the economy from those that function properly. Under second-best conditions, it is not optimal as a general rule to apply first-best policy prescriptions in non-distorted sectors when distortions prevail elsewhere.[1] Therefore, it may be justifiable to introduce a distortion in an economically efficient sector in response to a distortion elsewhere in the economy.

2.2. The welfare effects of centralizing public functions

The introduction of second-best analysis has greatly complicated assignment decisions compared with the clear-cut solutions prescribed in traditional fiscal federalism literature (Oates, 1972). The traditional literature understates the scope of government failure, ranging from information, administrative and bureaucratic costs, the costs of raising tax revenues, and the costs/benefits of competing and potentially inconsistent policies among several layers of government. In a second-best environment, appropriate centralization of public functions can only be appropriately gauged on the basis of complete cost-benefit analysis of all welfare implications, including distribution considerations. Nonetheless, the assignment criteria developed by Forte (1977) are still relevant today, even if the difficulties with their implementation are better recognized. The benefits of centralization are as follows:

(i) the internalization of externalities and spillovers: if market failures have cross-border effects, then, in the absence of cooperation, a suboptimal outcome with respect to public interventions is inevitable since governments care only for the welfare of their own citizens, e.g. if governments take account only of pollution affecting their citizens and territory. The degree of spillovers (and hence the need for common actions) may evolve over time, the scale being dependent upon the form of market imperfection, the degree of product and factor market integration, and the divergence of social and political preferences. The more integrated economies become, the greater the likelihood of spillover effects, and hence the need for additional competences at the Community level.

(ii) economies of scale in the production or distribution of public goods/services may be reaped through centralization. They may also exist in the decision-making process. For the Community, this is relevant to the extent that national economies are too small to exploit scale economies;

(iii) uniformity of public intervention across regions may help 'avoid geographical distortion in the allocation of resources arising from unequal supply of goods and services instrumental to production'.[2] It may also benefit through system efficiency gains, i.e. a particular policy function may itself not need to be centralized, but in so doing may yield benefits through its interactions with other centralized policy functions.[3]

1 Tresch (1981), p. 298; see also EC Commission (1991).

2 Forte (1977) p. 340.

3 A good example would be indirect tax harmonization. There is no convincing economic rationale as to why indirect taxes should be set and collected at the Community level, but minimum harmonization helps to ensure the proper functioning of the single market, for which the Community is the competent authority.

These benefits of centralizing public functions need to be carefully weighed up against the costs of centralization listed below, namely:

(a) preference suppression: the inability of central governments to tailor the form and degree of public interventions in response to local needs is the principal argument in favour of decentralization. Oates formalizes this in his decentralization theorem, which asserts that governments can only provide uniform levels of public service throughout their area of jurisdiction. By assuming that preferences between public and private goods are identical within populations but vary among groups, a rationale is provided for decentralized public functions. Although central governments in practice have some margin for manœuvre in altering public interventions on a regionalized basis, the scenario assumed in the decentralization theorem nonetheless reflects reality to a close degree. The degree of preference suppression depends on the similarity of tastes and economic conditions among jurisdictions. A complex mix of factors shape preferences, not least history, culture, language, etc., factors which Forte (1977) referred to as 'political homogeneity'. The importance of social and cultural factors shaping preferences for public intervention indicate that these are likely to diverge more widely among countries than within them. Hence, preference divergence, and consequently the cost of centralization is greatest with respect to those policies where political and social considerations rather than economic factors are predominant (e.g. defence, foreign affairs and interpersonal distribution), indicating a limited role for the Community in these areas;

(b) excessive uniformity and diseconomies of scale: aside from suppressing local preferences, centralization can hinder diversity, innovation and experimentation in public intervention. Recent literature has highlighted the advantages of policy competition among jurisdictions, both vertically and horizontally (Walsh, 1992). Furthermore, excessively large bureaucracies may suffer from diseconomies of scale;

(c) democratic accountability: some authors contend that maintaining public functions at lower levels of authority enhances democratic control (Brennan and Buchanan, 1980). Lower levels of government may have a better idea of the preferences of their electorate than central authorities, and in turn electorates may be better informed about local government, and so are better able to monitor and reward efficient efforts. It is also argued that federal structures impose greater fiscal discipline and help limit the growth in the size of the public sector (Moesen, 1993).

It should be noted that policy competency is a multifaceted affair, encompassing the setting of policy objectives, the selection of policy instruments, the implementation thereof, and enforcement/supervision responsibilities. These different aspects of policy functions can be divided among several layers of government. For example, the setting of policy objectives and choice of policy instruments may be usefully undertaken at the central (EC) level, with implementation and executive responsibilities being reserved for subcentral authorities (Member States). This separation of policy formulation and implementation may be particularly useful with respect to expenditure-intensive public functions that require large networks/administrations throughout jurisdictions.

2.3. Intergovernmental cooperation: when does it fail?

Respect of the subsidiarity principle not only requires these to be significant welfare gains associated with the centralization of policy functions, it also requires that international cooperation be unable to attain policy objectives. Cooperative solutions to interjurisdictional problems may not be forthcoming for two reasons; problems of coordination and problems of credibility.[1]

Coordination problems arise because national governments, in undertaking negotiations at the international level, care only for the welfare of their citizens. Free-riding arises due to asymmetric information between negotiating parties who are best informed about their own position, and who, for reasons of strategic interplay, fail to fully disclose their preferences. Assigning competency to central authority reduces overall information collection costs as well as delaying and blocking tactics in negotiations.

Cooperative solutions face an even greater problem of credibility with both domestic and foreign economic agents as regards their timeliness and substance. Self-enforcement of cooperative agreements may work ineffectively, as countries wish others to fulfil (costly) commitments while being lax in their own efforts. Furthermore, the brevity of the political cycle biases in favour of short-term political gains by sacrificing international commitments despite their long-term welfare gains. Assignment of policy competencies to a central authority which possesses the legal and administrative capabilities of enforcing agreements (e.g. the European Court of Justice) can overcome these problems. Credibility gains from centralization may arise even where policies are of a pure

[1] Gatsios and Seabright (1990).

domestic character. This is because, for sanctions to be effective, the gains from enforcement for regulators must be large compared with the cost (both administrative and political). A Member State may find the costs of enforcing national competition rules against a domestic monopoly to be very high, whereas the relative cost would be lower with EC enforcement, and the relative benefits higher (i.e. a deterrent to all EC enterprises).

3. An overview of public expenditure on allocation policies[1]

'Economic affairs and services' is an IMF classification which can serve as a (rough) proxy for expenditure on allocation policies.[2] It incorporates the following subheadings: fuel and energy, agriculture, forestry, fishing and hunting, mining and mineral resources, manufacturing and construction, transport and communications, other economic services.

Details of the amount per category spent by central, State and local governments in unitary States and federations are shown in Tables 1 to 3. The most striking feature of the data in both cases is the diversity of fiscal arrangements. Central governments of EC unitary States on average spend approximately 10% of their budgets on economic affairs and services (see Table 1). As a share in total central government spending, economic affairs and services varies from 16% in Luxembourg to 6% in France. On average, this amounts to 5% of GDP, but again is subject to wide variations, e.g. Ireland 8%, France 2%. Subcentral governments in the Community also spend some 10% of their budgets on economic affairs and services (Table 2). As a percentage of GDP, the highest figure is for Luxembourg (6%), followed by Denmark (2,4%). Of this subcentral expenditure, on average 46% is spent on transport and communications. The ratio of subcentral to central expenditure on economic affairs and services diverges considerably across countries; local governments on average account for 30% of all such expenditure: however this figure is 50% in Denmark. A more detailed examination indicates that the role of local governments is most significant with respect to transportation and communication (column C, Table 2).

1 Unless otherwise stated, data in this section come from the IMF *Government Statistics yearbook* 1990.

2 The data presented concern expenditure for which the level of government in question has direct administrative responsibility and do not include transfers to other levels of government.

Central government expenditure in mature federations on economic affairs and services also equals approximately 10% of total outlays (Table 3). However, average expenditure as a percentage of GDP is 2,2%, below the corresponding figure of 3,2% in EC unitary States. Data in Table 3 highlight that subcentral authorities in mature federations play a more significant role in the field of economic affairs and services than equivalent authorities in EC unitary States. State and local governments spend on average 9 and 4% of their budgets on economic affairs and services respectively. Central government expenditure is significant in all expenditure categories, although it is clear that States play a major role with respect to agriculture, forestry and fishing, and transport and communications, i.e. 45 and 41% of total expenditure respectively (column C). On average 60% of local government spending on economic affairs and services concerns transport and communications (column B) accounting for 23% of general government spending on this item.

Community expenditure is predominantly for allocative purposes. This is hardly surprising considering that the primary objective of the Community to date has been to establish a properly functioning single market. Community expenditure in 1992 on agriculture, R&D and regional policy amounted to ECU 51,2 billion, equivalent to 85% of total outlay and 0,97% of Community GDP.[3] The scale of Community expenditure in relation to Member State central government expenditure on economic affairs and services is therefore already substantial, somewhere in the region of 20%. Given that the bulk of EC expenditure relates to agriculture, the comparative size of EC spending on allocation policies is much lower in most other expenditure categories. However, comparisons of expenditure intensity provide little indication of authority and competency, and belie the significance of the Community's role as regards resource allocation, through regulation, policy formulation and the coordination of Member State actions.

4. Community spending on research and development

4.1. The rationale for public intervention in support of R&D

Economic growth and competitiveness are increasingly influenced by the acquisition and diffusion of technology and innovation. Public intervention in R&D can be rationalized

3 *Vade-mecum budgetaire*, 1993 edition.

Table 1

Central government expenditure on economic affairs and services — EC unitary States

	B bn (1988)	DK m (1987)	GR bn (1981)	E bn (1987)	F bn (1985)	IRL m (1987)	I bn (1987)	L m (1986)	NL bn (1989)	P m (1987)	UK m (1988)	Average
Total expenditure (national currency)	275	16 560	141	1 264	104	1 608	60 516	14 973	21	214	10 438	
as a % of GDP	4,8	2,4	6,9	3,5	2,2	8,0	5,6	5,9	4,4	4,1	2,2	4,6
as a % of total expenditure	10	10	17	10	6	16	13	16	9	11	8	11
Share in expenditure on economic affairs and services:												
Fuel and energy	13	14	8	9	15	21	18	1	11	:	27	14
Agriculture, forestry, fishing, hunting	8	16	37	16	13	43	10	9	10	:	10	17
Mining and mineral resources, manufacturing, construction												
Transport and communications	61	46	33	41	35	20	53	77	42	:	28	44
Other economic affairs and services	18	24	22	34	37	16	19	14	37	:	35	26
	100	100	100	100	100	100	100	100	100	:	100	100

NB: bn = billion; m = million.
Source: IMF, *Government statistics yearbook*, 1990.

on three grounds. First, R&D exhibits public-good characteristics, in that research results benefit many economic agents and it is impossible or prohibitively costly to restrict their consumption. Private agents may be unable to earn a commercial return on R&D if others can freely appropriate their results: such free-riding would lead to a suboptimal supply of R&D. Public intervention can be offered through the public financing of R&D and/or the provision of industrial and intellectual property rights. The public-good characteristics vary according to the type of R&D being undertaken, and hence the degree of public support should depend upon the 'public content' of the research results. A general analytical distinction can be drawn between basic and applied research, although in practice this is not easy to determine. Basic research generates knowledge of a fundamental nature, applicable in many scientific/industrial fields. Commercial applications of the results may be numerous but not immediately viable. As such, it is difficult for those engaged in basic research to earn a return on their investment, hence there is a strong case for public support to prevent suboptimal supply. Financial assistance rather than the awarding of intellectual property rights may be the preferred policy response in this case. The reason is that intellectual property rights confer a monopoly right to the holder which may prevent the dissemination of basic research results, and thereby hinder additional applied R&D in sectors where commercial opportunities arise. In contrast, applied research generates knowledge specific to the enterprise concerned, and usually has immediate commercial applications. Financial assistance is a less appropriate policy instrument than the granting of intellectual property rights and the establishment of a favourable legislative and market framework in which profitable R&D can be undertaken. Governments may nonetheless wish to provide some limited financial assistance either in the form of grants, tax deductions for R&D expenditure or interest subsidies.

Table 2

Breakdown of expenditure on economic affairs and services — EC unitary States

	DK million (1987)			F billion (1985)			L million (1986)			UK million (1988)			Average	
Central government														
Total expenditure (national currency)	16 560			104			14 973			10 438				
as a % of GDP	2,4			2,2			5,9			2,2			3,2	
as a % of total expenditure	9,5			7,7			7,7			7,7			9,8	
	A	B	C	A	B	C	A	B	C	A	B	C	B	C
Fuel and energy	2 251	14	60	15,8	15	45	113	1	100	2 808	27	97	14	75
Agriculture, forestry, fishing, hunting	2 726	16	100	13,7	13	100	1 278	9	71	1 026	10	93	12	91
Mining and mineral resources, manufacturing, construction														
Transport and communications	7 579	46	48	35,9	35	61	11 515	77	83	2 935	28	50	46	61
Other economic affairs and services	4 004	24	37	38,5	37	100	2 067	14	91	3 669	35	86	28	79
Local government														
Total expenditure (national currency)	16 462			42,1			3 089			3 661				
as a % of GDP	2,4			0,9			0,8			0,8			1,3	
as a % of total expenditure	7,6			10,8			6,6			6,6			11,6	
	A	B	C	A	B	C	A	B	C	A	B	C	B	C
Fuel and energy	1 521	9	40	19,3	46	55	0	0	0	99	3	3	14	25
Agriculture, forestry, fishing, hunting	0	0	0	0	0	0	529	17	29	72	2	7	5	9
Mining and mineral resources, manufacturing, construction														
Transport and communications	8 172	50	52	22,8	54	39	2 356	76	17	2 899	79	50	65	39
Other economic affairs and services	6 771	41	63	0	0	0	204	7	9	591	16	14	16	21

NB: A = total expenditure in national currency.
B = share in total expenditure on economic affairs and services by the appropriate level of government, e.g. 12% of Australian central government expenditure on economic affairs and services is for fuel and energy.
C = share in total general government expenditure (central + State + local) on economic affairs and services, e.g. in Australia, 43% of total public expenditure on agriculture, forestry, etc. was undertaken by central government, 56% by State governments and 1% by local government.
The figures represent the expenditure for which the level of government has direct administrative responsibility and do not include trnasfers to other levels of government.

Table 3

Breakdown of expenditure on economic affairs and services — Federations

	Australia million (1988)			Austria billion (1989)			Canada million (1987)			Switzerland million (1984)			USA billion (1988)			FR of Germany billion (1887)			Average	
Central government																				
Total expenditure (national currency)	3 962			66			16 946			3 212			62			39				
as a % of GDP	1,3			3,9			3,0			1,5			1,3			2,0			2,2	
as a % of total central government expenditure	6,8			10,1			15,9			8,1			6,1			6,8			9,0	
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	B	C
Fuel and energy	495	12	45	8	11	65	795	5	105	90	3	87	4	6	53	9	22	79	10	72
Agriculture, forestry, fishing, hunting	1 113	28	43	18	28	71	4 891	29	103	1 229	38	43	19	31	65	1	2	7	26	56
Mining and mineral resources, manufacturing, construction																				
Transport and communications	826	21	15	38	58	83	7 005	41	41	1 695	53	25	16	26	20	23	59	53	43	40
Other economic affairs and services	1 528	39	59	2	3	72	4 255	25	37	198	6	30	23	37	72	7	18	32	21	50
State government																				
Total expenditure (national currency)	7 765			:			12 018			4 874			53			23				
as a % of GDP	2,6			:			2,1			2,2			1,1			1,2			1,8	
as a % of total central government expenditure	13,4			:			11,3			11,8			5,2			4,1			9,2	
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	B	C
Fuel and energy	592	8	54	4	21	35	0	0	0	13	0	13	0,4	1	6	2	8	18	8	25
Agriculture, forestry, fishing, hunting	1 450	19	56	7	36	29	0	0	0	1 153	25	40	8	15	27	7	31	75	25	45
Mining and mineral resources, manufacturing, construction																				
Transport and communications	4 802	62	85	8	39	17	5 266	44	31	3 209	69	48	38	71	48	7	31	17	53	41
Other economic affairs and services	921	12	35	1	4	28	6 945	58	60	299	6	45	7	13	22	7	29	32	20	37
Local government																				
Total expenditure (national currency)	178			:			5 111			2 485			33			22				
as a % of GDP	0,1			:			0,9			1,2			0,7			1,1			0,8	
as a % of total central government expenditure	0,3			:			4,8			6,3			3,2			3,9			3,7	
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	B	C
Fuel and energy	2	1	0	:			0	0	0	0	0	0	3	9	41	0,3	1	3	2	9
Agriculture, forestry, fishing, hunting	22	12	1	:			0	0	0	466	19	16	2	7	8	2	8	18	9	9
Mining and mineral resources, manufacturing, construction																				
Transport and communications	0	0	0	:			4 658	91	28	1 850	74	27	25	77	32	13	57	30	60	23
Other economic affairs and services	154	87	6	:			453	9	4	169	7	25	2	6	7	8	34	35	28	15

NB: A = total expenditure in national currency.
B = share in total expenditure on economic affairs and services by the appropriate level of government, e.g. 12% of Australian central government expenditure on economic affairs and services was for fuel and energy.
C = share in total general government expenditure (central + State + local) on economic affairs and services, e.g. in Australia, 43% of total public expenditure on agriculture, forestry, etc. was undertaken by central government, 56% by State governments and 1% by local government.
The figures represent the expenditure for which the level of government has direct administrative responsibility and do not include trnasfers to other levels of government.

A second rationale for public intervention in R&D activities concerns the infant-industry and strategic industrial policy arguments. These arise where economies of scale operate at the global level (implying a global monopoly/oligopoly), or where private markets fail to provide finance for ventures requiring a long gestation period before commercial returns are earned. Public intervention may be justified to develop a domestic industry, with welfare gains resulting from economic rents accruing to domestic agents earned on oligopolistic global markets. It may come in the form of awarding a domestic monopoly to an enterprise, the erection of trade barriers, tax credits, subsidies, and also, given the dynamic nature of these industries, R&D assistance. However, the arguments in favour of supporting strategic industries have been subject to intense criticism (Baldwin, 1992). The possibility of earning economic rents on global markets only arise in a very limited number of industries where extremely large economies of scale exist. Furthermore, it is difficult for governments to 'pick winners', i.e. to forecast which industries will be of strategic importance in the long term and to choose enterprises which can successfully develop into world leaders. Governments risk being influenced by self-interested parties seeking protection, which is damaging from a national welfare viewpoint. The full cost of providing financial support to strategic industries is often neglected, e.g. the cost to consumers and the cost of raising tax revenues.

A third rationale for public involvement with R&D is the support of other policy objectives such as in the fields of energy, transport, health, consumer protection, environment and defence. Given the importance of these activities in modern economies, the scale of government spending on R&D activities can be substantial. In addition, R&D may be used to support balanced regional development. Evidence in the Stride reports (EC Commission, 1987) indicates the disparity of R&D intensity between developed and lagging regions in the Community, and the danger of this becoming a mechanism for widening income differentials.

4.2. The role of the European Community in R&D

The three rationales for public intervention described above equally apply at the Community level. Regarding the public good argument, research undertaken in one country may have spillover benefits in other Member States. Coordinated EC intervention can internalize externalities, reduce the risk of duplicative research, and reap synergetic benefits from shared experiences. Typically, cross-border spillovers will be greater in the case of basic rather than applied research, justifying greater EC budgetary support for the former. Economies of scale in the most expensive and risky of research initiatives provide a further incentive for Community involvement.

Community support to strategic industries can be justified on the grounds that a European-wide enterprise/industry is better placed than a national champion/industry to secure a larger share of an oligopolistic global market. In addition, EC policy can prevent Member States from competing against each other in attempting to establish or attract key industries, a policy which also protects the integrity of the single market. However, the dangers mentioned above associated with strategic industrial policy are also valid for the Community. The principal role of the Community in support of applied R&D undertaken by private agents is to establish market conditions in which high-tech industries can develop and flourish. A large internal market, devoid of tariff and non-tariff barriers, permits sales of sufficient magnitude that enable large R&D outlays to be recouped. Common intellectual property rights and competition policy rules are key elements of the internal market programme for R&D-intensive industries.

Finally, the Community may wish to engage in research activities in support of other policy objectives, namely to ensure the full exploitation of the single market. Coordination among Member States at the early stages of a technological development can prevent unnecessary technical incompatibilities from causing market fragmentation at a later stage in product development (e.g. HDTV, mobile communications). Community action may help foster network linkages between research bodies and enterprises that have hitherto failed to develop. Some EC R&D spending may also be warranted in the fields of Community environmental policy, technical standards, energy and telecommunications. In addition, Community R&D assistance may be provided in pursuit of the cohesion objective.

4.3. Public expenditure on R&D and the role of the EC budget

In 1990, gross domestic expenditure on R&D in the Community approximately equalled 2% of GDP, well below the figures of 2,8% for the USA and 3,1% for Japan (see Table 4). Only Germany undertakes a comparable research effort with that of the USA and Japan, suggesting that factors may be present in the Community leading to a suboptimal level of R&D. A wide disparity exists between the developed and less-developed Member States as regards the scale of R&D activities, ranging from Germany 2,7% of GDP, France 2,4%, the United Kingdom 2,2% and the Netherlands 2,26% compared with Greece 0,47%, Portugal 0,5%, Spain 0,72% and Ireland 0,87%. On average, governments account for 42% of R&D spending in the Community, albeit subject to wide variation across Member States. This is lower than the figure for the USA (47%) but much higher than that for Japan (18,5%) where industry finances the bulk of R&D (73%).

Community R&D expenditure has increased dramatically over the past number of years with a third framework programme now in operation covering the period 1990-94 with a budget for this period of ECU 6,6 billion. Actual expenditure has risen from ECU 967 million in 1987 to ECU 1,94 billion in 1992.[1] A fourth framework programme is currently being debated taking account of the implications of the Maastricht Treaty[2] and the Financial Perspectives agreed as part of the Delors II package at the Edinburgh Council. These proposals envisage a gradual increase in Community R&D appropriations from ECU 2,4 billion in 1992 to ECU 4,2 billion in 1997.[3]

[1] *Vade-mecum budgetaire*, 1993 edition.
[2] Communication of the Commission to the Council 'Research activity after Maastricht: an assessment, a strategy', *Bulletin of the European Communities*, No 4-1992, point 1.3.60.
[3] *XXVIth General Report on the Activities of the European Communities*, point 272.

During 1991, most Community expenditure (46%), was for industrial production and technology (see Table 5). Production, distribution and the rational utilization of energy accounted for 24% of total Community expenditure. Although EC expenditure on R&D and innovation activities in 1989 was equivalent in total to only 3,4% of national government spending (5% if defence is excluded), the significance of EC involvement is much greater in three research fields. These are the production, distribution and the rational utilization of energy (equal to 20,1% of national spending), infrastructure and general planning of land use (12,8%), and industrial production and technology (11,8%). The justification for additional EC involvement in R&D activities, and consequently greater spending, may increase as interjurisdictional spillovers intensify (e.g. with basic research) and as additional policy competencies are assigned to the EC level.

A significant increase in the level of EC research activities can be achieved with a relatively small amount of budgetary resources, in part due to the relatively small share (3,4%) in total R&D activities financed by Member State governments. As stressed in the introduction to this paper, low expenditure should not be equated with policy competence. The Community has a crucial role in R&D through the coordination of national research efforts and the creation of a properly functioning single market, an essential requirement for large-scale industrial research.

Table 4

R&D expenditure in the European Community, the USA and Japan in 1990

	B	DK	D	GR	E	F	IRL	I	NL	P	UK	EUR 12	USA	Japan
Gross expenditure on R&D (% GDP)	1,7	1,5[1]	2,7	0,5[1]	0,9	2,4	0,9	1,3	2,1	0,6	2,2	2,0	2,8	3,1
Financed by industry (%)	70,4	46,8	62,0	19,4	47,4	43,5	60,0	43,7	51,1	27,0	49,5	51,7	50,6	73,1
Financed by government (%)	27,6	45,5	35,1	68,9	45,1	48,3	29,0	51,5	45,1	61,8	35,8	41,2	47,1	18,5

NB: Industry and government shares do not add up to 100%.
Source: OECD, *Main Science and Technology Indicators*, 1993.
[1] 1989.

Table 5

Community and Member States' R&D spending according to research category in 1991[1]

	Member States (billion ECU)	%	Community (billion ECU)	%	EC as a % of EUR 12
Exploration and exploitation of the earth	1,03	2,1	0,04	2,4	3,8
Infrastructure and general planning of land use	0,70	1,4	0,09	5,5	12,8
Control of environmental pollution	1,11	2,3	0,09	5,3	7,7
Protection and improvement of human health	1,95	4,0	0,06	3,6	3,0
Production, distribution and rational utilization of energy	1,95	4,0	0,39	24,0	20,1
Agricultural production and technology	1,83	3,8	0,10	5,9	5,2
Industrial production and technology	6,35	13,2	0,75	46,1	11,8
Social structures and relationships	1,41	2,9	0,03	1,8	2,1
Exploration and exploitation of space	3,01	6,2	0,01	0,8	0,4
Research financed from general university funds	11,30	23,4	0,00	0,0	0,0
Non-oriented research	6,01	12,4	0,03	2,0	0,5
Other civil research	0,63	1,3	0,04	2,7	7,0
Defence	11,02	22,8	0,00	0,0	0,0
Total	48,29	100,0	1,63	100,0	3,4

[1] Provisional figures.
[2] Community budget spending as a percentage of the spending undertaken by the governments of the 12 Member States.
Source: Eurostat, *Government financing of R&D 1980-91*, Series 9-C.

5. Community spending on environmental policies

5.1. The rationale for public intervention for environmental purposes

The negative environmental effects of pollution are a classic example of externalities. Private and social marginal costs are not equalized, and as a result, economic welfare is not maximized. To correct this form of market failure in a first-best world, the government would ensure that the polluter pays a per unit tax equivalent to the negative spillover effect, and so return the economy to a Pareto-efficient outcome along the utility possibility frontier. In practice, policy instruments to protect the environment also include the prohibition of pollution where irreparable damage can occur, and the definition of environmental standards and norms, e.g. emissions from cars and trucks. Governments are also involved in the organization and administration of private sector environmental bodies, ensuring that the interests of all parties (e.g. consumers) are adequately represented. Hence, public expenditure is often a relatively ineffective policy instrument for tackling environmental problems compared with taxation, regulation and standardization, a feature reflected in the environmental activities of the Community.

5.2. The role of the European Community in environmental policy

There are five factors which suggest a major, though not dominant, role for the Community in environmental policy in accordance with the subsidiarity principle, a necessity recognized in Article 130r of the Single European Act which states: 'the Community shall take action relating to the environment to the extent to which the objectives ... can be attained better at Community level than at the level of individual Member States'.

The case for Community involvement in environmental policy principally rests upon the benefits of internalizing intra-EC pollution externalities. However, the nature and degree of interjurisdictional environmental problems varies according to the form of pollution in question, e.g. whether the source is stationary or ambient, geographic considerations, the medium by which pollution travels, etc. For example, a strong case for EC involvement arises with respect to the acid rain problem given the movement of damaging agents across borders, but there is a much weaker case for EC involvement with respect to noise pollution in cities.

A second reason in favour of Community involvement is that the sudden recognition of the scale of the environmental problem has highlighted the deficiencies in scientific knowledge, statistical information, preventative and clean-up technologies, and environment-friendly product and process standards. The urgency and scale of remedying these weaknesses means that substantial economies of scale are likely to be gained through common and coordinated efforts. Scale economies can also be reaped at the regulatory level in the drafting of legislation and regulations, and market agents may also benefit through lower communication costs associated with the understanding of a single central policy.

Thirdly, Community competence may further be required to protect the integrity of the internal market. Governments use a variety of policy instruments to tackle environmental problems, ranging from national product norms and taxation to product liability regulations. All such actions can potentially hinder the free movement of goods and services in the single market. Without EC regulation, sectoral lobbies may make deliberate attempts to introduce projectionist barriers under the guise of environmental protection.

A fourth justification for a major Community role arises where environmental problems are of a continental and global scale: in this instance it may be beneficial to delegate negotiating responsibility in international forums to the Community. Negotiating as a block may increase overall bargaining power and reduce negotiation costs. This is not to argue for a blanket Community competency with respect to all external questions. For example, where Member States have to directly contribute to the financing of international agreements, or where no Community policy exists, shared competencies may be more appropriate. A final justification for EC involvement in environmental policy concerns Community citizenship rights, whereby all EC nationals would be entitled to minimum environmental standards.

The key issue therefore is to determine which aspects of environmental policy should be assigned to the EC. Intergovernmental cooperative solutions alone to transfrontier problems may fail to develop a stringent enough level of environmental protection for several reasons. Environmental protection comes at a cost, making free-riding and strategic behaviour likely between negotiating parties, jeopardizing the chances of timely and efficient solutions being reached. Enforcement and legal certainty are also problems with such cooperative solutions. Furthermore, there are significant technical operational difficulties that may only be overcome by assigning competency to the Community level, e.g. agreeing on measures the scale and damage of pollution, determining the geographic source of certain pollutants, etc.

In Section 2 of this paper it was argued that authority for setting policy objectives and the design of policy instruments can be separated from issues of operational implementation. There are considerable microeconomic justifications for not assigning executive and management responsibilities to Community institutions. Given different environmental endowments, diverse preferences, and various national traditions among the Member States, it may be beneficial to allow as much diversity as possible with respect to legislation, implementation and enforcement. The upshot of this approach would be to concentrate objective-setting and policy design at the Community level for environment issues with interjurisdictional effects, leaving implementation and expenditure-intensive activities to national authorities.

5.3. Public expenditure on environmental protection

Environment expenditure is scattered under many headings in national budgets, making it extremely difficult to an accurate picture of relevant spending. For example, it is not possible to determine the environment component of transport and energy budgets. Furthermore, international harmonization of environmental statistics is limited and data presented should therefore be treated with caution. Figures for the total national expenditure of industry and governments on environmental protection[1] are presented on Table 6.[2]

Member States spent some ECU 53 billion on environmental protection (1,1% of GDP) in 1991. Of this, 57% (equivalent to 0,6% of GDP) was financed by the public sector. However, both the level of expenditure and the share of the public sector diverged greatly among Member States. Total expenditure as a percentage of GDP were highest in Germany (1,6%) and lowest in Greece (0,5%). Denmark has the highest share of the public sector in total spending on environmental protection (90%), whereas this figure was lowest in the United Kingdom (25%) and Germany (52%). Public spending on environmental protection as a percentage of GDP was therefore highest in Denmark (1%) followed

1 This measure covers expenditure on the protection of the environment excluding R&D, the nuclear industry and water resources (dams, drinking water supply, etc.), improvements in general living conditions (e.g. green spaces in urban areas, pedestrian areas), operations targeting the development of renewable energy sources and energy savings and expenditure made directly by households (e.g. private waste disposal and cleaning, purchase of 'green products'). However, expenditure on street sweeping and cleaning is included as are extra costs which may be incurred in connection with the implementation of clean technology.

2 'Overview and estimation of current environmental expenditure in the EC with forecasts for the short and medium term', ERECO, October 1992.

Table 6

Expenditure on protection of the environment in the European Community in 1990

	Total (billion ECU)	as a % of GDP	as a % of EC total	% average growth, 1980-90	% by public sector	as a % of GDP	Distribution by area (%)				Nature reserves
							Waste	Air	Water	Noise	
B/L	1,13	0,7	2,1	2,2	63,7	0,4	40	17	30	5	8
DK	1,16	1,1	2,2	3,9	90,0	1,0	27	13	57	1	2
D	18,65	1,6	35,3	3,3	52,0	0,8	24	27	45	3	1
GR	0,27	0,5	0,5	0,5	72,1	0,4	22	2	72	1	3
E	2,93	0,8	5,5	6,5	81,5	0,7	45	2	32	1	20
F	9,48	1,0	17,9	3,0	66,4	0,7	42	10	43	2	3
IRL	0,30	0,9	0,6	4,7	70,6	0,6	44	16	35	3	2
I	6,17	0,7	11,7	2,2	79,9	0,6	47	5	46	1	1
NL	2,91	1,3	5,5	2,7	72,4	0,9	29	14	45	4	8
P	0,44	0,9	0,8	3,5	86,5	0,8	16	2	74	1	7
UK	9,38	1,2	17,8	2,5	24,7	0,3	33	22	40	3	2
EUR 12	52,82	1,1	100,0	3,0	57,0	0,6	33	18	43	3	3

Source: ERECO.

by the Netherlands (0,9%), Germany and Portugal (both 0,8%), with the lowest figures being recorded for the United Kingdom (0,3%), Belgium and Greece (both 0,4%). An interesting feature is that whereas all four 'cohesion' countries (Spain, Greece, Ireland and Portugal) had below EC-average total spending on environmental protection (i.e. government plus industry), only public expenditure in Greece was below the EC average.

The Community currently participates in environmental expenditure under five headings, the financial commitments of which are listed on Table 7. In 1987, EC expenditure was approximately ECU 60 million per annum. This has increased rapidly, with an estimated ECU 4 billion committed for the 1988-93 period, equivalent to some ECU 650 million per annum. Expenditure falls under two main budgetary headings, R&D and the Structural Funds. Some ECU 518 million has been allocated towards R&D for environmental purposes as part of the third framework programme.[1] This is complemented with ECU 714 million to be spent on life-sciences and technologies, and a further ECU 814 million for energy research. Of the ECU 39 billion Structural Fund package, ECU 2,85 billion will support environmental measures, the bulk (ECU 1,96 billion) in Objective 1 regions. In addition, an ECU 500 million Community programme, Envireg, was launched in May 1990.

[1] This figure does not include the additional funding for the third framework programme agreed in December 1992.

In addition, the Community provides loan finance for the protection of the environment and improving the quality of life through the European Investment Bank. During 1992, these loans amounted to over ECU 4,5 billion, up from ECU 1,9 billion in 1991.[1] Water conservation and management projects received almost 50% of these loans (ECU 2,3 billion) with ECU 968 billion provided for urban development, ECU 760 million on measures to combat atmospheric pollution and ECU 133 million on waste management. More than 65% of financing on environment measures concerned projects in less-favoured EC regions.

Combined, these measures yield EC expenditure for environmental purposes at between ECU 650 and 900 million per annum, equivalent to only 2% of the existing Community budget expenditure, or 0,02% of Community GDP (1990 prices). However, a narrower measure of direct EC outlays on environmental protection (i.e. not R&D or Structural Funds) yields a total of approximately ECU 120 million (0,002% of GDP −0,2% of EC budget). Depending upon whether one uses a wide or a narrow measure of spending on environmental protection (i.e. the inclusion of R&D and Structural Funds), EC expenditure amounts to between 0,5 and 3% of what Member States spend. This (estimated) limited scale of current Community expenditure in the field of the environment indicates potential room for possible future expenditure increases, but again does not signify lack

[1] European Investment Bank (1992), p. 32.

of Community involvement as issues such as carbon taxes and environmental standards have not been mentioned thus far.

Additional Community financial support may be necessary where EC legislation imposes binding obligations on Member States to meet environmental standards the respect of which places a considerable strain on public finances: this may run contrary to other policy objectives such as the consolidation of public finances in the run-up to full economic and monetary union. In such circumstances, EC financial support may be justified to maintain progress towards nominal convergence without sacrificing environmental objectives. A study undertaken for the Directorate-General for Regional Policies estimated that Objective 1 regions will need to invest approximately ECU 18,5 billion during the period 1993 and 2005,[1] if they are to satisfy the provisions of existing national standards, current and planned EC Directives and international conventions (see Table 8). The study covered four fields, urban waste water, industrial waste water, urban solid waste and industrial solid waste. Although the figures are highly aggregated, it is evident that the scale of finances required will pose considerable difficulties for certain countries.

6. Community spending on infrastructure: an overview

The public sector is the main provider of infrastructure in all Member States, either directly or through State-owned enterprises and bodies. Public provision is traditionally justified on the grounds that infrastructure constitutes public goods (i.e. exhibiting non-rivalness and non-exclusiveness in consumption) and/or natural monopolies (i.e. very large economies of scale implying room for only one supplier). Governments are also involved in the provision of infrastructure for other reasons such as security (e.g. of supply in the case of energy), balanced regional development (ensuring

[1] ERL Espana SA (1991).

Table 7

EC budget spending on environmental actions

	Duration	Total
Research		
Environment programmes	1989-92	162
Joint Research Centres	1987-90	137
Third framework programme	1991-94	518
ECSC	1985-90	13
Demonstration projects		
Medspa	1986-93	63
Norspa	1991-92	14
ACE/Technology/ACNAT	1987-91	60
Coal	1987-89	74
Structural Funds		
ERDF (old)	1985-89	260
ERDF (Objective 1)	1989-93	1 966
ERDF (Objective 2)	1989-91	537
Envireg	1990-93	500
EAGGF 5a	1989-93	39
EAGGF 5b	1989-93	310
EAGGF forests	1987-90	58
Third countries		
Ecology in LDCs	1988-90	21
	Total	4 732

Source: COM(91) 28 final, 31.1.1991 Proposal for a Council regulation establishing a financial instrument for the environment (LIFE).

Table 8

Summary of environmental investment needs in Objective 1 regions, 1993-2005

(million ECU)

	GR	IRL	I	P	E	Total
Urban waste water	1 000	558	2 500	1 335	5 500	10 893
Industrial waste water	230		1 000	2 040	1 000	4 270
Urban solid waste	112	194	185	148	223	862
Industrial solid waste	9	1	1 271	164	123	1 568
Other	68	57	250	185	340	900
Total	1 419	810	5 206	3 872	7 186	18 493

Source: ERL Espana SA (1991).

that all regions have a minimum level of public infrastructure and services), and to pursue social and distribution objectives (e.g. below-cost pricing for disadvantaged groups and regions).

Therefore, public provision of infrastructure is undertaken for both allocational and distributional reasons. The form and degree of market failure differs for each type of infrastructure, as do regional, social and distributional considerations. Hence, each type of infrastructure shall be discussed in turn, so that the appropriate rationale and form of public intervention can be considered as well as the arguments in favour of Community involvement. Differences in the form of market failure have implications for the degree of public spending on infrastructure. For example, negligible amounts of spending on infrastructure sometimes appear in public accounts if provision falls under the responsibility of a State agency (telecommunications or energy utilities) and/or if networks can be financed through user charges.

Infrastructure provision from a purely national perspective has resulted in insufficient cross-border links between Member States, inefficient network design through the failure to exploit system externalities, unnecessary duplication of infrastructure in border regions, and the promulgation of technical incompatibilities which segment national infrastructure systems. Insufficient cross-border links are hindering the exploitation of benefits of the single market, a process which is increasing the scale of intra-EC flows (e.g. road traffic, telecommunications). Furthermore, certain infrastructure or their use have negative externalities (e.g. pollution from road transport and energy generation, safety) which may have cross-border effects that need to be internalized at Community level.

Overall, the role for Community involvement is largely a coordination and planning one, ensuring that the European perspective is incorporated into infrastructure design such that appropriate and sufficient the cross-border infrastructural links are provided, and ensuring necessary standardization. The need for Community budget spending on allocation policies is limited, and largely involves the financing (or a part thereof) of only those parts of infrastructure networks which have a Community interest, for example, cross-border links. The Community may also wish to finance certain demonstration projects of EC interest, standardization activities, and R&D in support of these objectives.

There are two key problems with Community involvement in infrastructure provision. Firstly, the presence of strong distributional preferences and considerations of the appropriate role of the public sector, which diverge sharply among Member States, renders it difficult to reach a common position. For example, progress towards the liberalization of telecommunications services has proved difficult in part due to the fact that some governments pursue a policy of universal provision (i.e. using monopoly profits generated in core regions to finance network provision in disadvantaged areas). Secondly, technological advances are undermining many of the arguments in favour of public involvement mentioned above. Network provision costs while still large, often no longer support the natural monopoly argument (telecommunications networks), and it is now technically possible to charge for infrastructure use in cases previously considered too expensive (e.g. toll-roads). These considerations have partly spurned the privatization of infrastructure provision in some Member States, thereby rendering it more difficult to agree common policies.

Community financial support for infrastructure reflects the existence of both allocation and distribution objectives in infrastructure policies, as well as the need for additional Community involvement as integration proceeds. On the allocation side, the Community is promoting the development of Trans-European Networks (TENs) to finance missing cross-border links,[1] for which ECU 328 million has been apportioned to cover six priority projects from 1990-92. Articles 129b, c and d of the Maastricht Treaty codify the Community's role with respect to transport, telecommunications and energy infrastructure. The Edinburgh Council conclusions call for financial resources for TENs to reflect the emphasis in the Maastricht Treaty.

On the distribution side, the EC provides significant levels of finance for infrastructure (in fact, the bulk of EC spending on infrastructure) through the Structural Funds. Some ECU 8 billion was assigned to be spent on infrastructure in Objective 1 regions between 1989 and 1993, approximately 45% of which will be for transport purposes. Spain is the largest net recipient receiving ECU 3,3 billion, followed by Italy ECU 1,6 billion, and Greece ECU 1,4 billion (see Table 9). This spending will increase substantially in the coming years as part of the Delors II package conclusions, which provide for Structural Fund expenditure to increase from ECU 19,7 per annum in 1993 (1992 prices) to ECU 27,4 billion in 1999. Furthermore, the Cohesion Fund establishes a more direct recognition of the need for minimum levels of public infrastructure throughout the Community, by providing for a greater degree of EC co-financing (between 80 to 85% of total project costs), i.e. a move away from matching to lump-sum grants (Costello, 1993). Over the period 1993-99, the Cohesion Fund will spend ECU 15,15 billion on transport

[1] COM(90) 310: 'Towards Trans-European Networks; progress report', and COM(90) 585: 'Towards Trans-European Networks: for a Community action programme'.

infrastructure and environment projects in Member States with a GNP per capita income below 90% of the Community average (Spain, Greece, Ireland and Portugal).

Loan finance for infrastructure projects are provided by the European Investment Bank (see Table 9a), which in 1992 amounted to approximately ECU 12,4 billion. Over one third of the loans related to transport infrastructure (ECU 4,5 billion), a quarter for energy infrastructure (ECU 2,9 billion) and 16% (ECU 2 billion) on telecommunications. A large proportion of the loans are provided to less favoured regions of the Community. Combined, the four 'cohesion' countries receive 35% of all EIB loans for infrastructure projects. In addition to the EIB, the Edinburgh Council of December 1992 called for the establishment of a European Investment Fund (EIF), which will provide loans for major infrastructure projects forming part of TENs and to small and medium-sized enterprises. The initial subscribed capital of the EIF will be ECU 2 billion, which should allow for between ECU 6 to 10 billion of loan guarantees.

Table 9

Structural Fund spending on infrastructure in Objective 1 regions, 1989-93

(million ECU)

	GR	E	F	IRL	I	P	UK	Total
Transport infrastructure	612	2 911	16	632	425	602	137	5 335
Roads/motorways	271	2 051	4	512	300	460	14	3 612
Rail	160	636		4	66	123	27	1 016
Ports		102	6	35	44		67	254
Airports		104	7	63		19	29	222
Other	181	18		18	15			232
Telecommunications and STAR	345	309	5	25	311	121	12	1 128
Energy	513	117	3	13	879	172	5	1 702
Total	1 470	3 337	24	670	1 615	895	154	8 165

Data are taken from relevant Community support frameworks (CSFs).
Source: COM(90) 585.

Table 9a

EIB loan financing for infrastructure in 1992

(million ECU)

	Transport	Telecommunications	Environment/ miscellaneous	Energy	Total
B	47,9		4,2	83,4	135,5
DK	342,7	61,2	45,0	200,3	649,2
D	263,9	97,9	842,1	104,0	1 307,9
GR	182,2		82,7	74,9	339,8
E	1 386,3	659,6	491,5	316,8	2 854,2
F	1 231,6		130,4	9,5	1 371,5
IRL	64,9	46,0	106,3	23,9	241,1
I	69,4	737,6	280,1	1 050,4	2 137,5
L		30,9			30,9
NL				67,7	67,7
P	512,1	268,2	28,8	184,1	993,2
UK	451,9		945,6	685,7	2 083,2
Other		88,6		71,1	159,7
Total	4 552,9	1 990	2 956,7	2 871,8	12 371,4

Source: European Investment Bank (1992).

7. Community spending on telecommunications infrastructure

7.1. The rationale for public intervention

Public provision of telecommunications networks and services has traditionally been regarded as a natural monopoly given the significant economies of scale in providing a land-based network. Both network infrastructure and telecommunications services are usually supplied by the (national) telecommunications administrations (TAs). Despite the scale of public intervention, direct public expenditure on network infrastructure tends to be small. TAs usually operate budgets separate from the government, and finance networks through user charges. State-controlled monopolies have also been rationalized on the grounds of promoting balanced regional development. By acting as price-discriminating monopolists, the TAs can earn supernormal profits on routes in core regions, cross-subsidizing loss-making networks in disadvantaged peripheral areas. A market-based approach would result in so-called cream-skimming by private operators on profitable routes, who would then fail to invest in peripheral areas. Price discrimination is possible through the exploitation of differing price elasticities among short- and long-distance users; this has an interpersonal redistributive effect, since enterprises rather than individual consumers make the bulk of long-distance calls, the charges on which greatly exceed costs.

Technological advances, however, are undermining many of the arguments in favour of public involvement mentioned above. Network provision costs, while still large, no longer support the natural monopoly argument. In addition, with the advent of mobile and satellite communications, alternatives are now available to land-based networks, permitting for the first time genuine competition between network suppliers. Furthermore, the dominance of national TAs has led to close cooperation with domestic equipment manufacturers, and such quasi-vertical integration has segmented the telecommunications equipment industry along national lines and promulgated technical incompatibilities and insufficient cross-border links between the national networks. With rising R&D costs, equipment manufacturers require large markets to exploit scale economies and recoup investment. The segmentation of equipment markets along national lines prevents economies of scale in R&D from being exploited, necessitating the creation of a single market for telecommunications equipment devoid of national procurement preferences. Finally, the range, quality and speed of telecommunications services available have increased dramatically. By the year 2000, it is estimated that some 60% of jobs will be information-related; thus it is vitally important that such services are available to industry at a reasonable cost. It is not possible for a single supplier to provide the full range of telecommunications services currently available, as monopoly conditions hamper innovation and product differentiation, hindering the development of a new capital-intensive high value-added telecommunications service industry. In recognition of these trends, regulators have started commercializing TAs, separating out the supply of services from network provision. Nonetheless, developments in telecommunications services are closely intertwined with network provision.

7.2. The role of the European Community in telecommunications infrastructure

The Community's role follows the arguments listed in Section 6, namely to coordinate network design to ensure that Community-wide system economies are exploited, to prevent unnecessary technical incompatibilities from arising especially in new-technology fields (e.g. standards for mobile communications, ISDN), to ensure the proper functioning of the internal market both by guaranteeing sufficient cross-border links and providing for the free supply of certain telecommunications services. Essentially, these are regulatory and standardization roles involving little or no expenditure on infrastructure by the Community since national TAs or private operators who can finance networks through user charges. Nonetheless, service market liberalization in particular impacts upon network provision, and has highlighted differences in preferences among Member States regarding the distribution and regional goals of telecommunications policy As a result, only partial liberalization of service markets has been agreed, with Member States allowed to operate a monopoly over network provision and retaining the right to award exclusive or special privileges to TAs with respect to voice telephony services (which generate 90% of revenue): in contrast, value-added services (VAS) are to be completely liberalized.[1]

There are three main areas where some Community financial support may be justified in support of telecommunications infrastructure, namely to finance networks in lagging regions, to fund R&D where a significant cross-border public interest exists, and to create certain networks required for the functioning of the internal market.

7.3. Public expenditure on telecommunications infrastructure

It is difficult to identify the levels of public expenditure on telecommunications infrastructure, since most is undertaken by national TAs, and since transfers from governments to TAs may be provided to cover loss-making services in peripheral regions, rather than for infrastructural development. Investment in the Member States on telecommunication infrastructures in 1991 amounted to approximately ECU 32 billion, equivalent to 0,7% of GDP (see Table 10).[2] Investment as a percentage of GDP was highest in Portugal 1,2% and Spain 1,1%.

1 The purpose of this distinction is to permit the liberalization of the burgeoning value-added services sector, while allowing the TAs to generate some monopoly profits necessary to finance loss-making services in peripheral regions.

2 Investment refers to expenditure associated with acquiring ownership of property and plant used for telecommunications services and includes land and buildings.

Table 10

Total investment in telecommunications in the European Community in 1991

	B	DK	D[1]	GR	E	F[1]	IRL	I	L	NL	P	UK	EUR 12
Total revenue (million ECU)	2 258	1 920	19 728	1 056	8 620	16 171	1 009	12 654	164	4 191	1 276	19 043	89 079
Total investment (million ECU)	662	355	9 358	440	4 659	3 771	190	6 993	52	1 309	688	3 493	32 332
as a % of GDP	0,4	0,3	0,8	0,8	1,1	0,4	0,5	0,8	0,7	0,6	1,2	0,4	0,7
as a % of revenue	29	18	47	42	54	23	19	55	32	31	54	18	36

[1] 1990.
Source: European telecommunications indicators, 1992, International Telecommunications Union.

Turning to EC spending on telecommunications infrastructure, the bulk comes from the Structural Funds (see Table 9). Spending on telecommunications infrastructure for Objective 1 regions (in 1988 prices) will be ECU 1 128 million over the period 1989-93. Of this, Greece will receive ECU 345 million, Italy ECU 311 million and Spain ECU 309 million. In addition to grants directly provided to the Member States, a Community programme on special telecommunications action for regional development (STAR) allocated ECU 1,5 billion over the 1986-91 period to develop telecommunications infrastructure throughout lagging regions. These investments will be reinforced as part of the increased Structural Fund spending agreed in the Delors II package. The proposed increases in transfers will help close the endowment gap in telecommunications infrastructure. According to a study undertaken for the Directorate-General for Regional Policies,[1] the value of telecommunications infrastructure in Objective 1 regions will lag ECU 40 billion behind the rest of the Community by 1994. It is further estimated that these regions would also have to invest an additional ECU 2 billion annually to keep up with investment expenditure growth elsewhere in the Community.

Community R&D spending was discussed in Section 4: nonetheless it is worth repeating that the third R&D framework programme allocated ECU 380 million for telecommunications purposes, mostly through the RACE programme.[2] This expenditure is set to increase according to the proposals for a fourth R&D framework programme.

Overall the comparative scale of current Community financing compared with Member State spending is hard to gauge, since data for national investment refer to the activities of the TAs. Considering that most national investment in telecommunications derives from the user charges collected by TAs, then Community expenditure is probably equivalent to a high percentage of spending on telecommunications infrastructure directly financed through government budgets. While Community involvement may be small relative to investment by the TAs, it is not negligible especially in Objective 1 regions.

[1] Ewbank Preece (1991).
[2] This figure does not include the additional funding for the third framework programme agreed in December 1992.

8. Community spending on transport infrastructure

8.1. The rationale for public intervention and the role of the European Community

Many transport networks are considered to constitute natural monopolies allowing for a single supplier only, and also often exhibit public good characteristics (i.e. non-rivalness and non-exclusiveness in consumption). In addition, the use of certain transport networks may generate negative externalities (pollution, congestion, noise, safety) requiring some form of public intervention (e.g. standards), though not necessarily public provision of infrastructure. Finally, public provision of transport infrastructure may be necessary to support balanced regional development, so that all regions have a minimum level of transport infrastructure.

However, significant differences in the form of market failure and appropriate policy instruments exist between the alternative modes of transport. For example, the provision of road infrastructure is a classic public good, due to the difficulty in charging road-users and the small marginal cost of using roads once they are built: environmental considerations are also important. Hence, road infrastructure is normally financed directly from the public exchequer. In contrast with rail infrastructure, a distinction arises between network and service provision. Rail infrastructure is usually operated by national (monopoly) service providers who finance networks from user charges. However, they may be required to operate below marginal cost pricing for social reasons and supply uneconomic services in the interests of balanced regional development.

The role of the Community is to coordinate network design so that EC-wide system economies are exploited and to ensure that there are sufficient cross-border links to allow for the proper functioning of the internal market. Essentially this is a coordination, planning and standardization function (e.g. specifications for a high-speed rail network, weights and dimensions of road vehicles), leaving actual network provision and financing to the Member States. This coordination of network provision refers only to connections of Community interest, i.e. major transport axes such as motorways and intercity rail routes. Community involvement is further necessary to cope with the environmental aspects of transport policy, not only because of the spillovers associated with ambient pollution, but to prevent policy instruments in the Member States (e.g. taxation, emission standards) from fragmenting the internal market. Finally, the Community has a role in the pursuit of the cohesion objective, given the importance of transport infrastructure in promoting economic growth and development. Such support will also help finance infrastructure of EC-wide interest which otherwise would not be built.

8.2. Public expenditure on transport infrastructure

Community Member States invested approximately ECU 50 billion in transport infrastructure in 1989, equivalent to slightly under 1% of GDP. Table 11 indicates that spending on road transport accounts for roughly 65% of this total, after which comes investment in rail infrastructure at 25%. Data for previous years indicate that investment in infrastructure varies considerably over time: for example, investment in real terms in Belgium during 1989 was less than one quarter of its 1980 level, whereas during the same period investment in Spain more than doubled. As a percentage of GDP, investment is currently highest in Spain (1,55%), followed by France (1,25%), Italy (1,24%), Germany (1,2%) and Portugal (1,19%). Unfortunately the data in Table 11

Table 11

Gross investment in transport infrastructure in 1989

(1989 prices and exchange rates)

	B	DK	D	GR	E	F[1]	IRL[1]	I[1]	NL[1]	P	UK
Gross expenditure (Mio ECU)	1 039	696	13 080	322	5 266	10 051	266	8 734	1 726	488	6 282
Roads	492	395	8 164	229	3 655	7 028	219	5 395	1 098	342	4 807
Rail	233	172	3 208	71	1 048	2 691	3	2 798	361	76	1 676
Navigable waterways	117		439			73		26	83		
Ports	181	77	390		303	135	8	325	60	29	
Airports	16	52	879	22	260	123	34	189	125	46	
Airline navigation			112		85	64		63		9	
Combined transport			41			1					
Gross expenditure (as % of GDP)	0,76	0,74	1,20	0,66	1,55	1,25	0,97	1,24	0,89	1,19	0,83
Roads	0,36	0,42	0,75	0,47	1,07	0,87	0,80	0,77	0,57	0,83	0,61
Rail	0,17	0,18	0,29	0,14	0,31	0,33	0,01	0,40	0,19	0,18	0,22
Navigable waterways	0,09		0,04			0,01			0,04		
Ports	0,13	0,08	0,04		0,09	0,02	0,03	0,05	0,03	0,07	
Airports	0,01	0,06	0,08	0,05	0,08	0,02	0,13	0,03	0,06	0,11	
Airline navigation			0,01		0,02	0,01		0,01		0,02	
Combined transport											

NB: Original data were at 1980 prices and exhcange rates. Conversion to 1989 prices and exchange rates may have led to some rounding of figures.

[1] 1988.

Source: Rapport sur le développement des investissements dans les infrastructures de transport des pays de la CEMT dans les années 80, Conférence Européenne des Ministres de Transports.

do not distinguish sources of financing (public, private, State monopolies, etc.).

Community financial support for transport infrastructure comes from a variety of sources. Firstly, a large percentage of spending on Trans-European Networks concerns transport expenditure, a policy now enshrined in Articles 129b, c and d of the Maastricht Treaty. As well as ensuring efficient network design and sufficient cross-border links, the TENs initiative helps tackle the problems of negative cross-border externalities of transport (e.g. pollution by supporting combined transport systems). During the period 1990-92, spending on transport infrastructure as part of the TENs initiative amounted to ECU 328 million on projects which included the high-speed rail network, the Brenner link, trans-Pyrenean road links, road links to Ireland, Scanlink, and the reinforcement of terrestrial links in Greece.

The Community recognizes the important contribution transport infrastructure plays in the real convergence process. Approximately 45% of the ECU 8 billion of Structural Funds spent on infrastructure concerned upgrading transport networks in Objective 1 regions (see Table 9). Road infrastructure accounted for the majority of spending (67%), followed by rail (18%). Spain was the largest recipient of transfers for transport infrastructure (ECU 2,9 billion), with Greece receiving ECU 1,2 billion, Ireland ECU 632 million, and Portugal ECU 602 million. Such spending will increase substantially in coming years as part of the Delors II package. Furthermore, the Cohesion Fund will commence operations in 1993.

EIB loans for transport infrastructure are significant: some ECU 4,5 billion in 1992. Many such loans are concentrated in regions benefiting from Structural Fund transfers. In particular, a very high proportion (30%) of loans for transport infrastructure go to Spain alone, amounting to almost ECU 1,4 billion in 1993.

Overall, EC spending on transport infrastructure is small compared to that undertaken by the Member State. However, the EC financing share is much greater in Spain, Portugal, Greece and Ireland, a share which is likely to rise with the advent of the Cohesion Fund and the additional resources agreed in the Delors II package.

9. Community spending on energy infrastructure

Arguments in favour of the public provision of energy production and distribution infrastructure closely reflect those pertaining to telecommunications, with the added aspect of security of supply. Member State governments have in the past concluded that energy generation and network provision are natural monopolies, delegating both roles to public energy bodies. Many conventional arguments in favour of public provision are coming under scrutiny as the underlying economics of energy generation and distribution alter as a result of technological progress in favour of a market based approach.

Public intervention is also undertaken on the grounds of promoting balanced regional economic development (i.e. monopoly profits generated in core regions subsidizing unprofitable operations in peripheral regions) and in support distribution purposes (i.e. subsidies for disadvantaged groups). Also, energy generation has a significant environmental impact, i.e. externalities which may require public intervention.

Discerning the role public finances play in energy infrastructure provision is difficult as most Member States conduct their energy policies through national (monopoly) energy companies, who are responsible both for the energy generation and networks provision and finance infrastructure investments through user charges. Figures for both central and local government expenditure on fuel and energy are presented in Tables 1 and 2. Spending in federations and unitary States totals approximately 0,3% of GDP, the bulk of which (some 75%) is undertaken by central government. However, these figures do not distinguish between current and capital spending, and do not include the activities of national energy companies.

The EC role in energy infrastructure provision is multi-faceted, but not expenditure-intensive. A significant impact occurs through the internal energy market programme which aims to achieve partial liberalization of energy services. This is evident in the two proposals of the Commission[1] in January 1992 for electricity and gas Directives which have three main aims: (1) the removal of exclusive rights to generate electricity and build power and gas (pipe)lines; (2) the unbundling of production, storage (of gas), transmission and distribution activities in vertically integrated companies; and (3) the introduction of third-party access (TPA).[2]

As with other infrastructure, a major rationale for EC involvement is to exploit system economies and ensure sufficient cross-border interlinkages, a policy which can en-

[1] Proposal for a Council Directive concerning common rules for the internal market in electricity, COM(91) 548, OJ C 65, 14.3.1992; proposal for a Council Directive concerning common rules for the internal market in natural gas, COM(91) 548, OJ C 65, 14.3.1992.

[2] TPA would allow large customers and generators access to existing energy networks under certain conditions.

hance security of supply. As part of the TENs initiative, the Commission issued a communication outlining ideas with respect to the integration of gas and electricity transmission infrastructure.[1] Furthermore, Community involvement is necessary to internalize negative externalities such as pollution (through emission standards) and safety (in the nuclear industry), although these functions do not require a large Community outlay. In addition, economies of scale can be exploited with EC action as regards R&D into renewable energy sources and energy conservation, a policy requiring some Community expenditure. As shown in Table 5, energy accounts for 24% of total EC research spending (mostly as part of the Thermie programme) which is equivalent to 20% of what Member States spend.

EC grants for energy infrastructure are provided through the Structural Funds (see Table 9) to ensure adequate and cost-effective supply in Objective 1 regions and also reduce dependence on certain energy sources. Finally, the EIB (see Table 9a) finances energy infrastructure, providing loans of ECU 2,9 billion in 1992.

10. Community spending on certain education infrastructure[2]

Public expenditure on education in the Community and mature federations accounts for between 4 and 6% of GDP, the bulk of which is for current purposes, for example, salaries. Aside from social and equity considerations, public support is justified on the grounds that skilled and educated persons generate positive externalities for the rest of the economy through (unpriced) knowledge transfer. The importance of subcentral governments in financing education indicates that already within countries there exists a significant preference for decentralized provision. It would therefore appear that EC involvement in general education provision is unwarranted given the marginal degree of intra-EC labour migration and the very wide divergences of preferences. Externality arguments might prove significant in the case of Ireland, where continued emigration is leading to significant educational investment losses.

Nonetheless, the Community may wish to become involved with aspects of education that have cross-border effects, for example, the functioning of the internal market. In particular, the Community legislation secures the free mobility of labour and requires the mutual recognition of educational and professional qualifications. The ability to fully exploit the internal market for labour can be assisted by programmes that aim to lower language and cultural barriers, lower the mobility costs of skilled labour and improve transnational cooperation among educational institutes. Ascertaining the Community interest in promoting such interaction is difficult. EC financial assistance should in principle only cover the additional costs of cross-border mobility and interaction, and not direct financing of third-level education and labour mobility. Already Community programmes such as Erasmus, Comett and Lingua[3] support these goals. Erasmus has an annual budget of approximately ECU 70 million, and ECU 40 million for the latter programmes. In addition, with the R&D framework programmes, schemes such as SPES and Science promote scientific training and mobility. The third R&D framework programme will devote ECU 518 million between 1990-94 towards the management of intellectual resources.[4]

Investment in education is perhaps the best means to bring about long-term economic growth and real convergence. However, the fourth periodic report on the social and economic situation and development of the regions of the Community highlights the differences in education infrastructures between lagging and developed regions. In lagging regions (Greece, Portugal, Ireland and Spain), less than 60% of 15 to 19 year olds are in full-time education, traineeships or apprenticeships, compared with 85% in Denmark, Germany and the Netherlands. It is estimated that an extra one million school places are required for this age group alone in lagging regions, the construction and equipment for which would cost approximately ECU 7 billion. In addition, it is estimated that a further ECU 7 billion would be required to modernize existing school places. Adopting a 15-year perspective, an additional ECU 1 billion investment per annum (1989 prices) would close the resource endowment gap. However, this grossly underestimates the finances required, since it fails to account for primary and third-level education, and more importantly it does not cover current expenditure, notably salaries. Structural Fund assistance for the development of human resources has been strengthened within the agreed Community support frameworks. In particular, the European Social Fund contributes towards vocational training projects predominantly towards measures to combat long-term unemployment and the occupational integration of people under 25 into the labour force.

1 Communication from the Commission to the Council, 'Electricity and natural gas transmission infrastructure in the Community', SEC(92) 553.

2 This section does not take account of Community spending on education and training through the Structural Funds, notably the European Social Fund.

3 Erasmus — European Community action scheme for the mobility of university students; Comett — Community action programme in education and training for technology; Lingua — programme to promote training in foreign languages in the Community.

4 This figure does not include the additional funding for the third framework programme agreed in December 1992.

References

Baldwin, R.E. (1992), 'Are economists' traditional trade policy views still valid?', *Journal of Economic Literature*, Vol. XXX (June 1992), pp. 804-829.

Biehl, D. (1990), 'Deficiencies and reform possibilities of the EC fiscal constitution' in Crouch, C. and Marquand, P. (eds) *The politics of 1992 — beyond the single European market*, Oxford, The Political Quarterly.

Boadway, R.W. and Wildasin, D.E. (1984), *Public sector economics*, 2nd edition, Boston/Toronto, Little, Brown.

Brennan, G. and Buchanan, J.M. (1980), *The power to tax: analytical foundations of a fiscal constitution*, Cambridge, Cambridge University Press.

Breton, A. and Scott, A.D. (1978), *The economic constitution of federal States*, Toronto, University of Toronto Press.

Commission of the European Communities (1987), *Science and technology for regional innovation and development in Europe*, report for DG XV, prepared by the National Board for Science and Technology, Dublin.

Commission of the European Communities (1990a), 'Towards Trans-European Networks: progress report', COM(90) 310.

Commission of the European Communities (1990b), 'Towards Trans-European Networks: for a Community action programme', COM(90) 585.

Commission of the European Communities (1991), 'Fair competition in the internal market: Community State-aid policy', *European Economy*, No 48, Luxembourg.

Common Market Law Review, Editorial comments, No 27, 1990.

Costello, D. (1993), 'Intergovernmental grants: What role for the European Community?', this volume.

ERL Espana SA (1991), 'Environmental investment needs in lagging regions', study carried out for the EC Commission, Directorate-General for Regional Policies.

European Investment Bank (1992), *Annual report 1992*, Luxembourg.

Ewbank Preece (1991), 'Telecommunications investment requirements of Objective 1 regions 1991 – 2000', study carried out for the EC Commission, Directorate-General for Regional Policies.

Forte, F. (1977), 'Principles of assignment of public economic functions in a setting of multilayer government' in EC Commission (1977), 'Report of the study group on the role of public finance in European integration', (MacDougall report), Vol. II, Brussels.

Gatsios, K. and Seabright, P. (1989), 'Regulation in the EC', *Oxford Review of Economic Policy*, Vol. 5, No 2.

King, D. (1984), *Fiscal tiers: the economics of multilevel government*, London, Allen and Unwin.

Moesen, W.A. (1993), 'Community public finance in the perspective of EMU: Assignment rules, the status of the budget constraint and young fiscal federalism in Belgium', this volume.

Munk, K.J. (1993), 'The rationale for the common agricultural policy and other EC sectoral policies', this volume.

Oates, W.E. (1972), *Fiscal federalism*, New York, Harcourt, Brace & Jovanovich.

Oates, W.E. (1991), 'The theory of fiscal federalism: revenue and expenditure issues', paper presented at the OECD seminar 'Fiscal federalism in economies in transition', April 1991, Paris.

Walsh, C. (1993), 'Fiscal federalism, an overview of issues and a discussion of their relevance to the European Community', this volume.

Tresch, R.W. (1981), *Public finance, a normative theory*, Texas, Business Publications Inc.

Interpersonal vs. interregional redistribution at the European level — as seen from the perspectives of fiscal federalism and public choice theory

Manfred Teutemann

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

This paper draws from the author's publication entitled: *Rationale Kompetenzverteilung im Rahmen der europäischen Integration* (rational distribution of competences in the process of European integration), Berlin, 1992, 357 pp.

Tables

Graph

Summary

Redistribution should primarily concern transfers changing the relative position of individuals (and not that of regions) as regards income and wealth. According to the principle of subsidiarity, such redistribution should be as close as possible to the individuals concerned. This principle therefore translates into a plea in favour of local systems of non-compulsory, interpersonal redistribution. In practice, however, considerations related to economies of scale (minimum size, the problem of the regional concentration of bad risks) have led to a dominance of interpersonal redistribution at the national level. Lack of solidarity (in very large groups) and free-rider problems have, furthermore, favoured systems which rely on instruments of coercion, for example compulsory membership, the financing out of (income) tax revenues and social security contributions. Furthermore, efficient rules and mechanisms exist to protect (sub)national systems of redistribution against (too much) exploitation, and to tackle successfully the principal-agent problem.

As no instruments of coercion are available at the international level, no international redistribution system exists which would deal with the problem of nationally concentrated bad risks, allowing all individuals in the world to live in dignity. Furthermore, as effective border controls still exist, 'voting-with-the-feet' processes are still negligible at the international level. This is, however, about to change dramatically. This paper shows that in the absence of rigid border controls (exclusion) and in a world of increasing international mobility a new philosophy of redistribution is needed, to prevent 'voting-with-the-feet' processes from disrupting existing redistribution systems. The paradigm includes a multilayer redistribution system, where the most central (global) level would provide the subsistence minimum for each individual, and subcentral levels would have the opportunity to provide more sophisticated redistribution.

In principle, the lack of the famous 'veil of ignorance' leads to a lack of solidarity, which cannot be circumvented by coercion at the European level. As people (governments or countries) are assumed to know who would benefit and who would be net contributors, such a system is quite unlikely to be established in the foreseeable future. To tackle this problem one solution could be to try to simulate 'redistribution by constitutional contract', i.e. design a system now which will come into effect two decades later, so that the future relative positions (of countries) are more difficult or even impossible to forecast. The second possibility would be to replace the regional differentiation of who pays and who benefits by an individual differentiation. Thus, rather than Danish or German taxpayers paying for Portuguese or Greek unemployed people, those in employment in all countries would pay for the unemployed in all countries. This system would require financing out of individual social security contributions and not with the help of national contributions to a European budget.

European integration, involving the abolition of border controls and of undesired discrimination against non-residents (who, in principle, are also excluded from national social security systems), the abolition of the exchange-rate instrument, the need for strong, internationally working, automatic stabilizers and binding rules for the performance of public finance of member countries, will create a need for closer cooperation between national social security and redistribution systems. This cooperation should include a kind of a multilayer effect.

Interregional transfers concentrate on providing money for public goods in peripheral regions. Consequently, they are less efficient than direct redistribution. As they involve large allocative spillovers and efficiency losses because of leakage effects, they should be considered more as an allocative insurance mechanism, which helps to overcome the negative consequences of regionally concentrated bad risks in a dynamic structural adjustment process. Nevertheless, in the absence of an international system of interpersonal redistribution they could be interpreted as adequate tools of international redistribution.

1. Introduction

Government redistribution seeks to alter the income distribution produced by market processes in such a way as to give all members of society adequate access to the goods and services generated. Whether government should have a distribution function was still a matter of fierce debate at the beginning of this century even among public finance experts, although as long ago as 1890 Adolph Wagner had, for example, championed a 'social fiscal policy', and in particular the 'socio-political role' of taxation in 'regulating the distribution of national income and national wealth'.[1] But 'the question today is no longer about the "whether" but only about the "how" and "how much" of redistribution' (Andel, 1983, p. 20).

[1] Quoted by Andel (1983, p. 20).

This paper is primarily concerned with examining whether a (re)distribution policy should be conducted at Community level and, if so, how such a policy should be financed. The 'how' and 'how much' of redistribution must nevertheless also be touched upon in passing, since the 'how much' is crucial to deciding which government level should be responsible for distribution policy. Particular consideration must be given to whether that policy should have an interpersonal or an interregional design. In any case, the analysis of an effective international redistributive system, i.e. a full European social union, is a topic which definitely goes beyond economic and monetary union (EMU).

The analysis deals firstly with institutionalized and deliberate redistribution policy as reflected, for example, in a progressive income tax or in social transfer payments.[1] This is followed by an analysis of the interjurisdictional or interregional redistribution instruments. The consequences for the formulation of international redistribution policy are set out in section 4. The final section outlines the prospects for a Community redistribution policy.

2. Interpersonal redistribution

According to the principle of subsidiarity, redistribution should be as close to the individuals concerned as possible. This principle therefore translates into a plea in favour of local systems of non-compulsory, interpersonal redistribution.

In order to achieve the aim of redistribution, there are basically two possibilities: the first is to redistribute the current income of individuals (for example, through a progressive income tax or through unemployment or pension insurance); the second is to redistribute the wealth of individuals, as wealth also gives access to goods and services and could be redistributed interpersonally by means of an inheritance tax for example.

2.1. Providing interpersonal redistribution

In analysing the provision pattern for interpersonal redistribution, there is a choice between two main approaches: under the first, which is aimed at Pareto efficiency, the income and wealth circumstances of others also feed into the individual utility functions. Under the second, which is directed more at the insurance nature of the redistribution, the interpersonal redistribution serves as insurance against times without income and wealth.[2]

Under the first, Pareto efficiency-based approach, various cases can be distinguished. For example, Buchanan identifies:

(a) redistribution as a private good;

(b) redistribution as a local public good; and

(c) redistribution as a national public good.[3]

In the first case, only the redistribution act itself — and not the increase in the third party's income and wealth — is included in the donor's individual utility function. In the second case, the recipient's welfare gain is also included in the donors' individual utility functions, although this is restricted to a locally identifiable group of recipients without it being necessary for the individuals in that group to be identified. In the third and final case, the group of recipients is determined by national rather than local boundaries. In both the last two cases, all individuals would admittedly be interested in seeing the poor better off. But, for one thing, the individual contribution would be tiny compared with what was needed and, for another, each individual potential donor would be rather reluctant because he would not see why he in particular should give when the other potential donors would also derive benefit from his act of redistribution since they would have to give less (the free-rider or exclusion problem).[4] The result would be that in such a situation the preferences (of the potential donors) could not be voluntarily revealed, and the redistribution would have to rely on compulsory contributions. As these contributions would not be matched by any claim to a compensating benefit, these compulsory contributions would be taxes in the classic sense. Similar comments could be made about redistribution as an international public good, except that in this case there would be no institution which could solve the free-rider or exclusion problem using instruments of coercion.

The second approach to the analysis of the provision pattern, which is to be given prominence in this study, is based on the insurance nature of a redistribution policy, for example

[1] The influence exerted on primary distribution via public demand or other discretionary policy decisions (such as exchange-rate adjustments, stability-determined government debt, etc.) is not considered in this paper, as they are assumed to be corrected *ex post* through deliberate redistribution.

[2] See also Schreyer on what follows (1983, p. 135 *et seq.* and p. 191 *et seq.*).

[3] See Buchanan (1974).

[4] For a more detailed account of redistribution as a local good, see Pauly (1973, p. 35 *et seq.*) or Tresch (1981, p. 590 *et seq.*)

insurance against phases of life when there is neither income, wealth nor insurance against social unrest which might be triggered by excessive income and wealth discrepancies.

A very wide variety of methods have been used in the past to prevent social unrest, revolutions, population migrations or even wars stemming from excessive discrepancies in income, wealth and living standards. Those methods have ranged from the 'bread and circuses' strategy of the Roman emperors to the police-state and totalitarian regimes of the Middle Ages and the present. The 'bread and circuses' policy was in principle already a deliberate redistribution policy — albeit one implemented with a minimum deployment of resources — which took the form of gifts in kind. The same objective could, however, also be achieved with a redistribution policy; because of the collective-good nature of the redistribution, however, this policy would have to be implemented through compulsion (for example, through a tax). From the viewpoint of the rich persons insured, optimum redistribution would be achieved if it were just sufficient to stabilize the social status quo.

However, institutionalized redistribution to provide for periods without income and wealth will be geared to a level of redistribution that is necessary to give all members of society an appropriate share of gross national product. This is likely to necessitate a higher level of redistribution than that aimed at safeguarding minimum living standards or the social status quo.

The economic legitimacy of such insurance is based on the fact that each individual tends to be exposed to the risk that he may, through no fault of his own, be in a situation where he has neither current income nor wealth. This may occur, for example, where an individual's factor endowment has no market value or loses its market value. Examples include young people who have invested in the wrong sort of training, or loss of income as a result of illness or unemployment.

Buchanan calls this type of redistribution 'constitutional redistribution' (Buchanan, 1974). According to this, a constitutional assembly which found itself in a situation in which individual members were uncertain about their future role in society would introduce redistributive institutions to correct the distributive results of the market process if those results were felt to be unjust.

As the members of this constitutional assembly are in a situation characterized by an equal division of risk, they will, if averse to risk, and in accordance with the maximin rule,[1] at the least opt for a distribution of income which maximizes the income of the least favoured. This means, however, that in a constitutional situation only those distributive rules are accepted 'which place a person least favoured by those distributive rules in a better position than he would be in if there were equal distribution of income' (Schreyer, 1983, p. 195).

Individuals might themselves make provision to some extent by laying aside a 'nest egg'; this would not justify redistribution as a government task. However, such 'nest eggs' are frequently insufficient. This is the case, for example, where past income has been non-existent or insufficient or where, because of chronic illness or long-term unemployment for example, such assets have already been used up. Because of the free-rider problem already referred to, institutionalized redistribution which also provides security in such cases could be made available only through official coercion. For although every individual member of society may perhaps be in favour of an institutionalized redistribution rule, each potential payer will attempt to escape his obligations, especially since his contribution would be negligible when measured against the total yield (Oates, 1972, p. 7 *et seq.*).

2.2. Government failure and post-constitutional decisions

The system of redistributive instrument deployment which actually exists differs appreciably from the approach outlined here. This applies not only to the distribution of responsibilities but also to the funding methods and the lack of alignment of existing gradations on the criterion of Tiebout adjustment processes.

A main reason for this suboptimal or even unsatisfactory structure lies in the fact that the basic condition for a constitutional redistribution — the constitutional situation with its 'veil of ignorance' concerning the future role of the decision-makers — was not present and was never simulated when the redistributive systems were designed. Instead — and perhaps for that reason — redistribution has always been equated with charity and has never been rationally discussed. The structure of the redistributive system was decided — if it was decided at all — only after it was clear which position individuals would be in. Buchanan and Bush accordingly refer to 'in-period' or 'post-constitutional decisions' (Buchanan and Bush 1974, p. 153). Legislators now

[1] The maximin rule ranks the alternatives according to their worst possible results: the alternative whose worst possible result is better than that of any other should be selected. Rawls (1971).

tend to have precise ideas about their future place in society, and they also normally belong to the group which is on the sunny side and hence among the potential donors.[1] Under such circumstances, rationally acting individuals would agree to an interpersonal redistributive system only if there were interdependent utility functions (Buchanan and Bush, 1974, p. 153). They might also agree to a system of intertemporal redistribution which, assuming risk aversion and a diminishing marginal utility of income, would be directed towards ensuring a minimum standard (Brennan, 1973, p. 43). But although that system would be geared to intertemporal income redistribution, the result for society would in fact also include interpersonal redistribution (Schreyer, 1983, p. 199).

As it must be assumed, bearing in mind people's methodological individualism, that legislators' decisions about a redistributive policy take account of that policy's impact on their personal situation (income, wealth) and their personal areas of responsibility (re-election, organization of society), the political process in its present institutional form cannot be expected to produce an optimum redistributive system. The actual redistributive systems in the world — where they exist at all — tend instead to be distorted in favour of influential interest groups (for example members of parliament, civil servants, farmers) and are organized in such a way that they guarantee members of parliament and the authorities (for example through the allocation of real transfers) considerable influence over decisions concerning the use of the redistributed resources.

The lack of the equal division of risks necessary for the simulation of a constitutional situation has — together with the free-rider problem — very serious effects not only on the shaping of redistributive policy in feudalistic States in Africa, Latin America and Asia but also on the formulation of international redistributive policy. For although there is undoubtedly worldwide agreement that every person has a right to human dignity and thus to having his basic needs met, there is neither an interpersonal nor an interjurisdictional redistributive system which takes account of the need to guarantee human dignity for all people.

There are two reasons for this: firstly, no compulsion can be applied for redistributive purposes between sovereign States; only consensus-based decisions about fiscal equalization systems are admissible; secondly, the absence of the 'veil of uncertainty' leads — as demonstrated in the past — to a drastic minimization of the amount available for redistribution, whereas the existence of the veil tends to lead to an increase in that amount: as soon as it becomes clear to the parties which of them are indefinitely to be payers and which recipients, the redistribution amount agreed between them diminishes.

2.3. Financing rules for redistribution

One distinctive feature of redistribution policy is that it is explicitly designed to benefit also those individuals and households that have hitherto been unable to contribute to its financing. At least part of distribution policy must therefore be funded from tax revenue. The tax base could very well be current income and the wealth which changes hands as a result of inheritance or bequests, for example. This base, which has hitherto played only a very subordinate role in financing redistribution policy, is likely, at least in Europe, to gain in importance as a source of finance given that the 40 years which have elapsed since the end of the Second World War have seen a considerable accumulation of wealth, which is currently being transferred for the first time from one generation to the next. The same applies when it comes to measuring the need for redistribution: this too should be based not only on current income but also on wealth.[2]

It should also be pointed out in this connection that 'much of what, on a short-term view, is interpersonal redistribution [turns out] in the longer term ... to be merely intertemporal redistribution of individual lifetime incomes. This is because many redistributive characteristics spring up in the course of a typical life cycle and then disappear again' (Andel, 1983, p. 415).

2.4. Identifying the appropriate level of government

In some of the literature on the subject, redistribution is identified — regardless of the above — as a local or regional good, it being argued that a lack of solidarity or excessive transaction costs ('moral hazard problem') at national level would lead to inefficient redistribution at the central level.[3, 4]

1 This applies not only to redistributive policy but also to the legal system generally: 'There can be no doubt that in such areas as the law governing the relationship between master and servant, landlord and tenant, creditor and debtor and, in more recent times, organized trade and its customers, the rules have largely been determined by the views of one of the parties and their particular interest especially where it was one of the groups concerned which almost always appointed the judges, as happened to be the case in the first two examples' (von Hayek, 1980, p. 125)

2 See, for example, Oberhauser (1974, p. 147 *et seq.*).

3 See Pauly (1973, p. 35 *et seq.*) and Tresch (1981, p. 590 *et seq.*).

4 At first glance, such an argument also seems to be in line with the principle of subsidiarity. However, the lack of redistributional potential at local or regional level — as shown below — sets limits to the decentralization of redistributive competences.

Yet it is the very purpose of State-imposed redistribution to make up for lack of solidarity. It is also frequent practice for uniform and transparent redistribution rules to be laid down centrally. In that way both the moral hazard problem and the principal-agent problem can — as experience of national redistributive systems in existing federations has shown — be kept entirely under control without an unacceptable increase in transaction costs. Lack of solidarity in large jurisdictions is thus replaced to some extent by a combination of compulsion and precautionary measures to protect the system against exploitation.

2.4.1. Mobility considerations

In much of the literature on both public finance and the theory of federalism, however, the redistributive function tends to be assigned to the central level.[1] This is justified, for one thing, by economies-of-scale considerations or minimum-size requirements where it is a matter of the necessary redistribution potential (see below).

The debate is dominated, however, by spillover considerations in the shape of Tiebout adjustment processes[2] which can undermine redistribution aims at local or regional level, there being the danger that 'the rich can escape the burden of higher taxation by moving out, with the poor moving in' (Frey, 1977, p. 82). This would produce the exact opposite of efficient redistribution, since then only the rich would live with the rich and the poor with the poor.

However, this analysis is based: (i) on an 'either/or' hypothesis, i.e. either only the lower or only the upper jurisdiction provides the redistribution; and (ii) on negligible interregional mobility costs.[3] If a graduated redistribution policy is introduced which takes account of mobility costs, undesirable Tiebout adjustment processes can perfectly well be avoided despite the fact that the subordinate levels have redistributive responsibilities.[4]

No fundamental objection can be made to Tiebout migrations themselves despite the private and social costs associated with them. They are economically quite efficient and are even supported under labour market policy: the granting of mobility assistance, for example, reduces the transaction costs involved in a move (change of residence). In a distribution policy context, however, they are undesirable if they jeopardize the redistributive processes sought by all within a jurisdiction. This would be the case, for example, where, as a result of appreciable inward migration, the ratio of those shouldering the burden to those benefiting changes so radically that hitherto applicable redistributive rules no longer work.

But the transaction costs associated with the Tiebout adjustment processes for those inclined to migrate can contribute to an initial definition of redistributive jurisdictions. For example, the adjustment processes (migrations) will be all the less:

(a) the narrower the (relative) difference between the old and the expected new (net) income,

(b) the more social ties have to be abandoned,

(c) the less-positive elements of the old socio-cultural environment are found again in the new environment,

(d) the less the expected living environment and its other components match up to the ideal, and

(e) the more (financial) resources are needed for the migration.[5]

This means, in other words, that the inclination to migrate is especially strong, for example, in individuals who have no income, wealth or social ties. This can be seen from those fleeing economic conditions and poverty in Africa, Asia, Latin America and, more recently, Eastern Europe. Despite the high financial cost of migration and their very negative perception of the socio-cultural conditions surrounding it, such people are crowding into Western industrialized countries because they are hoping for an appreciable improvement in their material situation. However, the poorest of the poor are deterred from migrating to the industrialized countries by the prohibitive but unavoidable financial cost

---

1 In the public finance field, see Musgrave, Musgrave and Kullmer (1978, p. 146 *et seq.*); in the federalism theory sphere, see Oates (1972, p. 6 *et seq.*), Buchanan (1974), Frey (1977, p. 81 *et seq.*), Breton and Scott (1978, p. 125 *et seq.*) and Gramlich (1982).

2 In his classic analysis 'A pure theory of local expenditures' (Tiebout, 1956), Charles M. Tiebout concluded that there can be 'voting with the feet' where local governments offer significantly different menus of public goods.

3 If, however, we largely exclude interregional mobility, as does Oakland (1983) for example, we reach the conclusion that redistribution can also be interpreted as a local good.

4 See also King (1984, p. 36).

5 See also the list of various mobility costs compiled by Forte (1977, p. 104 *et seq.*), Theiler (1977, p. 74 *et seq.*) and Van Rompuy, Abraham and Heremans (1991, p. 110 *et seq.*). Special importance is attached in this connection to any property ownership (Yinger, 1982, p. 917 *et seq.*).

involved.[1] All this goes to show that redistribution aimed at safeguarding minimum living standards for all would actually have to take place at world level. This would remove the basis for an initial, substantial proportion of Tiebout migration.

Another possibility of course — and one that is, incidentally, being put into practice — would be to extend the exclusion procedures: rich jurisdictions could refuse individuals from poorer jurisdictions access to their welfare systems or at least to unrestricted participation in them as free riders. Such exclusion is just as easy to apply at local or sublocal level as at national or international level. It could ultimately mean, however, that there would be no more redistribution at all (as exclusion is also eminently possible at individual level).

For redistribution with more far-reaching aims, this approach could suggest a need for jurisdictions of an appropriate size. Where, for example, minimum living standards are guaranteed in people's own cultural environment and they have to move to a foreign cultural environment in order to benefit from distributive measures aimed at ensuring a satisfactory income, Tiebout migrations might remain negligible. This would be the case, for example, where the anticipated utility gain from access to greater redistribution benefits was (more than) offset by the individual mobility costs. Such a distribution could therefore be implemented at national or even perhaps at subnational level.

All in all, therefore, Tiebout adjustment processes are relevant only where migration costs are negligible and where, at the same time, the exclusion of free riders at local or regional level is not possible or is not applied.[2] While the first of these situations is more than relative, the second is clearly disproved by such tax havens as Monaco, Liechtenstein or the Bahamas, which are more like local governments in terms of both the numbers of inhabitants and their territories.[3]

[1] They leave their own countries for neighbouring countries only if forced to do so by extreme hunger, bloody civil wars or the persecution of minorities, and then only if they see some prospect of their desperate situation being alleviated. Following the opening-up of Eastern Europe, the transaction costs for the poorer sections of the populations of those countries are likely to be less great: by the end of the 1980s, hundreds of thousands had already crossed the frontiers to Western Europe, their preferred destination being the Federal Republic of Germany.

[2] See also Breton and Scott (1978, p. 126 *et seq.*).

[3] While in these States only the poor are prevented from entering and participating in existing redistributive systems, it would in principle be just as possible for other regions to prevent the rich from leaving.

2.4.2. Economies of scale and minimum size

A second argument for assigning the interpersonal redistributive function to central level, which refers to economies-of-scale argumentation, is the fact that redistribution depends not only on redistributional will but also on redistributional potential (Andel, 1983, p. 476). If redistribution were to be carried out in many very small jurisdictions, it might still be possible to detect extreme inequalities between those jurisdictions. There would still be rich and poor municipalities, regions or countries, despite the fact that within the jurisdictions the redistribution aim pursued might possibly have been achieved.

Furthermore, there is the danger that in small jurisdictions whose economies are much more sensitive to economic shocks, lengthy recessions could cause the whole redistributive system to collapse. This problem could be avoided, however, through a continual increase in the size of redistributive jurisdictions or through some form of horizontal fiscal equalization or fiscal link-up.

That would mean, however, that international responsibility for redistribution would have to be established, given the lack of redistributive potential in small, poor countries. Consequently, not only the case of increasing the international mobility of individuals but also the lack of redistributional potential at the national or even at the international level (for example, towards less-developed countries) call for international redistribution and redistributional competences, assigned to supranational institutions.

3. Interregional redistribution

The remarks made so far have focused on interpersonal redistributive measures which are directly linked to individuals and their neediness or poverty and which are designed to give those individuals a minimum or reasonable share of the use to which GNP is put. This was to be achieved by means of tax-financed transfers. Interregional redistributive transfers have not yet been considered, as they seem to run against the principle of subsidiarity.

As a matter of fact, while interpersonal redistribution minimizes intermediation, a system of interregional redistribution complicates the redistributive transaction by involving further agents in the process.

In a system of interpersonal redistribution there would be in principle only one agent involved in managing the redistributive transfer from the contributor to the recipient (donor — government — recipient). In a system of interregional redistribution more agencies would have to participate in the process (for example, donor — government 1 — supranational institution — government 2 — recipient).

This increases the risk of distortions detrimental to the goals of the initial system, jeopardizing the preferences of the potential recipient. Furthermore, these interregional transfers often take the form of transfers in kind or purpose-specific transfers.

Interjurisdictional transfers geared not to the primary incomes of individuals, but to the fiscal capacity and fiscal need of political entities quite clearly result in considerable 'leakages', since the indicators tend, after all, to be just average values: poor regions can also have extremely rich residents, etc. (Oates, 1977, p. 297). For this reason alone, economists should regard this kind of redistribution with the utmost scepticism. Since, in addition, all measures, and especially these interjurisdictional measures, have allocative implications that are very substantial in some cases, such redistribution policies need to be checked for their allocative effects.

3.1. Interregional transfers and merit wants

It should be borne in mind that the principle of subsidiarity is based on the assumption that the individual or the lower level of government knows best what serves its benefit function. The redistribution form of transfers in kind and specific-purpose grants, however, reflects the transferors' intention to give needy individuals or regions the opportunity of obtaining a minimum income equivalent (however defined) but, at the same time, also to prescribe what proportion of GNP they should consume. For such intervention to be economically legitimate, however, it must involve allocative measures to correct distorted preferences or to internalize external effects. External effects and an underestimate of future needs can indeed lead to a lack or inadequate provision of, or demand for, certain goods and services. Such gifts in kind and specific-purpose transfers are the dominant feature of international assistance. The European Community's Structural Funds or international development aid cannot be justified purely on distributive policy grounds. Only unconditional grants and financial transfers would be justifiable on such grounds.

It could be argued now that this amalgamation of allocative and distributive motives is unavoidable because allocative intervention is normally designed to boost the transferees' propensity to invest and because at the same time the recipients of low incomes and financially weak jurisdictions have a decidely high propensity to consume and a very low propensity to invest or save. The question arises, however, as to whether such an argument should not be suspended until a distributively motivated minimum income is attained or a distributively motivated financial endowment is achieved by a jurisdiction. An affirmative answer to this question would lead to the demand that transfers in kind and specific-purpose grants should, if at all, be made on a subsidiary basis and should possibly be coupled with a contribution from the recipient jurisdiction itself.

Empirical evidence in support of the 'low income: low investment ratio' hypothesis is, however, quite poor, as shown in Graph 1. This graph shows for different OECD countries the share of (public) gross fixed capital formation in GDP and the respective per capita GDP in ecus. To avoid distorting effects from erratic and temporary exchange-rate movements and from cyclical distortions a 10-year average (1980-89) has been chosen as the observation period.

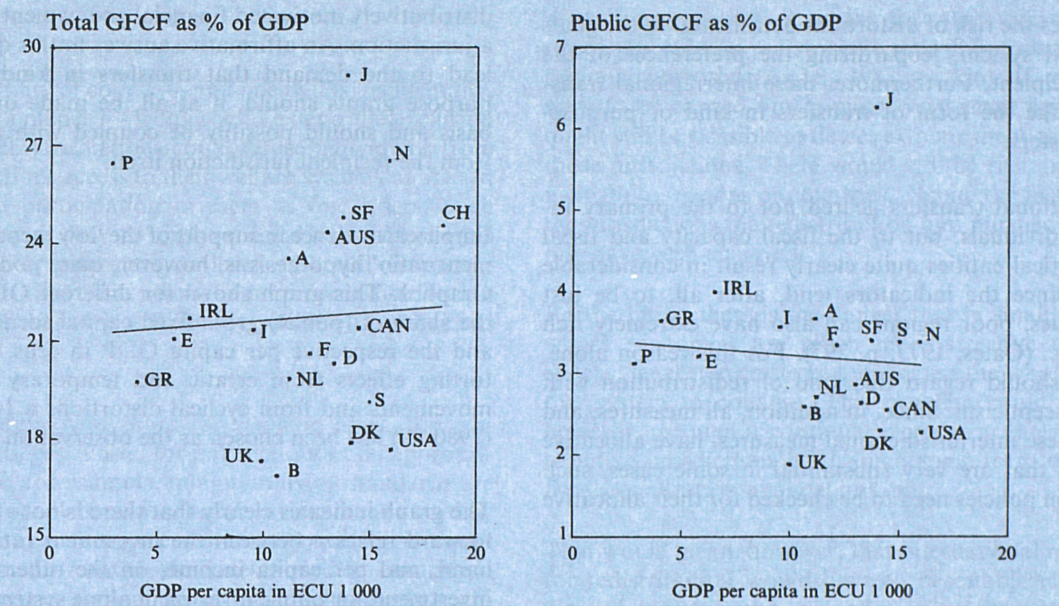
The graph indicates clearly that there is not at all a straightforward relation between the investment ratio, on the one hand, and per capita income, on the other. Neither total investment nor public investment alone systematically correlate with national per capita income: the respective coefficients are not significant.

At first sight it seems to be a contradiction that, despite the economic problems associated with them, revenue grants between jurisdictions should play such a significant role. A tentative explanation of this contradiction may run as follows.

First, the purpose of horizontal and vertical fiscal equalization at (sub)national level is usually to provide all jurisdictions with the receipts necessary to perform their functions. Yet a substantial proportion of the expenditure-intensive functions of municipalities, regions or States is made up of their own redistribution schemes.

Second, (sub)national expenditure, if economically justified, also serves to supply goods which, because of a variety of market shortcomings are not, or not to a sufficient extent, provided by the market, for example infrastructure, schools and legal systems. The strengthening of the fiscal capacity of financially weak jurisdictions by fiscal equalization thus leads to both increased redistribution and greater provision of public goods by these jurisdictions. It is consequently fair to say that, compared with direct interpersonal redistribution, such fiscal equalization schemes (especially vertical fiscal equalization) tend to improve not only redistribution but also the supply of public goods.

GRAPH 1: **Gross fixed capital formation and GDP per capita (average 1980-89)**



If revenue grants are in addition tied to specific purposes, then a large proportion of the decision-making costs in the supply of public goods vanishes at a lower level. For example, if it has been decided at the regional level that the whole area is to have a minimum endowment of local public goods, for example fire engines, then decision-making costs tend to be shifted from the local level. But at the same time, this decision can lead to a distortion of preferences at lower or individual levels because poorer municipalities might, for example, have opted for a less-sophisticated fire protection system. In such cases the supply made in accordance with a minimum standard imposed from above might involve a 'meritorious' correction of preference.

3.2. Interregional transfers and public choice considerations

Furthermore, it can certainly also be assumed that interjurisdictional redistribution faces considerably less psychological resistance from donors. This may be due to the donors' prejudice or judgment that in the case of the direct redistribution considered in section 2, many of the 'poor' and 'needy' are potential 'scroungers' in too pronounced a redistribution system, because the allocative function of remuneration can be undermined by excessive redistribution. This suspicion, which certainly is not just a prejudice, is frequently expressed — even if only in general terms; the buzz-words here would be 'exploiting social regulations', 'unwilling to work', etc.

This prejudice or judgment is possibly just as strong among the representatives of the various political entities, especially where the jurisdictions concerned are governed by parties of different ideological persuasions. This prompts the fear that excessively intensive horizontal and vertical fiscal equalization removes the necessary incentives to collect from one's own electorate the receipts necessary to cover expenditure. But on the other hand — by analogy with the idea of individual insurance — this fiscal equalization could be interpreted as a kind of insurance for the country's politicians, the 'temporary princes', against periods of low or even insufficient fiscal capacity.[1] Figuratively it could also

[1] See also Grossman (1989, p. 63 *et seq.*) and Brennan and Buchanan (1980, p. 185).

Table 1

Gross fixed capital formation (as a percentage of GDP)

	B	DK	D	GR	E	F	IRL	I	NL	P	UK	A	AUS	CAN	CH	J	N	S	SF	USA
1960	19,1	19,6	24,3	19,0	19,5	20,0	14,4	22,6	24,1	21,8	16,5	25,0	24,8	22,4	24,9	29,0	29,0	22,0	28,4	18,0
1961	20,3	20,6	25,2	18,2	20,4	21,2	16,2	23,3	24,7	21,5	17,3	26,1	24,4	21,4	27,4	31,9	29,9	22,7	27,7	17,6
1962	20,8	20,8	25,8	20,1	20,8	21,4	17,8	23,7	24,6	20,5	17,0	25,8	24,3	20,9	28,8	32,2	29,1	23,1	27,4	17,7
1963	20,7	19,9	25,6	19,2	21,1	22,1	18,8	24,0	23,7	21,4	16,7	26,0	24,6	20,9	30,0	31,6	29,5	24,0	25,7	18,1
1964	22,3	22,1	26,7	21,0	20,7	22,9	19,4	22,2	25,6	20,6	18,3	26,4	25,7	22,4	30,8	31,7	27,9	24,2	25,3	18,2
1965	22,0	21,7	26,1	21,6	21,7	23,3	20,9	19,3	25,1	20,5	18,5	27,3	27,0	23,8	28,7	29,8	28,3	24,4	26,3	18,9
1966	22,8	24,1	25,4	21,7	22,0	23,7	19,8	18,8	26,3	22,3	18,4	27,8	26,5	24,7	27,4	30,3	28,6	24,5	26,6	18,5
1967	22,5	24,2	23,1	20,3	22,3	23,9	20,0	19,5	26,4	24,0	19,0	26,6	25,7	23,4	26,0	31,9	29,6	24,7	25,2	17,9
1968	21,3	23,4	22,3	23,1	22,8	23,3	20,7	20,4	26,8	22,9	19,3	25,7	26,2	21,9	25,6	33,2	26,8	23,6	23,1	18,2
1969	21,2	24,7	23,3	24,6	23,3	23,4	23,1	21,1	24,5	23,6	18,8	25,1	26,0	21,8	25,8	34,5	24,4	23,0	23,9	18,4
1970	22,5	24,6	25,5	23,6	23,2	24,3	22,3	24,6	26,0	24,2	18,8	25,9	25,9	21,3	27,6	35,5	26,5	22,4	26,2	17,8
1971	21,8	24,3	26,1	25,2	21,2	24,7	23,2	24,0	25,3	25,7	18,8	27,9	26,3	22,2	29,2	34,2	29,7	21,6	27,4	18,3
1972	20,9	24,5	25,4	27,8	22,2	24,7	22,2	23,2	23,6	28,3	18,5	30,2	24,9	21,9	29,6	34,1	27,7	21,9	28,0	19,0
1973	21,0	24,7	23,9	28,1	23,6	25,2	24,6	24,9	23,1	26,8	19,8	28,5	24,3	22,8	29,4	36,4	29,3	21,2	28,9	19,1
1974	22,3	24,0	21,6	22,3	24,7	25,8	25,2	26,0	22,0	26,0	20,7	28,4	23,5	23,6	27,6	34,8	30,5	21,6	29,9	18,6
1975	22,1	21,1	20,4	20,8	23,3	24,1	23,3	24,9	21,0	25,9	19,6	26,7	23,7	24,4	24,1	32,5	34,1	20,4	31,6	17,2
1976	21,5	23,0	20,2	21,2	21,8	23,9	24,9	23,9	19,4	25,2	19,1	26,1	24,0	23,6	20,6	31,2	36,3	20,1	28,1	17,5
1977	21,3	22,1	20,3	22,9	21,0	22,9	24,8	23,5	21,1	26,5	18,4	26,8	23,8	23,0	20,7	30,2	37,0	20,1	27,3	18,8
1978	21,1	21,7	20,7	23,9	19,9	22,4	27,6	22,7	21,3	28,0	18,4	25,7	24,0	22,6	21,4	30,4	31,8	18,9	:	20,1
1979	20,5	20,9	21,8	25,8	18,9	22,4	30,7	22,8	21,0	26,6	18,6	25,2	23,5	23,0	21,8	31,7	27,7	19,2	23,5	20,4
1980	20,6	18,8	22,4	24,2	22,1	23,0	29,0	24,3	21,0	28,6	17,9	25,7	24,2	23,3	23,8	31,6	24,8	20,1	23,9	19,2
1981	17,7	15,6	21,6	22,2	21,8	22,1	29,5	23,9	19,2	30,8	16,1	25,4	25,9	24,2	24,1	30,6	28,0	19,0	25,4	18,6
1982	16,9	16,0	20,3	20,0	21,3	21,3	26,4	22,4	18,2	31,1	16,0	23,2	25,5	21,7	23,1	29,5	25,5	18,5	25,3	17,3
1983	15,7	16,0	20,4	20,3	20,6	20,2	23,1	21,3	18,2	29,2	15,9	22,5	22,9	20,0	23,3	28,0	25,6	18,0	25,5	17,2
1984	15,5	17,2	20,0	18,5	18,8	19,3	21,4	21,1	18,6	23,6	17,0	22,2	23,0	19,0	23,4	27,7	26,0	18,5	23,8	18,0
1985	15,3	18,7	19,4	19,1	19,2	19,3	19,0	20,7	19,2	21,8	17,0	22,6	24,7	19,7	23,8	27,5	22,0	18,9	23,9	18,1
1986	15,2	20,7	19,4	18,5	19,5	19,3	18,1	19,8	20,1	22,1	16,8	22,8	24,3	20,1	24,3	27,3	28,4	18,2	23,3	17,7
1987	15,7	19,7	19,4	17,2	20,8	19,8	16,4	19,7	20,3	24,2	17,6	23,1	23,7	21,1	25,3	28,5	28,0	18,9	23,8	17,1
1988	17,2	18,0	19,6	18,2	22,5	20,6	16,2	20,1	21,5	26,8	19,1	23,8	24,1	22,0	26,7	29,9	29,2	19,7	25,1	17,0
1989	19,0	17,8	20,3	19,3	24,0	21,1	17,8	20,2	21,9	26,2	20,0	24,2	24,9	22,5	27,6	31,0	27,4	21,2	27,6	16,5
1990	19,7	17,8	21,2	19,7	24,4	21,2	18,8	20,2	21,8	26,2	19,1	24,7	23,1	21,3	27,1	32,2	18,9	20,4	26,3	16,0
Average 1960s	21,30	22,10	24,77	20,88	21,45	22,52	19,11	21,48	25,19	21,91	17,99	26,18	25,52	22,36	27,53	31,59	28,31	23,62	25,97	18,15
Average 1970s	21,50	23,09	22,59	24,18	21,97	24,03	24,88	24,05	22,38	26,32	19,08	27,12	24,39	22,83	25,18	33,09	31,06	20,75	27,88	18,67
Average 1980s	16,88	17,86	20,29	19,73	21,05	20,60	21,69	21,34	19,82	26,44	17,33	23,53	24,33	21,37	24,52	29,14	26,50	19,11	24,77	17,66
Total	19,89	21,02	22,55	21,60	21,49	22,38	21,89	22,29	22,46	24,89	18,13	25,61	24,75	22,18	25,74	31,28	28,62	21,16	26,15	18,16

Source: International Financial Statistics (IMF); author's calculations.

Table 2

Public gross fixed capital formation (as a percentage of GDP)

	B	DK	D	GR	E	F	IRL	I	NL	P	UK	A	AUS	CAN	J	N	S	SF	USA
1960	:	:	:	:	:	:	:	:	:	:	:	4,21	3,84	3,95	:	3,48	:	4,47	:
1961	:	:	:	:	:	:	:	:	:	:	:	4,28	4,15	4,09	:	3,26	:	3,96	:
1962	:	:	:	:	:	:	:	:	:	:	:	4,32	4,29	4,29	:	3,54	:	4,04	:
1963	:	:	:	:	:	:	:	:	:	:	:	4,39	4,30	4,16	:	3,93	:	4,21	:
1964	:	:	:	:	:	:	:	:	:	:	:	4,63	4,36	3,88	:	4,12	:	4,73	:
1965	:	:	:	:	:	:	:	:	:	:	:	4,72	4,43	4,24	:	3,94	:	5,00	:
1966	:	:	:	:	:	:	:	:	:	:	:	4,66	4,43	4,41	:	4,00	:	4,82	:
1967	:	:	:	:	:	:	:	:	:	:	:	5,04	4,29	4,27	:	4,35	:	4,71	:
1968	:	:	:	:	:	:	:	:	:	:	:	4,89	4,30	3,96	:	4,29	:	4,50	:
1969	:	:	:	:	:	:	:	:	:	:	:	4,64	4,09	3,68	:	4,69	:	4,04	:
1970	4,22	4,95	4,61	:	2,60	3,97	4,32	2,92	4,69	:	4,74	4,66	4,01	3,56	4,98	4,48	:	3,50	:
1971	4,74	4,66	4,49	:	3,01	3,86	4,37	2,82	4,86	:	4,46	5,00	3,96	3,85	5,67	4,72	:	3,59	:
1972	4,53	4,24	4,12	:	2,68	3,88	4,33	2,94	4,32	:	4,29	5,24	3,96	3,63	6.09	5,10	:	3,95	2,88
1973	3,97	3,73	3,83	:	2,49	3,54	4,65	2,64	3,82	:	4,97	4,88	3,87	3,36	6,39	4,72	:	3,64	2,79
1974	3,62	4,07	4,07	:	2,43	3,58	5,98	2,84	3,66	:	5,19	5,09	4,74	3,56	5,97	4,62	:	3,62	3,07
1975	3,79	3,89	3,87	:	2,63	4,03	5,64	3,21	3,93	:	4,66	5,22	4,78	3,63	6,02	4,78	:	3,93	3,05
1976	3,78	3,70	3,51	:	2,27	3,86	4,66	3,09	3,75	:	4,23	4,65	4,00	3,15	5,84	4,77	:	3,65	2,73
1977	3,65	3,61	3,26	:	2,59	3,26	4,58	2,99	3,37	:	3,31	4,62	3,83	3,09	6,31	4,86	:	3,72	2,42
1978	3,43	3,51	3,32	:	2,09	3,09	4,75	2,75	3,25	:	2,80	4,61	3,48	2,93	7,01	5,04	:	:	2,56
1979	3,58	3,67	3,44	:	1,72	3,22	5,31	2,70	3,10	:	2,62	4,38	3,14	2,66	7,22	4,33	:	3,38	2,50
1980	3,86	3,39	3,59	:	1,87	3,35	5,91	3,17	3,26	4,14	2,45	4,18	2,85	2,65	7,11	4,02	4,14	3,46	2,63
1981	3,74	3,01	3,24	3,95	2,30	3,22	5,70	3,66	3,14	4,20	1,79	4,15	2,76	2,65	7,07	3,54	4,02	3,50	2,32
1982	3,36	2,81	2,85	2,91	3,08	3,42	5,25	3,74	2,88	3,41	1,64	3,79	2,80	2,81	6,76	3,18	3,76	3,58	2,19
1983	2,96	2,26	2,50	3,35	2,84	3,24	4,66	3,73	2,67	3,04	2,01	3,76	2,93	2,56	6,42	3,09	3,65	3,63	2,09
1984	2,53	1,94	2,38	4,15	3,02	3,05	4,03	3,62	2,80	2,63	2,16	3,62	3,01	2,56	5,93	2,84	3,39	3,31	2,08
1985	2,16	2,17	2,14	4,35	3,71	3,23	4,00	3,74	2,62	2,47	2,06	3,56	3,16	2,70	5,58	2,66	3,16	3,33	2,22
1986	1,97	1,62	2,46	4,13	3,65	3,20	3,67	3,54	2,46	2,56	1,90	3,66	3,15	2,48	5,63	3,20	2,89	3,31	2,29
1987	1,79	1,79	2,41	3,21	3,45	3,49	2,85	3,51	2,38	2,67	1,68	3,41	2,67	2,34	5,96	3,58	2,74	3,50	2,29
1988	1,81	1,86	2,33	3,35	3,84	3,58	2,02	3,42	2,35	2,95	1,32	3,22	2,35	2,27	6,11	3,89	2,82	3,27	2,25
1989	1,62	2,05	2,36	3,37	4,34	3,54	1,85	3,52	2,40	3,07	1,84	3,26	:	2,35	5,96	3,70	3,18	3,05	2,25
1990	1,55	1,97	2,35	3,06	4,95	3,59	1,95	3,50	2,30	2,97	2,31	:	:	:	:	:	:	:	:
Average 1970s	3,93	4,00	3,85	:	2,45	3,63	4,86	2,89	3,87	:	4,13	4,84	3,98	3,34	6,15	4,74	:	3,66	2,75
Average 1980s	2,58	2,29	2,63	3,64	3,21	3,33	3,99	3,56	2,70	3,11	4,88	3,66	2,85	2,54	6,25	3,37	3,37	3,39	2,26

Source: International Financial Statistics (IMF); author's calculations.

be said that the solidarity between those involved is increased by the switch from interpersonal to interjurisdictional redistribution. For if solidarity diminishes as the size of the group increases, then it could increase if the size of the group diminishes. But if the decision-making process is raised from individual (voter) level to collective (government) level, then the number of decision-makers is reduced from, say, over 200 million persons entitled to vote in the Community to 12 governments. Admittedly, such mediatization of the electorate's intentions would run counter to the requirements of the congruency principle (or the principle of direct control).

Such transformation processes which in a certain way increase solidarity acquire crucial importance in situations in which, for want of a higher political entity endowed with the relevant powers, no compulsory redistribution (for example, international redistribution) can be effected or in which, for want of the 'veil of ignorance', sufficient solidarity is lacking, or free-rider problems and preference revelation problems predominate.

Tresch, for example, argues for a multilevel redistribution system in which interpersonal redistribution takes place solely at local level. He tries to deal with Tiebout-style adjustment processes, which make the rich leave heavily redistributing municipalities and which are also the expression of a lack of solidarity and of the associated preference revelation problems, by suggesting that at each superior level interjurisdictional redistribution is carried out by means of block grants, so that the net benefit for potential emigrants is reduced. For such a system would also narrow the differences between levels of redistribution at local level.[1]

Finally, it must also be borne in mind that interjurisdictional redistributive measures would be supported not only by potential needy recipients, but also by other potential recipients. The latter might even have a disproportionately great influence on opinion-shaping. Thus, the popularity of indirect distributive measures for specific sectors (for example, the problem areas of the iron and steel industry, coal, shipyards and the textile industry) and occupations (for example, farmers) is certainly attributable primarily to a distortion of the decision-making process: while the (potential) beneficiaries with their strong pressure groups consistently manage to have an active and effective influence on the political decision-making process, the large number of taxpayers shouldering the burden is unorganized and largely without influence on decisions.[2] Added to this, subsidies originally intended as adjustment aid to overcome structural crises develop a certain momentum of their own in the political process and their abolition is regarded by beneficiaries as an inadmissible attack on acquired rights.

On the other hand, these redistributive instruments tend to increase the volume of redistributed income and wealth. This is, firstly, because they are more acceptable to the decision-making politicians and authorities and, secondly, because they are also supported by influential groups which, though not in need, benefit from this form of redistribution, whether as producers of the goods and services for which these transfers are intended or as non-needy members of a financially weak jurisdiction. These transfers are thus economically unsatisfactory but have the advantage that they are easier to push through politically and lead to some degree of redistribution from 'rich' to 'poor'.

4. Consequences for international redistribution policy

Important aspects for international redistribution are the lack of anything resembling a constitutional situation and the existence of a free-rider problem. Both mean that, given the organizational principle of voluntary association which predominates at international level and taking Pareto-efficiency into account, the only redistribution which tends to take place is that based on utility interdependences, for example in the context of development aid provided by non-governmental organizations.

4.1. Social union and constitutional contract

Since there is no authority with coercive powers at either world or supranational level which is responsible for a redistribution of the primary incomes arising in the market economy and which possesses effective powers, international redistribution is likely to be prompted solely by the insurance consideration (safeguarding the *status quo* of society) mentioned above.[3] And even this holds only in the absence or non-application of (exclusion) mechanisms, hindering large-scale cross-border migration. In other words, in order to avoid populations migrating from poorer to richer countries, which could threaten the *status quo* not only in the poorer countries but also in the richer ones, international redistribution mechanisms could be created which may extend as far as a uniform social area.

[1] See in detail Tresch (1981, p. 596 *et seq.*).

[2] For more detailed information on the distortion of the political decision-making process see the literature on the new political economy, e.g. Bernholz and Breyer (1984, p. 349 *et seq.*) and the literature mentioned therein.

[3] In addition, in the long term, groups cannot be compelled to take part in an income redistribution scheme which they find unacceptable (Frey, 1979, p. 309).

German monetary, economic and social union, which was decided on and realized in 1990 and which finally led to a single social system, is a striking example of redistribution motivated to reduce migration. One major reason why the Federal Republic offered the GDR monetary, economic and social union was to halt the one-way migration, the flood of East German refugees, resulting from the opening-up of the internal German frontier. This flood of refugees threatened not only to depopulate the GDR, but also to destabilize the *status quo* in the Federal Republic of Germany itself.

Attention should of course be drawn to the special circumstances in this case: because of national ties, which are also reflected in the legal institution of a single German citizenship, the Federal Republic was unwilling to halt the immigration by means of measures restricting freedom of movement. At present, similar conditions do not exist internationally: for example, freedom of movement can be made to end at a State's external frontiers and economic refugees are barred from entry.

At European level, as a substitute for the continuing general uncertainty concerning who the payers and who the recipients will be in the long run, a choice could be made to shift the effectiveness of fiscal equalization arrangements bindingly decided on in the present to the distant future, thus achieving something approaching an 'economic policy by constitutional contract'.[1] This would perhaps rectify the present method of decision-making which is distorted by the role situation: decision-makers would then in a way be 'above things'. For example if, in 1997, 40 years after the establishment of the European Economic Community, a European fiscal equalization system were to be decided on and enshrined in a treaty and this system were not to become effective until some 20 years later, politicians could design a rational European fiscal equalization system relatively free from the problems and the practical constraints of day-to-day business and without regard to their roles as potential payers or recipients.

4.2. The 'real-world constraint'

It must, however, be said that despite the sound (theoretical) arguments in favour of a worldwide, multilevel system, internationally coordinated and financed by compulsory contributions, for the redistribution of primary incomes, there is little chance at present for any significant redistribution policy which is, for example, geared to safeguarding, throughout the world or throughout Europe, human dignity and ensuring an adequate share of the national wealth generated.

In a first-best world, interpersonal transfers might have been the optimal tool for redistribution. However, an instrument or policy can only be optimal if it is available at all. In a second-best world or in the real world, however, some tools are not available. Consequently, one has to look for the most appropriate instrument among the available tools. This would then be the optimal tool taking account of the 'real-world constraint'.

Interjurisdictional redistribution, which in the foregoing analysis was regarded as an alternative for interpersonal redistribution, would be more justifiable considering the real-world constraint. In this connection, for example, a 'development aid' policy could be justified not only on allocative but also on distributive grounds. Further, if the insurance idea, which played an important part in the justification of interpersonal redistribution, is also transposed to interjurisdictional redistribution, it could justify interregional transfers, since such a policy might help to make better use of the opportunities of the international division of labour and cushion its risks, and, thus, might reduce unwelcome cross-border migration.[2]

Risks of the division of labour in the world economy are the result of country specialization, which can be made inappropriate by sudden structural changes. Cushioning such risks from an international insurance fund is also among the tasks of a worldwide redistribution policy. Given the uncertainty as to who will be affected in the future, contributions to such a fund are in the interest of all concerned. For if idle production reserves in the developing countries are to be harnessed to increasing world prosperity in the long term, encouragement might be given to bringing them into the process of the international division of labour. This could take the form of transfers, for example, which make it possible at microeconomic level for the population as a whole to be raised from a subsistence economy level to that of the division of labour (for example, by cofinancing basic projects in developing countries jointly with the beneficiary). Transfers would also help to cushion those adjustment burdens at macroeconomic level which are placed on the population by the necessary regulatory corrections to the economic policy of the recipient countries.

Naturally this applies not only to the relationship between industrialized and developing countries, but in principle to the whole system of the international division of labour. An

[1] See Frey (1979), p. 307 *et seq.*

[2] On this and the following see Scheube (1922).

international transfer system between the Western industrialized countries on the one hand and the East European countries of the former Council for Mutual Economic Assistance on the other might stand the best chance of dynamic development, because here the mutual interest of an international redistribution policy for both groups of countries is becoming increasingly discernible.[1]

Although those (countries) which are at present better off are not prepared to pay and as there are pronounced preference revelation problems, it is probable that also at European level interjurisdictional redistribution — economically perfectly legitimate in the circumstances — will be found acceptable. In other words, there will not be a redistribution system that raises the primary incomes of needy individuals directly, but one which improves the general environment for earning primary incomes. This can be achieved both by block grants to increase the fiscal capacity of the recipient jurisdiction, or by special-purpose transfers, for example to improve the infrastructure in peripheral areas. Nevertheless, international interpersonal redistribution might also be possible with the help of closer cooperation and mutual assistance among national social security systems.

5. Prospects for a European distribution policy

At present, there is no redistribution policy at European or supranational level which: (i) ensures a minimum living standard for needy persons; (ii) is directed to the needs of individuals; and (iii) takes the form of non-tied revenue transfers.

What does exist is a redistribution policy which: (i) is geared to the needs of groups of persons (for example, farmers, the long-term unemployed or young people) or to the economic strength of regions (for example, regions lagging behind in their development); (ii) makes transfers for specific purposes (for example, connected with production); and (iii) frequently takes the form of gifts in kind (for example, courses of further training).

The foregoing observations have led to a more differentiated call for powers for mutually complementary redistribution policies to be vested in various levels of government. Accordingly, it would be desirable to have a redistribution policy at world level which could guarantee basic living standards for all, and thus a minimum of human dignity. This income could then be further raised at European, national and/or even regional level, so that in the end everyone — if this were politically desired — would be guaranteed not only a minimum standard of living but a higher income. The purpose of such a multilevel redistribution policy would be to prevent migration which is triggered solely by differences in redistribution mechanisms.

Such a social security system with a subsidiary role would help to bring living standards closer together and reduce migration which is only triggered by the expectation of higher social transfers. An alternative suggested in the previous section was to foster close cooperation between the different national social security systems, including fiscal transfers among these institutions. Finally it was proposed to bring regional fiscal capacity and regional fiscal needs closer together as part of interjurisdictional fiscal equalization between jurisdictions with coercive powers so as to establish a tendency to narrow the differences in living conditions in Europe.

5.1. Prospects for a European social insurance system

The analysis of redistribution policy undertaken in the normative section made no allowance for the existence of 'non-economic' instruments to prevent Tiebout-type migration. These instruments include restriction of the freedom of movement. Ample use was made of this in the past both within the Community and elsewhere, and the practice is continuing. The Treaties establishing the European Communities call for freedom of movement only for workers, but not for groups of persons who are dependent on public revenue transfers. And Article 48 of the EEC Treaty provides that freedom of movement may be limited on grounds of public policy, public security or public health. The national authorities generally interpret this passage to mean that a foreigner who is dependent on public transfers for his livelihood, without first having paid the corresponding social security contributions, has forfeited his right to freedom of movement and can be expelled.

From an economic point of view such restrictions on freedom of movement can be interpreted as exclusion procedures. They are intended to solve the free-rider problem by ensuring that those who have made no contributions to the corresponding (national) redistribution system have no access to the social insurance systems provided.

It will not, however, be possible to maintain such limitations on freedom of movement if the aim really is a European union or a European economic, monetary and social union,

[1] On this see Scheube (1992, Chapter VIII), who outlines these problems by means of cooperation theory.

possibly combined with the introduction of European citizenship. This has already prompted various proposals for the introduction of a European social security system. The study group (on economic and monetary union in 1980), set up by the Commission in 1975, suggested establishing a Community Unemployment Fund (Commission of the European Communities, 1975, p. 4); the proposal was taken up again in 1977 in the MacDougall Report. According to this, 'part of the contributions of individuals in work would be shown as being paid to the Community and part of the receipts of individuals out of work as coming from the Community' (MacDougall, 1977, Vol. I, p. 16). This would not have involved any increase in contributions; it would merely have introduced a kind of 'fiscal link-up' between the national unemployment systems. The main argument used to justify this proposal was that it would bring 'the individual citizen into direct contact with the Community' and that the redistributive effects would provide an effective automatic stabilizer to damp down cyclical fluctuations; if this precondition were satisfied, 'a monetary union could be sustained' (MacDougall, 1977, Vol. I, p. 16).

However, as already stated at the beginning, a system to correct the distribution of primary incomes is always very difficult to build up if the decision-makers already know whether they are more likely to belong to the group which pays for the system or to the group which will benefit from it. This post-constitutional situation is now the backcloth to establishing a European social security system; in other words, the opportunities and risks of belonging to those who pay for or benefit from such a system are not equally shared. For the main beneficiaries of such a system would be the smaller countries which at present are on the downside of economic structural change and whose social security systems react very sensitively to cyclical fluctuations and shifts in demand because the number of contributors is relatively small. By contrast the large countries and the small prosperous countries see a very high risk of belonging to those who pay for such a system instead of benefiting from it.

Against this background, despite the advantages connected with a European social security system, it is illusory to believe that such a system will be set up in the foreseeable future. One of the preconditions for this would be the simulation of a preconstitutional decision-making situation, for example by postponing the entry into force of a still-to-be-designed system until the more distant future. Further requirements would be for the national social security systems to be largely harmonized in preparation for such a system and for the system to be introduced in a period of satisfactory economic growth.

5.2. International fiscal equalization

International fiscal equalization which closes the gap between the fiscal capacity and fiscal needs of the individual regions and countries does not take place either, since there are no unconditional general grants of any consequence between the individual European countries. All that exists under the Community's Structural Funds is a system of specific-purpose grants; however, because of the 'additionality rule' this system, in addition to increasing the fiscal capacity of the recipient regions, also commits fiscal resources of the regions concerned to specific projects. Nor is there any sharing of common tax receipts which would be based not on local yield but on other criteria, including need.

Given such a wide gap between what we have and what is (theoretically) desirable, it is no doubt interesting to evaluate the prospects for bringing reality closer to the normative prescriptions. For this purpose it might be helpful to identify the conditions which would have to be fulfilled before the decision-makers agreed to such fiscal equalization. This can be done by comparing the institutional framework in societies with appropriate fiscal equalization systems with the present institutional framework in Europe.

If the Federal Republic of Germany is taken as a model for a society with horizontal and vertical fiscal equalization,[1] it can be seen that the country's financial constitution has the following features:

(a) both the tax and the social security systems are identical in all regions; the tax bases and rates of tax and charges (apart from the municipal coefficient) are identical throughout the country;

(b) the most productive sources of tax — income tax, corporation tax and value-added tax — are common taxes;

(c) the various levels of government have virtually no legislative power to levy high-yielding taxes.[2]

The latter is particularly true of local government. The design of the German financial constitution has permitted a system of tax capacity allocation and horizontal and vertical general-purpose grants which functions relatively smoothly. The price for this (which may have been too high) was an extreme loss of fiscal autonomy by certain tiers of government.

1 See also Franzmeyer and Seidel (1976, p. 169 *et seq.*).

2 See also for example Pagenkopf (1981, p. 144 *et seq.*, in particular p. 252 *et seq.*).

Against this background there must be serious doubts as to whether a system of general-purpose grants can be set up at Community level in the foreseeable future. Most of the Member States are clearly not prepared to pay the price of harmonizing tax law and relinquishing large areas of fiscal autonomy. A brief glance at the many years of bitter and stonewalling discussion on the approximation of indirect taxes as part of the drive to implement the 1992 internal market programme is enough to corroborate this argument.

5.3. Structural and Cohesion Funds

All things considered, it cannot therefore be assumed that there will be a European redistribution policy in the foreseeable future. The proposals in this paper and those dealing with international interpersonal redistribution systems go definitely beyond EMU and the year 2000. What can perhaps be expected is that special-purpose grants within the framework of the Community Structural Funds and the recently agreed Cohesion Funds will be further expanded in the future. At first glance, they seemed to be the 'third-best' instrument of international redistribution.[1] However, taking account of the real-world constraint, which excludes international interpersonal redistribution or large-scale and automatic systems of general-purpose grants as available tools for redistribution, makes them looking definitely more attractive in this respect.

[1] Franzmeyer and Seidel in 1976 also concluded that as an instrument for international fiscal equalization, the only conceivable solution 'is a collective equalization fund, such as the Regional Fund created by the EEC Council of Ministers in 1975' (Franzmeyer and Seidel 1976, p. 177). Fifteen years later there is still no reason to change this appraisal of the balance of forces in the political decision-making process.

References

Andel, N. (1983), *Finanzwissenschaft*, Tübingen.

Bernholz, P. and Breyer, F. (1984), *Grundlagen der Politischen Ökonomie*, second edition, Tübingen.

Brennan, G. (1973), 'Pareto desirable redistribution. The non-altruistic dimension', *Public Choice*, Vol. 14, p. 43 *et seq.*

Brennan, G. and Buchanan, J. M. (1980), *The power to tax. Analytical foundations of a fiscal constitution*, Cambridge.

Breton, A. and Scott, A. (1978), *The economic constitution of federal States*, Canberra.

Buchanan, J. M. (1974), 'Who should redistribute what in a federal system?', in Hochman, H. M. and Peterson, G. E. (eds), *Redistribution through public choice*, New York, p. 22 *et seq.*

Buchanan, J. M. and Bush, W. C. (1974), 'Political constraints on contractual redistribution', *AER*, Vol. 64, p. 153 *et seq.*

Commission of the European Communities (1975), 'Report of the study group on economic and monetary union in 1980', (Marjorin Report), Brussels.

Commission of the European Communities (1977), 'Report of the study group on the role of public finance in European integration', (MacDougall Report), Volume I: General report; Volume II: Individual contributions and working papers, published in *Studies, Economic and Financial Series*, Nos A 13 and B 13, Brussels, Luxembourg.

Forte, F (1977), 'Principles for the assignment of public economic functions in a setting of multilayer government', in Commission of the European Communities (1977), 'Report of the study group on the role of public finance in European integration', (MacDougall Report), Volume II: Individual contributions and working papers, Brussels, p. 321 *et seq.*

Franzmeyer, F. and Seidel, B. (1976), *Überstaatlicher Finanzausgleich und europäische Integration. Quantitative und institutionelle Aspekte eines Systems regionaler Transferleistungen*, Bonn.

Frey, B. S. (1979), 'Economic policy by constitutional contract', *Kyklos*, Vol. 32, p. 307 *et seq.*

Frey, B. S. (1981), *Theorie demokratischer Wirtschaftspolitik*, Munich.

Frey, B. S. (1985), *Internationale Politische Ökonomie*, Munich.

Frey, R. L. (1977), *Zwischen Föderalismus und Zentralismus. Ein volkswirtschaftliches Konzept des schweizerischen Bundesstaates*, in collaboration with Neugebauer, G. and Zumbühl, M., Berne.

Gramlich, E. M. (1982), 'An econometric examination of the new federalism', *Brooking Papers on Economic Activity*, No 2.

Grossman, P. J. (1989), 'Fiscal decentralization and government size. An extension', *Public Choice*, Vol. 62, p. 63 *et seq.*

King, D. N. (1984), *Fiscal tiers. The economics of multilevel government*, London.

Krause-Junk, G. (1981), 'Finanzwirtschaftliche Verteilungspolitik', *Handbuch der Finanzwissenschaft*, Vol. III, third edition, Tübingen, p. 257 *et seq.*

MacDougall Report (1977), see Commission of the European Communities (1977).

Musgrave, R. A., Musgrave, P. B. and Kullmer, L. (1978), *Die öffentlichen Finanzen in Theorie und Praxis*, Vol. 1, second edition, Tübingen.

Oakland, W. E. (1983), 'Income redistribution in a federal system', in Zodrow, G. R. (ed.), *The Tiebout model after twenty-five years*, New York.

Oates, W. E. (1972), *Fiscal federalism*, New York.

Oates, W. E. (1977), 'Fiscal federalism in theory and practice: applications to the European Community', in Commission of the European Communities (1977), 'Report of the study group on the role of public finance in European integration', (MacDougall Report), Volume II: Individual contributions and working papers, Brussels, p. 291 *et seq.*

Oberhauser, A. (1974), 'Erbschafts- und Vermögensbesteuerung als Mittel zur gleichmäßigeren Verteilung des Vermögensbestandes', in Albers, W. (ed.), *Öffentliche Finanzwirtschaft und Verteilung I, Schriften des Vereins für Socialpolitik*, N.F., Vol. 75/I, p. 147 *et seq.*

Pagenkopf, H. (1981), *Der Finanzausgleich im Bundesstaat. Theorie und Praxis*, Stuttgart.

Parlamentarischer Rat (1948/49), *Grundgesetz für die Bundesrepublik Deutschland (Entwürfe). Formulierungen der Fachausschüsse, des Allgemeinen Redaktionsausschusses, des Hauptausschusses und des Plenums*, Bonn.

Pauly, V. M. (1973), 'Income redistribution as a local public good', *Journal of Public Economics*, Vol. 2, p. 35 *et seq.*

Rawls, J. (1971), *A theory of justice*, Cambridge, MA, Harvard University Press.

Scheube, J. (1992), *Die Entwicklungshilfe im Lichte der finanzwirtschaftlichen Ordnungspolitik. Ein Beitrag zur ökonomisch funktionalen Gestaltung der Entwicklungspolitik*, Berlin.

Schreyer, M. (1983), *Transferpolitik im Föderalismus. Probleme der Kompetenzverteilung. Eine Darstellung der Zuständigkeitsverteilung für Sozialausgaben in der Bundesrepublik Deutschland und eine wohlfahrtstheoretische Analyse*, Frankfurt.

Teutemann, M. (1992), *Rationale Kompetenzverteilung im Rahmen der europäischen Integration. Ein Beitrag zur finanzwirtschaftlichen Ordnungspolitik*, Berlin.

Theiler, J. (1977), *Föderalismus — Voraussetzung oder Ergebnis rationaler Politik? Zur ökonomisch optimalen Struktur kollektiver Entscheidungsverfahren*, Berne.

Tiebout, C. M. (1956), 'A pure theory of local public expenditures', *Journal of Political Economy*, Vol. 64, p. 416 *et seq.*

Timm, H. (1984), 'Entwicklungslinien in Theorie und Praxis der Erbschaftsbesteuerung während der letzten hundert Jahre', *Finanzarchiv*, N.F., Vol. 42, p. 553 *et seq.*

Tresch, R. W. (1981), *Public finance. A normative theory*, Plano, Georgetown.

van der Ploeg, F. (1991), 'Macroeconomic policy coordination issues during the various phases of economic and monetary integration in Europe', in 'The economics of EMU', background studies for *European Economy* No 44 ('One market, one money'), *European Economy*, special edition No 1, Luxembourg, p. 136 *et seq.*

Van Rompuy, P., Abraham, F. and Hermans, D. (1991), 'Economic federalism and the EMU', in 'The economics of EMU', background studies for *European Economy* No 44 ('One market, one money'), *European Economy*, special edition No 1, Luxembourg, p. 109 *et seq.*

von Hayek, F. A. (1980), *Recht, Gesetzgebung und Freiheit. Band 1: Regeln und Ordnungen. Eine neue Darstellung der liberalen Prinzipien der Gerechtigkeit und der politischen Ökonomie*, Munich.

Yinger, J. (1982), 'Capitalization and the theory of local public finance', *Journal of Political Economy*, Vol. 90, p. 917 *et seq.*

V — Macro-stabilization and shock absorption

Stabilization

Charles A. E. Goodhart and Stephen Smith

London School of Economics and Institute for Fiscal Studies,
United Kingdom

Contents

Tables

Graphs

Summary

The paper distinguishes between stabilization and redistribution. Differences in the level of fiscal variables that are functions of the level of economic activity are essentially redistributive, whilst differences in fiscal variables that are a function of the rate of change of economic activity constitute stabilization. There is considerable overlap between fiscal measures which lead to redistribution and those that lead to stabilization; for example a progressive income tax system has both effects. However, it is possible to identify measures which have one effect without the other; for example, payments of unemployment benefits for a limited period after unemployment would tend to be stabilizing, without necessarily implying sustained redistribution.

The paper examines data on fiscal variables and economic activity in federal countries, and concludes that the structure of existing federal fiscal systems does in practice generate appreciable regional stabilization. It finds less difference between models estimated in 'levels' and in 'changes' than a quick examination of the existing literature on the scale of stabilizing flows within the USA (Sachs and Sala-i-Martin, 1991, and von Hagen, 1991) might suggest. The standard vehicle for regional stabilization in federal countries is the provision of automatic stabilizers through the structure of taxes and expenditure — for example through the impact of federal income taxes — and this tends to generate substantial redistribution as well as stabilization.

For various political and economic reasons, however, the Community may be unwilling to emulate schemes that lead to large redistributive flows at the same time as stabilization. The assignment of particular tax instruments to the Community is not, therefore, a promising basis for establishing a mechanism to offset temporary regional disturbances in income or economic activity. The paper looks at how, instead, an explicit stabilization mechanism scheme could be devised that would stabilize asymmetric (i.e. regional) economic shocks within the Community, whilst at the same time creating little long-term redistribution.

A Community stabilization facility could allow regions (or countries) to insure themselves against temporary income disturbances, and could be designed in such a way that the long-term expected impact on any region's income was small. However, a key consideration in the design of such a facility, which distinguishes it from existing structural adjustment facilities operated by international bodies, is that its response should be rapid. A major criticism of stabilization policies is that their timing is critical (Friedman, 1953). The periods when incomes are declining tend to be short, and policy must thus act rapidly if it is to have a stabilizing impact. This implies that the stabilization facility should contain a large measure of automaticity, rather than providing assistance on a discretionary basis.

1. Introduction: The scope of the exercise

It may be helpful to begin by attempting to draw a clear distinction between stabilization, which is the subject of this paper, and redistribution, which lies within the remit of the paper by Prud'homme. We would define for this purpose variations in the levels of fiscal expenditure (including grants and transfers) and taxes that were functions of the level of economic activity, e.g. real or nominal incomes, employment or unemployment, etc., as being essentially (spatially) redistributive. Thus an equation that regressed the level of (federal) expenditure (or taxation) on the level of regional (State) incomes (employment), as undertaken in Sachs and Sala-i-Martin (1991), such that

$$G_i\ (T_i) = f(Y_i)$$

would be, on this definition, a measure of the extent of inherent redistribution within the system.

In contrast, we would define stabilization as involving those variations in fiscal expenditure (including grants and transfers) and taxes that were functions of the rate of change of economic activity. Thus a better measure of the extent of stabilization would be an equation relating the change in (federal) expenditure (taxes) to the change in economic activity, as proposed and run by von Hagen (1991),

$$\underline{\Delta} G_i\ (\underline{\Delta} T_i) = f(\underline{\Delta} Y_i)$$

An assessment and reconsideration, of von Hagen's approach provides the material for section 4 of this paper.

There is, obviously, a considerable degree of overlap between measures that engender redistribution and stabilization. When there is a proportional income tax, an adverse shock both reduces taxes as incomes fall (stabilization) and holds taxes at lower levels in areas with lower incomes (redistribution). Yet a stabilizing measure need not be redistributive; for example a measure that only provided unemployment benefits for a limited period would relate fiscal expenditure to the change in unemployment, but not to the long run average level. Similarly a redistributive measure could have limited, or no, stabilizing effect. Thus a regional transfer system where the amount to be transferred was a function of the average level of income in each region over the previous five years would have a considerable redistributive, but a virtually zero stabilization, function.

The need for government intervention, either for stabilization or for redistribution, depends to some large extent on market failures, especially in labour markets, which result both from wage rigidities and from barriers to mobility. We shall briefly review the evidence for the existence of such rigidities/barriers in the European Community in section 2. Even if such rigidities/barriers exist, there remains the question of subsidiarity, which is the appropriate level of government to address such market failures? This issue largely depends on which is the lowest level of government at which a sufficiently large proportion of the benefits of such action can be internalized. This is the subject of section 3.

Whereas the need for both stabilization and redistribution arises primarily from similar kinds of market failure, the arguments for, and against, the two measures are rather different. The arguments for redistribution depend on interpersonal comparisons, equity and fairness, and the loss of social and political cohesion if such equity is not forthcoming.

On the other hand, the argument for stabilization depends on a preference for intertemporal smoothing of income/consumption flows, particularly in the presence of forces (such as rigidities) that lead to (some temporary at least) autocorrelation in incomes/employment (around their mean trend level). Thus, in a world well characterized by a Lucas supply function, in which the deviations of real incomes around their mean level were random, there could be no value in any stabilization scheme (though there could perfectly well be arguments for some redistribution).

Equally the arguments against, or criticisms of, stabilization schemes are generically different from the arguments against redistributive schemes. The main argument against redistributive schemes is that they lead to misallocations of resources and inefficiency, e.g. through various kinds of moral hazard. Thus a tax on the rich to provide transfers to the poor may cause both the rich (high marginal rate of tax) and poor (poverty trap) to work less hard and less effectively. (Although it is not strictly within our remit, we felt unable to refrain from adding our own comments on the case for spatial redistribution in Appendix B).

It is not easy to make a compelling case against (pure) stabilization schemes on such grounds. A measure which raised fiscal expenditure (lowered taxes) in response to a fall in income (increase in unemployment), but was unrelated to the level of incomes/employment would hardly have such moral hazard drawbacks. Thus a fiscal transfer related to the change in real income, or change in unemployment, could hardly be said to represent an inducement to poor local government policies, or rent-seeking by interested groups (since any rent would disappear once the position had stabilized again, albeit on occasions at a worse level).

Instead a major criticism of (pure) stabilization policies is that their timing is both critical to their success and hard to get right, as Friedman (1953) stressed decades ago. If the purpose is to offset fluctuations (around trend growth) in incomes, then the additional funds should arrive while income is falling, not after it has stabilized or is already recovering. In practice, periods of decline in incomes, though on occasions quite sharp in recent years, have also been short.

It is, therefore, not a simple matter to structure stabilization measures to operate so that they actually have the intended effect. We discuss the need for speed in any stabilization device in section 5, and, against the requirements described there, we consider in section 6 whether the special financial support scheme, the subject of the paper in this volume by Majocchi and Rey, is likely to prove an effective stabilizing measure, whatever the other arguments for and against it.

Having argued, in sections 2 and 3, that there is a potential role for the Community to participate in fiscal stabilization, we then consider in more detail the kind of action that it could usefully undertake, first when there is a common shock affecting all regions/nations equally, and secondly when there is an asymmetric shock. In the face of a common shock, one might expect concern about externalities at the national level to be less pressing. Even so, uncertainty about the reaction of national partners could lead to insufficient stabilization, and provide a role for the Community both for purposes of coordination, and even possibly of direct involvement. The drawback to the latter is that any significant effect in overall EC stabilization would require monetary outlays that would be very large relative to the EC budget. While it would be possible to design a scheme that would (automatically) lead to an intertemporal EC budget balance over a run of several years, it would still involve relatively violent shifts between deficits and surpluses from year to year.

The construction of a scheme to provide stabilization to regions/nations facing asymmetric shocks could be designed to have a significantly smaller budgetary impact. There would, however, be quite severe problems in designing such a scheme. What would be the geographical focus (i.e. region/nation, etc.)? If it would need to be automatic in order to act quickly enough both on expectations and on actual cash flows, how should one arrange a trigger mechanism? How would one deal with measurement errors, indeed with an incentive to measure the trigger in a biased fashion? How would the European Community cope with different national methods of measurement, and/or changes in statistical approach? This section will have more questions than clear answers (NB: these difficulties are much more serious for stabilization than for redistributive mechanisms, since, as is remarked in section 4, levels are generally much better measured than are first differences in variables).

Finally, in addition to the appendix with our comments on spatial redistribution within the Community, we attach an Appendix A on the MacDougall Report (1977), as viewed some 15 years after its publication.

2. The need for stabilization

The case for government intervention usually rests on the existence of some market failure, or imperfection. In the case of intervention for the purpose of stabilization, the purported failure is that of (labour) markets to clear, whether by means of wage flexibility or by migration (though migration would not be an effective response to a common shock). (NB: The case for redistribution depends on other criteria, for example interpersonal equity, besides market failure.) There may also, of course, be differing perceptions, for example as between government and the private sector, of the need for adjustment. But if the authorities do possess better information, the most effective use of that would seem to lie in making that information publicly available (e.g. data on monetary growth), rather than using it as a basis for direct intervention.

The existence of imperfections in the labour market is challenged by some neoclassical economists, who tend to argue both that the theoretical microfoundations of such imperfections are not firmly based and that the known data of the level, and auto-correlation etc., of unemployment could be consistent with individual optimization in perfectly clearing markets. It will, however, be the maintained assumption of this paper that labour markets in the Community adjust so sluggishly in response to shifts in the level of unemployment that EC labour markets can be reasonably described as comparatively rigid.

The speed of adjustment of (labour) markets is not, however, an exogenously given datum, fixed for all future periods. There are those who hope that the greater discipline of fixed exchange rates may engender greater flexibility, though the evidence as yet for that is limited, e.g. Barrell (1990). *Per contra*, there are those who fear, partly on the basis of the experience in East Germany, that a single currency could lead unions to press for a single European-wide wage level. Moreover, as noted subsequently below, generous and continuing fiscal offsets are likely to reduce the pressure for more fundamental market flexibility. Be that as it may, the evidence is that our starting point is one of considerable rigidity.

The average short-term elasticity of the consumption wage function to the level of unemployment in the 12 EC members (excluding the wrong sign for Ireland) was $-0{,}10$ (compared with $-0{,}22$ for the USA and $-1{,}17$ for Japan) in Table 6.3 of 'Quest — A macroeconomic model for the countries of the European Community as part of the world economy', European Economy No 47 (March 1991), Part II (table on p. 196) by Brandsma *et al.* Excluding Portugal, the average long-run elasticity of wages to unemployment of the other eleven was $-0{,}17$ (compared again with $-0{,}22$ for the USA and $-1{,}17$ for Japan).

The calculated equilibrium rates of unemployment, or NAIRUs, from Table 6.4 (ibid.) were over 10% for five members of the European Community (*vis-a-vis* 6,5% for the USA and 2,5% for Japan). The relatively high levels of the coefficient relating wages to the change in unemployment, larger in absolute size than $-0{,}4$, in six members of the European Community suggests the presence of hysteresis, perhaps caused by 'insider-outsider' factors. In his forthcoming survey on 'European unemployment', Bean (1992) draws a distinction between the less flexible labour markets in the European Community and other labour markets in EFTA, Japan and North America. This is not to suggest that labour markets in all EC countries are similar (indeed that in the UK appears particularly prone to rigidity) but that, taken as a group, EC labour markets appear relatively sluggish in adjustment.

A model that is roughly similar to that of the wage-price block in 'Quest' has been constructed by Jackman, Layard and Nickell (1991) in their book on unemployment. The standard equations run for the main OECD countries and their empirically estimated equations, taken from Chapter 8, 'Explaining post-war unemployment in the OECD', are reproduced here in Appendix C. This shows that the long-term effect of unemployment on real wages is relatively low in the European Community compared with Japan and the EFTA countries, and that real wage rigidity (RWR) and hysteresis (H) are comparatively high in the European Community.

The USA also has a relatively low long-term effect of unemployment on real wages, and suffers from nominal wage rigidity (NWR), as well as an average level of real wage rigidity (see Appendix C). In the USA, however, any asymmetric shocks can be more easily resolved by migration than in Europe. Eichengreen reports some comparative statistics on migration in the USA as compared with Europe. A study which he cites (1990a, p. 9), concluded that mobility in the USA was roughly two to three times as high as mobility within European countries, as measured by the proportion of the population that changed region of residence. Migration between European countries is no doubt much lower still. See for example the data, e.g. Table 6.2, in 'One market, one money', European Economy No 44, section 6.3.2, pp. 151-152; see also Ermisch (1991, pp. 93-108). As Masson and Taylor (1991, p. 11) note, 'Relatively low mobility of labour is thus a potential handicap for the European Community as it progresses toward monetary union'.

It may be fair to conclude that mechanisms of labour market adjustment (wage flexibility and migration) work only sluggishly and imperfectly in the European Community. If so, adverse shocks, unless stabilized, are likely to impinge to some considerable extent on real variables, output and unemployment (rather than primarily on nominal variables). There could be undesirable dynamic (e.g. multiplier/accelerator) mechanisms exaggerating the initial shock.

Within individual monetary systems, the maintenance of a broadly stable rate of monetary expansion can act as a natural stabilizer. Moreover, the fluctuations in interest rates that are likely to accompany variations in nominal incomes around any such stable rate of monetary expansion would tend to lead to movements in exchange rates (i.e. appreciations in booms, depreciations in slumps) that would also have a stabilizing effect. Such overall stabilization will still, of course, be possible, and may well be enhanced by the structure of the European System of Central Banks, for the Community as a whole in response to common shocks. But the use of monetary (and exchange-rate) policy for this purpose will no longer be an option for individual countries within the European Community once economic and monetary union has been achieved.

Whatever the balance between the use of monetary and fiscal policies for stabilization purposes at the EC level, the subject of section 7 below, the disappearance of monetary policy as a national instrument might suggest that fiscal policy might need to be used more aggressively than in the past by nation States in response to asymmetric shocks.

There are two rejoinders to this. The first is that the dynamic process of the European Community (notably the single market of 1992-93) may be making all the Member States more alike, so that future shocks will generally be symmetric rather than asymmetric. There have been studies (Cohen and Wyplosz, 1989; Commission of the European Communities, 1990; Weber, 1990), that suggest that Community countries are perhaps becoming more akin to each other. On the other hand, the largest recent shock (German unification) was asymmetrical. We cannot offer here any new insight into this particular issue, but our prior beliefs would be that any area as large, culturally diverse, and geographically differentiated as the Community is bound to continue to receive sizeable asymmetric shocks.

The second rejoinder is that fiscal policy serves in large part to alleviate the pressures that induce wage flexibility and migration, by maintaining employment, income and consumption levels in the face of adverse shocks. Consequently the process of economic adjustment may be deferred, or even prevented, with resulting inefficiency. The examples of the Canadian Atlantic provinces in the paper by Courchene (in this volume), and of the Mezzogiorno (see De Nardis and Micossi, 1991, and also Micossi and Tullio, 1991), have been cited. The expectation of some fiscal support may reduce the incentives on all economic agents (government, employers, employees) to steel themselves to make the necessary and more fundamental adjustments.

This argument clearly has force against redistributive policies which make fiscal expenditure a function of the level of income and employment, though we shall examine how far we would want to qualify it in Appendix B. But we would deny that it has much force as a criticism against stabilization policies, i.e. those which relate fiscal expenditure/taxes to changes in the levels of income/expenditure. There are two main reasons for this claim. First, it is generally extremely difficult to predict whether a shock is temporary or permanent, e.g. the various oil-price related shocks. If the shock should turn out to be temporary, then it would generally prove optimal to buffer and smooth the economy, and to lessen the extent of comparatively painful labour market adjustment in the shape of (relative) real wage shifts and migration. Second, if the shock should, indeed, prove to have a permanent effect, e.g. on a region's productivity, then the tapering-off of the fiscal transfer, once the region ceases to face falling incomes, rising unemployment, would mean that economic pressures, resulting from higher levels of unemployment and lower incomes (such as they are in the European Community), would not be offset in the long run by pure stabilization policies (i.e. without accompanying redistributive content).

3. Which level of government should stabilize?

In the previous section we sought to establish:

(a) that EC labour markets were sufficiently rigid that stabilization was a potentially useful intervention;

(b) that, with the ability to use monetary/exchange-rate policy for stabilization purposes removed, countries/regions suffering from asymmetric shocks might need to turn more to fiscal stabilization to buffer shocks; and

(c) that the argument that such fiscal buffering reduced the incentive towards more fundamental economic (and labour market) adjustment could be applied with some force to redistributive policies, but much less so to pure stabilization policies.

Even if those arguments were to be accepted, however, it does not necessarily imply that any such stabilization policies need be the responsibility of the Community. If they could equally well be done by lower levels of government, at regional or national level, then the principle of subsidiarity suggests that they should be.

There are two main reasons for suggesting that stabilization should be a responsibility of the central federal Community. The first, which applies both to common and asymmetric shocks, is the existence of externalities. In an open economy, some proportion of the additional net local government expenditure will flow through into higher net imports, so the benefit of such expenditure will partly benefit non-residents, whereas the local government will in general have to impose the higher future taxes (to service the higher debt) solely on residents. The consequence is likely to be that governments in small, open economies are likely to feel incapable of undertaking as much stabilization as would be optimal if all externalities were to be internalized (Goodhart and Hansen, 1990).

The need to centralize stabilization policy, on this account, is widely perceived. Thus, in his paper (in this volume) on Belgium, Moesen writes that:

'There was virtually universal agreement that stabilization policy, to the extent that it is desirable and feasible, should be conducted at the central level (rule 1). For a small open economy such as Belgium the feasibility problem is prominent. It would not make sense, for example, for each of the three regions (Flanders, Wallonia and Brussels) to pursue an independent monetary policy and control its own money supply. The same applies for an eventual demand management via fiscal policy. Simulations from the Central Planning Bureau show that the numerical value of the multipliers is rather small (often less than 1).'

Similarly, according to Van Rompuy *et al.*, (1991) in their paper on 'Economic federalism and the EMU', section D: 'Macroeconomic stabilization function', pp. 112-113:

'Lower level governments will have no incentive to use fiscal instruments to stabilize the overall economy. The reason for this lack of interest lies again in the externalities that result from the use of these policies by small and highly open economies. The more the benefits, if any, of the regional stabilization efforts spill over to other regions, the smaller the incentive for the regions to use them since they have to bear the full burden in terms of higher debt or tax rates. The situation is similar to the familiar prisoner's dilemma, which is typical for non-cooperative game settings. The way out of this dilemma is a coordinated stabilization policy. The costs of coordination in a system containing a large number of jurisdictions, each characterized by different economic conditions, may be prohibitively high. In these circumstances, the failure to reach a cooperative solution will lead to the assignment of the macroeconomic stabilization function to the central government. In this case, a federal stabilization function necessitates the exclusive use of some fiscal instruments in such a way that it cannot be disturbed by the independent action of lower level governments. This may require explicit agreements between the federal, State and local level in order to guarantee the efficiency of the federal stabilization policy.'

A number of quotations and references in a similar vein are also reproduced in Appendix A: 'A retrospective on the MacDougall Report'.

While it is generally accepted that local/regional governments cover too small an area and have too open an economy for it to be feasible for them to undertake stabilization policies effectively, the same does not necessarily follow for larger nation States. Yet even here, the openness of some of the smaller Community countries is calling into doubt their ability to undertake unilateral stabilization policies. Knoester *et al.* (1990) did a simulation study of the effects of an isolated change in Dutch fiscal policy (using a number of Dutch economic policy models) and compared this with the effectiveness of simultaneous European policies. They showed that in the Netherlands 'the effects of an expansionary [unilateral] fiscal policy largely drain away to other countries ... Although the results of the policy action can be termed limited as regards changes in production volume and rate of unemployment, a tax reduction or increase has a fairly strong impact on the current account of the balance of payments and certainly on the government's budget deficit'. The result of a unilateral fiscal adjustment is therefore 'unattractive', whereas the effect of a simultaneous adjustment of tax rates in all Member States would be far more effective and favourable.

On this evidence the smaller, more open nation States in the European Community have already lost a considerable extent of their national fiscal autonomy. For them, any viable stabilization policies would need either to be coordinated, or undertaken at EC level. While coordination may be possible in response to symmetric shocks, as discussed further below, it is difficult to see small countries being able, or willing, to undertake the optimal amount of offsetting and stabilizing fiscal measures in response to asymmetric shocks affecting them individually. Even if the larger nation States within the European Community may still be in a position to conduct their own independent stabilization policies effectively, the differences between the range of effective options open to the larger as compared to the smaller, more open nation States would be undesirable.

There are two conflicting trends influencing the ability of nation States to use fiscal measures. First, the increasing openness and interpenetration of national economies within the European Community, which is, indeed, one of its objectives, is reducing the capacity of EC Member States to conduct autonomous fiscal policies (because of the externalities already mentioned). Second, the increasing fixity of exchange rates, and the development of a unified financial/capital market, in the progress towards EMU will reduce the crowding-out effects of expansionary fiscal policies on national interest rates and exchange rates.

Which of these trends will have a greater effect on national fiscal policies in future years is uncertain. The Delors Committee (1989) was, however, primarily concerned that the removal of the national exchange-rate discipline on governments would aggravate any national tendencies towards fiscal indiscipline, and proposed binding limits on fiscal deficits. A problem with this is that, with the abandonment of national monetary policies, the contracyclical fluctuation of national budgets (between surpluses in boom times and deficits at times of depression) might need to increase, though greater openness would serve to reduce national willingness to undertake such contracyclical stabilization.

In some part, the danger that a fiscal deficit in one Community country causes to the conduct of European monetary policy within a fixed exchange-rate system, such as the ERM, is measured not by the deficit itself, but by the call for financing that such a deficit imposes on the rest of the world, and notably on the rest of the European Community. Thus, a PSBR more than matched by a net private sector surplus may involve less danger for financial stability than a public sector surplus insufficient to balance a private sector net deficit; the latter combination has occurred in the UK recently. Ballabriga *et al.* (1991) have recently tried to examine whether, and how, the three-way relationship between the deficits of the public, private and overseas sectors could be made the basis for a more appropriate system of fiscal guidelines instead of the rather simplistic measures under consideration.

While their work is an excellent, and rigorous, academic study, our view is that their results are too complex, and differ too little from the simpler rules of thumb (for instance, 'Belgium, Greece, Ireland and Italy exhibit excessive budget deficits whereas Germany and, to a lesser extent, Denmark show some signs of excessive surpluses'), to have much chance of replacing the proposed constraints on national fiscal policies, for example deficit limits, constraints on maximum debt/income ratios, no debt financing of public sector expenditure other than capital investment. It may be worth noting in this context the evidence reported in Fratianni and von Hagen (1990) and von Hagen (1991) that, among US states, 'the probability of extreme fiscal behaviour is similar among governments subject to restraint and those that are not. This means that fiscal restraints do little to curtail the risk of a bail-out of insolvent governments. Finally, the non-parametric tests confirm that fiscal restraints induce debt substitution into off-budget activities and municipal debt'.

In so far as such rules might further restrain the willingness and ability of national governments to undertake contracyclical stabilization, there is a further argument for transferring the obligation to carry out such policies to the federal centre.

The second main reason for transferring stabilization policy to a federal centre is the insurance principle. Assume that adverse shocks affect regions randomly. Then if a region has to finance its own stabilization policies, the region that has bad luck will be in a worse position (more local debt, less stabilization) than if the regions all agreed to a (central/federal) co-insurance (NB: this would be so even if all regions were closed economies).

If we were to define an adverse shock as a shortfall in income growth of X% below the trend over the last n years of that nation, or region (the choice of which level of government should be the recipient is discussed below), or a rise in unemployment above the local trend, then we could arrange the trigger mechanism so that each area (region or nation) had virtually the same chance, *ex ante*, of being a net recipient (not exactly the same chance because more volatile countries would be, *ex ante*, more likely recipients). This would overcome the political problem, of which Spahn warns in his paper (in this volume), that richer regions may not be willing to go on making unending net fiscal transfers as part of a redistributive process to poorer regions within the European Community.

A standard problem with insurance is moral hazard. As already noted, however, a pure stabilization policy, in which the transfer is related to the change, and not to the level, of incomes and unemployment, is much less susceptible to this charge.

4. Evidence from federal countries

In section 3 we argued that a combination of externalities and a wish, among risk-averse agents, for insurance implied that fiscal stabilization should be (primarily) a federal responsibility, especially once national monetary/exchange-rate policies had been given up in EMU. At present there is virtually no central Community capacity to do so. How important is this? One approach towards answering this question is to examine the role of fiscal stabilization (between areas, States, provinces, *Länder*, etc.) undertaken in other federal countries).

Sachs and Sala-i-Martin (1991) investigate the extent of fiscal stabilization in the nine census regions of the United States, over the period 1970-88. They calculate the contribution made by taxes and transfers to overall fiscal stabilization on the basis of estimated elasticities of tax payments and federal transfers with respect to changes in personal incomes net of taxes and transfers. In the case of taxes, their estimates are based on data which include federal income taxes, estate and gift taxes, plus contributions to social insurance. Together, these cover more than four fifths of total federal taxes; the principal omissions are corporate taxes and indirect taxes and customs duties. On the spending side, their data include direct federal transfers to individuals, and federal transfers to state and local governments. Unemployment benefits are not directly included, since these are paid by the states rather than by the federal government.

Sachs and Sala-i-Martin estimate equations relating the value of each fiscal variable to regional personal incomes. The data for the fiscal variables and incomes are expressed relative to the US average, to separate regionally-specific fiscal stabilization from more general changes in the fiscal stance of the US government. Estimates are made separately for each of the regions, and results from a range of different estimation techniques are compared.

Overall, Sachs and Sala-i-Martin conclude, a USD 1 lower level of income in a typical region leads to a stabilizing fiscal offset of between 35 and 44 cents. The largest part of this offset comes from changes in federal tax payments (between 33 and 37 cents per dollar) and changes in federal transfers have a smaller stabilizing impact, of between 1 and 8 cents per dollar.

The results of Sachs and Sala-i-Martin have been interpreted (for example by Eichengreen, 1990a) as evidence that the federal budget in the United States provides a substantial degree of fiscal stabilization in response to regional income shocks. On our definitions, however, the analysis demonstrates a sizeable redistributive process in the USA, operating principally through the progressive structure of income taxation. We have argued that, for various political and economic reasons, the Community may be unwilling to emulate such a degree of regional distribution, or even to move substantially in this direction.

Von Hagen's analysis (von Hagen, 1991) would, on the face of it, appear to yield results more appropriate to the question of stabilization rather than redistribution. Von Hagen regresses the change in real per capita federal expenditure and taxes in individual states on the change in gross state product (GSP), and finds a much lower level of stabilizing fiscal transfers. He finds that a reduction in GSP of 1% reduces federal income payments in turn by 1%, implying a reduction in taxes of 8 cents for each dollar change in GDP. Stabilizing effects through expenditure are found to be even smaller — total expenditure appears unrelated to GSP, although within the total, federal transfer payments to individuals respond to GSP, rising by about 0,2% for a 1% fall in GSP, equivalent to about 2 cents per dollar change in GSP. The combined stabilizing effect of taxes and transfers thus appears to be of the order of 10 cents per dollar fall in GSP. Von Hagen concludes that 'the US provides an example of a monetary union working without significant mechanisms to balance regional shocks'. By extension, the implication would be that such federal stabilization policies would not be needed in the European Community in the future either.

In view of the importance of the argument, and the potentially revolutionary implications of von Hagen's conclusions for the post-MacDougall received wisdom about the need for fiscal transfers within a monetary union, we have looked closely at the methodology of these studies, replicating the US analysis for Canada, and also for one of the non-federal Community countries, the UK. Our results are summarized in Table 1 for models estimated in 'levels' (as in Sachs and Sala-i-Martin) and in Table 2 for models estimated in 'changes' (as in von Hagen). Details of the data and of individual regressions are provided in Appendix D.

For the USA, our data definitions are closer to those of von Hagen than of Sachs and Sala-i-Martin. Like von Hagen we conduct the analysis at the level of individual states rather than census regions (although unlike von Hagen we choose to omit the major oil-producing states rather than to use dummy variables to reflect their different situation). The economic activity variable used is gross state product rather than net personal incomes (on average some 72% of GSP in 1986), and the tax variable is rather narrower than in Sachs and Sala-i-Martin, raising revenue equal to about 9% of GSP. In comparison, Sachs and Sala-i-Martin's figures for total federal taxes are on average some 26% of average personal incomes; subtracting corporate taxes, indirect taxes and customs duties and expressing taxes as a percentage of GSP yields a comparable figure for Sachs and Sala-i-Martin of about 15%.

Our results for the effects of changes in income on changes in fiscal variables in the USA are broadly consistent with those of von Hagen. A USD 1 rise in GSP appears to lead to an increase in federal income taxes of about 13 cents and only small changes in federal spending. The model estimated in levels shows an elasticity of 1,5 for federal income taxes, a little higher than the average elasticity of 1,35 in Sachs and Sala-i-Martin. Expressing this in terms of the tax offset to a dollar change in incomes yields an estimate of about 13 cents for the change in federal income taxes, lower than Sachs and Sala-i-Martin's average estimate of 34 cents. The difference is, however, largely to be explained by the greater coverage of the Sachs and Sala-i-Martin tax variable; their estimate relates to all federal taxes, rather than just the income tax covered by our estimates and those of von Hagen. Assuming the same degree of responsiveness to income shocks of the taxes omitted from our data, estimates for all federal taxes would be roughly 70% higher than those for federal income taxes only.

We observe that in our results there is in general much less difference between models estimated in levels and in changes than might be inferred from a superficial comparison of Sachs and Sala-i-Martin on the one hand and von Hagen on the other. The results of models relating changes in tax payments to changes in income generally imply rather similar transfers for each dollar of income to the results of models relating the levels of tax variables and incomes.

We find that in each of the countries there is an appreciable fiscal offset to shocks, regardless of the methodology employed. In the USA, as already noted, the overall fiscal offset may be larger than that estimated here, since not all federal taxes have been included in the analysis. This fiscal offset appears rather larger in the UK than in the USA and Canada. Data on the response of transfers and other expenditure responses to income changes in the USA and Canada confirms the conclusions of both Sachs and Sala-i-Martin and von Hagen that most of the regional stabilization occurs through the tax side rather than the expenditure side of the federal budget.

We do, however, have some reservations about the use of either regression approach to infer the extent of fiscal stabilization.

In the first place, although von Hagen is right to observe that the appropriate focus of an analysis of stabilization is the effect of changes in income over time rather than of cross-section differences in income levels, we do not think that econometric models estimated on changes are necessarily a better guide to the extent of stabilization than those estimated on levels. It is well-known that errors in variables lead to downward bias in the estimated regression coefficients (e.g. Intriligator, 1978), and errors in variables are likely to be much more important in models where the data are in the form of first differences than where they are in the form of levels.

Indeed, von Hagen does not adequately explain why the estimates he obtains using data in first differences should differ so greatly from those obtained by Sachs and Sala-i-Martin using data in levels. Although we have described above some ways in which policy instruments could have a stabilizing effect without necessarily any redistributive effect, (for example, if the entitlement of the unemployed to transfer payments tapered quickly over time), most of the stabilizing effect estimated in both studies is accounted for by taxation rather than transfers, and income taxes in particular tend to have few features that would imply any substantial divergence between their redistributive and stabilizing effects.

A second reservation about the results of the regression analyses is that the relationship between fiscal variables and income is unlikely to be in a single direction; changes in fiscal variables may contribute to changes in incomes, as well as adjusting to them. Both Sachs and Sala-i-Martin and von Hagen consider the possibility that federal expenditure may be a source of fluctuation in state incomes, as well as a response to such income changes, and consider the use of an instrumental variables estimator to correct for this source of simultaneity. Both find that the instrumental variables estimator produces results very close to the estimates obtained from ordinary least squares. Nevertheless, there may remain some possibility that components of federal spending may have some effect on income levels.

A third reservation about econometric studies of aggregate state incomes and taxes is the nature of the data. Information obtained in the course of tax administration provides one of a number of possible sources of information on which income estimates for states or regions can be based. In some countries such as the UK, income data from the tax system are a key element in the estimation of GDP, and spurious association is then likely to be encountered if data on taxes are explained using data on GDP constructed ultimately from the same source. Without a detailed study of the sources on which individual countries' regional or state GDP or income data are based, it is not possible to assess the scale of this problem; for the UK, however, it suggests that the relationships estimated may at least in part be based on a spurious, partly circular, relationship between income and tax data.

A fourth reservation about the statistical estimates is the absence of plausible dynamics in the estimated models of the changes in incomes and fiscal variables. It would normally be expected that tax payments would lag income changes to some extent, since tax due may not always be collected during the year in which the corresponding changes in income take place. A further reason for expecting dynamics is that the budget years and calendar years do not always coincide; US data for federal spending appear to relate to a budget year ending in September. However, von Hagen's analysis contains no lagged terms in gross state product, and he notes that in the case of expenditure a lagged term was rejected by the data. As a result, it would appear that his spending variables actually lead GSP changes for some four months. Inclusion of lagged terms in our changes analysis of US data suggests some small lagged effects, though these do not significantly increase the estimated overall response.

More generally, the data on taxation do not always refer to actual tax payments during the course of a particular year, and may in part at least reflect changes in tax assessments.

Depending on the arrangements for tax payment, actual payments of the corresponding tax may anticipate, be contemporaneous with, or lag changes in incomes. Using data on tax assessments does not tell us whether tax payments are stabilizing or not.

An important yardstick for evaluating the plausibility of results based on econometric analyses of regional fiscal stabilization is the consistency of the results obtained with the known underlying structure of the tax system that generates the aggregate tax payments. Barro and Sahaskel (1983) estimate the average marginal tax rate for the individual income tax in the USA at about 35% at the start of the 1980s, considerably in excess of von Hagen's estimates obtained from regression analysis of the effect of income changes on income tax. A further, excellent study simulating the fiscal consequences of a given shock, dependent on the known parameters of countries' tax and public expenditure systems, is provided in the paper (in this volume) by Pisani-Ferry, Italianer and Lescure (1992).

Much depends on the nature of the income shocks. Where the shocks to income take the form of a percentage change in all income sources, evenly spread across the population, it is straightforward to derive analytical estimates of the extent of regional stabilization, based on detailed modelling of the effects of the tax system on a representative sample of households. An illustration of this approach is given in Table 3, which shows results obtained using the IFS Tax and Benefit Model (an algebraic representation of the UK tax and social security regulations applied to a representative sample of 7 000 households from the UK Family Expenditure Survey). This is used to simulate the effect on household tax payments and social security benefit receipts of a 1% increase in all household incomes. There would be a substantial fiscal offset to an income shock of this sort, even larger than that estimated from the regression approach (where, as we have suggested, at least part of the relationship estimated may in any case be spurious). The average tax offset is of the order of 34 pence per pound change in income, whilst changes in social security benefits contribute little offset: only 1 penny per pound change in income.

On the other hand, income shocks may not be evenly spread across the population, but may, for example, take the form of unemployment for certain individuals, whilst having little effect on the incomes of those at work. It is rather harder to derive analytical estimates of the fiscal offset to income shocks of this sort, since it is necessary to specify how the shock is distributed across households. Nevertheless, it is possible to indicate qualitatively how the impact of an uneven shock may differ from the impact of a uniform shock. Firstly, the effect on social security benefits would tend to be greater; the numbers entitled to unemployment benefit would change in this case, whereas the only social security changes in Table 3 are in means-tested benefits to those who already have some level of income. Secondly, the changes in tax payments would tend to reflect the average tax rates faced by those who would become unemployed, rather than the marginal tax rates of those in work. Typically, average tax rates are well below marginal tax rates, especially in a system such as the UK where the income tax structure includes large tax-free allowances. Thus, an uneven shock will tend to involve rather more offset through spending and rather less through taxation than an evenly-spread shock to incomes.

Table 1

Economic activity and fiscal flows between regions and central government: models estimated in 'levels'

Country	Sample	Dependent variable	Independent variable measuring income shocks	Elasticity (t-statistic in brackets)	Effect of USD 1 increase in income	Other features
USA	44 states (excluding 6 major oil producers and DC), 6 years (1981-86)	Federal income tax (returns)	Gross state product	1,528 (22,17)	USD 0,13	Dummy variables for years
		Federal transfer payments to individuals		−0,139 (2,61)	− USD 0,01	
		Total federal transfer payments		−0,100 (2,18)	− USD 0,01	
Canada	11 provinces 24 years (1965-88)	Federal taxes from households	Personal income	1,059 (13,22)	CAD 0,11	Dummy variables and time trend for each state
		Total federal taxes		1,141 (8,36)	CAD 0,15	
		Federal transfers to households		−0,311 (2,20)	−CAD 0,02	
		Total federal transfers		−0,708 (3,34)	−CAD 0,09	
United Kingdom	11 standard regions 5 years (1983-87)	Income tax assessment (fiscal years starting April of each year)	Gross domestic product at factor cost	1,532 (19,07)	UKL 0,21	

5. The need for speed

So far we have sought to establish:

(a) that there is a case for government intervention to stabilize (asymmetric) fluctuations in the real economy, a case which is less subject to a moral hazard critique than redistribution (section 2);

(b) that externalities, especially in the smaller, more open economies, and the insurance principle suggest that such stabilization would best be undertaken at the federal, central level (section 3);

(c) that a reassessment of von Hagen's approach suggests that the structure of existing federal fiscal systems in the USA (and the UK and Canada) does engender considerable stabilization.

In this section we turn to a criticism of (discretionary) stabilization policies, a powerful attack which was originally levied by M. Friedman. This is that the purpose of stabilization policy is to counteract undesirable fluctuations in the economy. These fluctuations are quite short-lived, and not always easy to recognize quickly. But unless the effects of such policy are in the correct direction in the majority of applications, the overall results of the attempted policy will actually be destabilizing, i.e. counterproductive.[1]

1 The conditions under which lags in stabilization policies might actually result in destabilization have been studied by a number of authors, including Phillips (1954), Baumol (1961), and Fischer and Cooper (1973). Friedman (1953) formalizes the conditions under which policy would contribute to greater income stability in a model where overall income Z(t) is the sum of two components, X(t) which is subject to cyclical fluctuations, and Y(t) which is the effect of the policy intervention. He derives a condition for policy to have a stabilizing impact in terms of the variance of the cyclical income component (indicating the 'size' of income fluctuations in the absence of stabilization), the variance of the policy intervention (indicating the size of the stabilization measures), and rXY, the correlation coefficient between X and Y (representing the timing of changes in policy, in relation to changes in income). He derives a condition for the maximum amount of timing mismatch consistent with a stabilizing impact of policy: policy will only be stabilizing if rXY is less than − 1/2 . In other words, the greater the quantitative impact of the stabilization measures relative to the disturbances to income, the greater is the importance that policy interventions should coincide with the timing of income disturbances.

Table 2

Economic activity and fiscal flows between regions and central government: models estimated in 'first differences'

Country	Sample	Dependent variable	Independent variable measuring income shocks	Effect of USD 1 increase in income (t-statistic in brackets)	Other features
USA	44 states (excluding 6 major oil producers and DC), 5 years (1982-86)	Federal income tax (returns)	Gross state product	USD 0,11	Dummy variables for years; current and lagged change in GSP
		Federal transfer payments to individuals		– USD 0,01	
		Total federal transfer payments		– USD 0,01	
Canada	11 provinces 23 years (1966-88)	Federal taxes from households	Personal income	CAD 0,12 (7,50)	Dummy variables and time trend for each state
		Total federal taxes		CAD 0,17 (7,10)	
		Federal transfers to households		CAS 0,00 (0,28)	
		Total federal transfers		CAS 0,07 (1,48)	
United Kingdom	11 standard regions 4 years (1984-87)	Income tax assessment (fiscal years starting April of each year)	Gross domestic product at factor cost	UKL 0,21	Current and lagged effects of GDP

Table 3

Analytical estimates of the impact of a 1 % increase in all incomes on household tax payments and social security entitlements, by region of the United Kingdom

	Change in household payments of income tax and national insurance contributions		Change in social security entitlements	
	Elasticity	Fiscal offset to a UKL 1 income change (in UKL)	Elasticity	Fiscal offset to a UKL 1 income change (in UKL)
North	1,455	0,32	–0,054	–0,01
Yorks./Humberside	1,447	0,33	–0,041	–0,01
East Midlands	1,447	0,35	–0,052	–0,01
East Anglia	1,401	0,35	–0,053	–0,01
London	1,341	0,33	–0,069	–0,01
South-East	1,355	0,34	–0,034	–0,00
South-West	1,419	0,33	–0,052	–0,01
West Midlands	1,431	0,33	–0,037	–0,01
North-West	1,424	0,33	–0,039	–0,01
Wales	1,409	0,33	–0,047	–0,01
Scotland	1,422	0,37	–0,040	–0,01
Northern Ireland	1,524	0,34	–0,059	–0,02
UK average	1,399	0,34	–0,046	–0,01

Source: IFS tax and benefit model simulation.

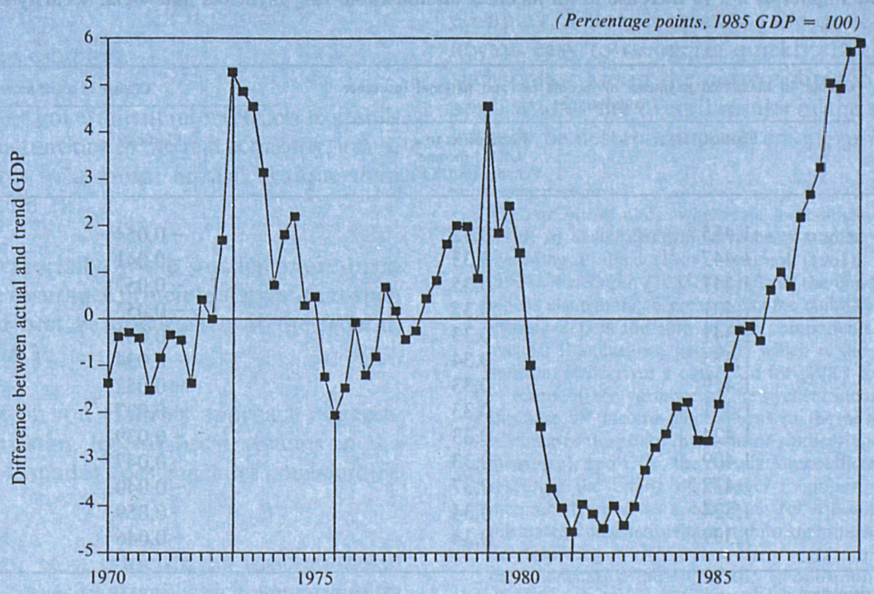
Some of the difficulties of seeking to run a (discretionary) stabilization policy can be shown graphically. Graph 1 below shows the fluctuations of the growth rate of the UK around its trend over the last 19 years. The periods of recession, in which real output was falling relative to trend, are shaded. Although the precise definition of recession is somewhat arbitrary, on any reasonable definition it would appear that these periods have been quite short, on average 10 quarters, two and a half years.

Against that we can roughly illustrate the length of lag before any discretionary policy could take effect. With the earliest data on the real economy, industrial production and the volume of external trade, having nearly a two-month average lag between event and publication, and being subject to sizeable random error, it would be optimistic to place the recognition lag at less than five months. In the UK discretionary fiscal measures are normally only introduced once a year at the annual budget. This would make the average of the recognition, plus the reaction, lag equal to nearly one year, eleven months. A change in indirect taxation can then be brought into effect immediately, but the pattern of the timing of the effect would depend on whether it was anticipated. Anyhow, the administrative costs of varying indirect taxes militate against using them for stabilization purposes.

The stabilizing impact of changes in incomes taxes seems likely to depend on two main factors, the arrangements in force for the deduction of income taxes from employee incomes at source, and the extent to which individual behaviour is affected by the accruals effect of income tax changes (i.e. the effects of changes in expected tax liabilities) prior to any effect of tax changes on individual cash flows.

Arrangements for the deduction at source of income taxes on employee earnings differ widely between the Member States of the Community, particularly with regard to the speed with which changes in taxpayer circumstances and changes in tax rates affect the levels of tax deducted. In the UK, changes in taxpayer circumstances are in general reflected in tax payments very rapidly, and the operation of exact cumulative deduction within the UK 'Pay-as-you-earn' (PAYE) system of deduction at source aims to ensure that the vast majority of employee taxpayers have paid exactly the correct amount of income tax by the end of the tax year.

GRAPH 1: **Fluctuations of real GDP around trend growth in the United Kingdom**



Individuals subject to the systems of approximate deduction at source operated by most other countries will generally find that changes in incomes from their main employer are reflected in immediate changes in tax deductions, but changes in individual incomes arising from other sources, such as periods of unemployment, may not be so rapidly reflected in the amounts of tax deducted. Moreover, both in the UK system and in systems of approximate deduction, some sources of income will inevitably only be taxed after an end-of-year process of income declaration and tax assessment. In the UK, for example, changes in earnings from self-employment and from casual second jobs which are not covered by PAYE will tend to lead to changes in income tax payments only with a substantial lag, and from the point of view of stabilization, this is not affected by the fact that some tax payments 'on account' are usually required from such taxpayers.

By contrast, variations in corporation taxes take a long time to affect cash flows, often around 18 months. So the timing of the cash flow effect of discretionary changes in corporate income taxes is highly likely to be inappropriate. It is only if the accrual effects of corporate income tax changes are sizeable, relative to the cash flow effect, that discretionary changes in corporate income taxes would be likely to have a chance of being stabilizing on balance.

Much the same can be said for discretionary changes in government transfer payments. There is the additional problem that, were such payments to be related to (fluctuations in) unemployment, the path of unemployment typically lags that of real output by about a year, using UK data. Finally, any attempt to use government expenditure on goods and services, whether for current or investment expenditure, would face such long administrative and operational delays as to be quite out of the question.

The reaction lag could, of course, be shortened if the discretionary fiscal action could be introduced at any time in the year, not at an annual budget. Even so, the organizational lags, arranging meetings, preparing and distributing papers, avoiding holiday periods, reaching agreement, etc., suggest that the minimum plausible reaction lag might be around three to four months, giving an average inside (recognition plus reaction) lag of some seven or so months. Given that the cash flow effects of changes in government expenditure/income taxes would have a further average lag perhaps in excess of one year, and that indirect tax changes would be unsuitable for this purpose, then successful discretionary stabilizing policy would seem inherently almost impossible, unless the accrual effect of such measures (i.e. the expectations effect) was large relative to the cash flow effect. We have done no research on this latter question.

Automatic stabilizers, especially if related to variables that lead, or are concurrent, with changes in real output, rather than lagging variables, such as unemployment or investment, have a considerable advantage over discretionary stabilizers. The inside lag, at a minimum in excess of half a year, is eliminated. Because they are automatic, they are more likely to be factored into expectations, and hence agents will respond to accruals rather than cash flow, than would be the case with discretionary measures (especially if the latter were in the form of grants or expenditure plans, the exact impact of which on individual agents' future incomes would be extremely hard to estimate).

A number of issues also arise about the incidence of expenditure, many of them familiar from the debate over measures of Member States' 'net contributions' to the European Community's budget. Two in particular should be highlighted — the distinction between expenditure on goods and services and transfer payments, and the irrelevance of the geographical distribution of certain types of expenditure to its final incidence.

Community expenditure on transfer payments directly augments the net income of the recipient region by the full value of the expenditure, whereas expenditure on goods and services has a resource cost which accounts for part, or in certain cases, all of the value of the expenditure to the recipient region. This distinction may not be as sharp as is conventionally drawn in national accounting if the stabilizing impact is expected to work through the effect on liquidity rather than net incomes. However, in general we would expect expenditure on transfers to have a greater stabilizing impact than expenditure on goods and services.

It is well recognized that the geographical distribution of certain existing categories of Community expenditure is irrelevant to their final incidence. Thus, for example, CAP expenditure on intervention purchases do not benefit merely the agricultural producers from whom the purchases are made, but by withdrawing a certain proportion of production from the market act to increase the prices received by producers throughout the Community. Again, this is an argument which would suggest that spending on transfers may be more effective as a regional stabilizer than Community spending on real resources.

Be that as it may, the results of our re-working of the von Hagen regressions suggest that it is the change in the flows of federal income taxes to changes in local (state/province/*Länder*) incomes which has the largest stabilizing effect.

This indicates a difficulty for the European Community. It not only derives no revenue from such income taxes, but there is also no transfer of income taxes from the national to the federal level on the present agenda (see the paper by Spahn in this volume). The present structure of the Community's expenditure and revenue involves little, or no, automatic stabilization for several reasons, e.g. the nature of the expenditure (CAP) and revenue, its small size, its balanced budget requirement. Nor does the list of additional competences on the present agenda for regular expenditure, or taxation (e.g. an eco-tax), indicate any great additional stabilization. The stabilization properties of Spahn's proposed cash-flow corporation tax would, however, depend on the relative cyclical timing of profit and investment cash flows, and this would merit further examination (which we have not had time to undertake). It is possible that investment lags the cycle further than profits, so that investment is high relative to profits in the early part of the downturn, and low relative to profits in the latter part of the recovery. If so, which needs further study, Professor Spahn's proposed tax should have excellent automatic stabilizing properties, both temporally and spatially.

Apart from this, the desideratum would be to design an automatic mechanism, which would act with certainty, to channel funds from the federal centre to any region/nation as its income and output fell below trend, in such a fashion that individual agents could factor this with confidence into their own expected future incomes. We shall consider whether/how such a mechanism can be designed, and whether it should be balanced by levies on regions/nations growing significantly faster than trend, in section 8.

6. The special financial support scheme

Against this background of (what we have argued to be) the desideratum for a desirable stabilization mechanism, to be run by the Community, we shall attempt to assess how well the proposed special financial support scheme measures up. We face the difficulty that we have little clear idea exactly how the proposed scheme would work. The accompanying paper by Majocchi and Rey on the scheme can do no more than ask a series of questions when it turns to an analysis of its operation in its penultimate section 12.

Even so, their questions, and proposed answers, would suggest to us that the scheme, as presently considered, would be of relatively limited value, as a pure stabilization mechanism, whatever its other economic and political values may be.

Majocchi and Rey suggest that it should be discretionary (12a and g) (i.e. with a long inside lag); dependent on a careful examination of whether the shock in question was 'exogenous' (even longer inside lag) (12d), in the form of conditional block grants to nation States (12c, e and f) so that no individual agent could confidently factor in any additions to his/her own expected future incomes, and of a strictly limited, predetermined form (12d). Moreover, any sizeable conjunctural convergence facility would be, they suggest, too heavy a burden on the Community if made in the form of grants, but 'is only conceivable as a credit facility'. Hence the only benefit to the recipient would be the interest differential. Given the proposed conditionality requirements, it is doubtful to us whether nation States would apply until they had already suffered a sharp decline in living standards.

Perhaps this latter may appear for some as a merit of the scheme. But for us, the restricted nature, the structure, and above all the long inherent lags in the proposals outlined by Majocchi and Rey make the scheme of relatively little value for pure stabilization purposes. They do recognize the problem of lags, but, although their proposal in 12g is both original and ingenious, it would still fail to limit the inside lag.

This criticism of the scheme, as outlined by Majocchi and Rey, as a stabilization mechanism does not, however, mean that it might not have other advantages from other points of view justifying its introduction.

7. Common shocks to the European Community

In the main we have explored the possible role of the Community in response to asymmetric shocks affecting nation States differently. This is largely because the disappearance of national autonomy over monetary/exchange-rate policies, combined with the growing openness of the national economies, raises new and difficult problems for the stabilization of fluctuations caused by asymmetric shocks at the regional/national level.

Nevertheless, it will also be useful to examine how the European Community might best respond to symmetric shocks, i.e. those facing the Community as a whole. In this respect the unusual feature, of course, in the European Community is that the European Community's aggregate fiscal position is overwhelmingly determined by the budgetary decisions of the subsidiary national governments, rather than that of the federal centre, unlike the case for all other federal countries and all unitary States (for data see the paper by Schneider in this volume). There is no question, at present, of any sufficiently massive shift of fiscal competences to the federal centre to change this position radically. Hence any attempt by the federal centre to provide a stabilizing fiscal mechanism for the Community as a whole (rather than particularly hard-hit nations/regions) would not only cause massive fluctuations in its overall deficit/surplus, but could also be counterbalanced by a shift in national budgets which the federal centre might not be able to monitor or control.

Consequently, in our judgment, the thrust of the Commission's role, with respect to stabilizing common shocks and fluctuations, should be primarily one of coordination of national policies rather than of direct fiscal action. In this respect there are two associated problems. The first is the achievement of an appropriate aggregate policy mix between monetary and fiscal policies within the European Community. With the ESCB conducting an independent monetary policy, targeted primarily on the achievement of price stability, variations in aggregate EC fiscal policy will not only have implications for the level, and composition, of real output and expenditure, but will also influence domestic European interest rates and exchange rates. Meanwhile, of course, such rates will also be influenced by policy decisions taken in the USA and Japan. An increase in the European budget deficit, given the ESCB's monetary policy, would in general be expected to raise interest rates and the exchange rate (of the single currency, or irrevocably linked currencies).

A mundane, but essential, technical question will be to agree on common statistical definitions so that harmonized estimates of the aggregate European fiscal position can be made. Then, given the independently determined outlook for monetary policy, national fiscal forecasts can be fed into the Commission's Quest model, and simulations produced of the effect of fiscal variations. In view of well-known problems with all such models, and simulations on them, the Commission would maintain, no doubt, a judicious scepticism. Nevertheless it will surely have to provide, presumably to the Council of Ministers, a view on whether the prospective aggregate outcome for fiscal policy should be tightened, or relaxed; and set out its reasons.

The second problem is that different countries will have differing models and appreciations of the world. Some of the problems this causes have been examined by Frankel and Rockett (1988). Depending on their view of how the economic system works, finance ministers will generally set their own budget as they think appropriate, and then argue that other countries should tighten, or relax, as best suits their own national interest. Accordingly, when the Commission, or some group of experts to which they delegate this task, such as Professor Moesen's Belgian Committee for the Financing Needs of the Nation, comes to a view about the appropriate aggregate fiscal adjustment, it will generally find that some, possibly even a majority, of national ministers and officials may challenge that view. Moreover, each will argue that their own fiscal position is not only optimal, but hardly capable of any change. Finally, if it comes to be expected that the European Community will eventually require some given fiscal change from them, each nation will tend to pad its reported *ex ante* position, so that their prospective *ex post* position is still 'optimal'.

It should be noted that the 'binding rules' called for by the Delors Committee, and the guidelines under consideration (e.g. on maximum debt ratios), in order to ensure solvency and to avoid potential financial crises and bail-outs, are conceptually entirely separate from the need for coordination of national policies to achieve the optimal fiscal/monetary mix. Given that a particular country's deficit is within the agreed limit for solvency purposes, there is no particular merit in achieving an aggregate tightening for conjunctural purposes by trying to force the countries with the largest deficits to do all the adjustment. It will all depend on national circumstances, such as the national private sector balance between investment and saving. As already remarked, an overall fiscal tightening in the European Community in, say, 1989, had that been desired, should, with the benefit of hindsight, have been imposed largely on the UK, even though the UK was then in substantial fiscal surplus.

Who should adjust will depend on circumstances, but each individual country will claim that they have got exactly the right fiscal positions for themselves, and it is the other countries, or the Commission, which has got it wrong.

The simplest approach is to rely on mutual surveillance and peer pressure, perhaps backed up by penalties (NB: the same problem will need to be addressed of how to deal with those who do not abide by the rules of thumb for solvency).

The precise form of the penalties will need some careful consideration. Reductions in payments on regional structural programmes, or even the CAP, would adversely affect particular communities unfairly, and would not be effective in relation to countries receiving few such payments. The present (draft) Treaty on EMU instead envisages cash penalties, e.g. in the form of non-interest-bearing deposits, of various kinds. Whether such penalties would be effective and/or acceptable to Member States remains to be seen.

Presumably the first step would be for the Commission to provide aggregate European data, and seek to reach a conclusion with the Council of Ministers whether the aggregate fiscal position needed changing. That might prove relatively easy. Then would come the problem of deciding who should adjust and by how much. As already noted, each national minister is likely to stand his/her ground. One option is equal misery (% change) all round, but, as earlier noted, this may lead to strategic game playing at the national level. Another option is to publish the analysis, both of the Commission and of the Member States, of which countries should adjust, and why, and then rely on public pressures, though, given the tendency of any country's press to follow its own government's line, we are not sanguine that 'public pressure' would amount to much.

In any case we tend to see such overall coordination as having much more to do with medium-term issues of allocation than with conjunctural stabilization. The inside lag in any such process of mutual surveillance would be extremely long, probably measured in years rather than months. For the reasons already set out at some length in section 5, this would prevent any such (discretionary) system from having a successful stabilizing role. For such stabilization the European Community would have to rely mainly on the automatic stabilizers built into national fiscal policies, and the stabilizing effect of the stable monetary policy of the ESCB.

8. Stabilization of asymmetric shocks

8.1. Some principles

It may be helpful to reiterate some general principles. To operate effectively as an automatic stabilizer, the marginal net fiscal contribution (i.e. marginal tax payments or marginal expenditure benefits) of individual regions with respect to a deterioration in some cyclical indicator (such as income, income growth, or unemployment) should be substantial and immediate. The magnitude of the effect is of particular importance in the context of the present discussion, since a large contribution from the chosen instruments would ensure that stabilization objectives could then be achieved with only a limited transfer of policy functions to Community level. The immediacy of the stabilizing effect is a more generally-recognized requirement; significant lags in the stabilizing flows could actually increase the amplitude of cyclical fluctuations, and could thus be destabilizing.

Judgment about which fiscal instruments would be more effective as automatic stabilizers require a prior view about the channels through which income flows are assumed to stabilize fluctuations and divergences from the trend in regional income growth. There are broadly two possible mechanisms:

(i) One view would be that the stabilization arises through the effect of the fiscal transfers on individual incomes and hence on consumption, although the impact on permanent incomes may be trivial, and hence the propensity to consume out of the transfers may be small.

(ii) An alternative view would be that the stabilizing effect arises primarily because of the effect of the fiscal transfers on individual liquidity, and the relaxation of some otherwise binding constraint on individual consumption. In this case the key effect of the transfers is on the cash flow of otherwise constrained individuals, who may be only a small proportion of the population, and effective targeting to this group will be important.

For an automatic stabilizer to be effective it should make a substantial marginal contribution to the incomes of regions which are experiencing a cyclical deterioration in income or employment prospects; the average contribution of different instruments is irrelevant from the point of view of the stabilization properties of individual fiscal instruments. Whilst assignment of instruments where the marginal net contribution is substantial can in principle therefore be consistent with any overall pattern of net contributions to the Community's budget, in practice, unless explicit political agreement is reached on a pattern of lump-sum transfers related to — and offsetting — net contributions, the pattern of total net contributions will be a function of the instruments assigned to Community level.

Against this background we may examine the stabilizing properties of individual spending and revenue functions.

8.2. Stabilizing properties of individual spending and revenue functions

What expenditure and revenue functions would in practice be likely to have a stabilizing effect between the regions of the Community, if assigned to the Community level of government?

8.2.1. Spending on goods and services

Spending on non-transfer items seems to be an unpromising area for stabilizers. Although average levels of health, education and social services expenditure all vary with the level of incomes of regions, the variations are small, and the reasons for expecting variations are not such as to suggest that spending would necessarily vary in line with changes in the economic performance of particular regions. Health spending, for example, may be income-related, but this may reflect the impact of poverty on health over a long period;

other areas of spending may vary with income for cultural or social reasons which are unlikely to change in response to short-term income changes.

8.2.2. Spending on transfer payments

Spending on transfer payments can be divided into means-tested transfer payments, where the amounts paid out reflect an assessment of the recipient's income, and contingent payments, which are payments made to individuals in certain circumstances (unemployed, retired, etc.) without regard to their income. Both types of payments will obviously be closely related to changes in individual incomes (especially at the income levels close to the 'means test' limit), whilst certain contingent benefits such as unemployment benefits are closely related to other, non-income, cyclical indicators.

A major problem, however, with assigning low-income or unemployment benefits to Community level is that the criteria for eligibility for benefit and/or the level of benefit paid out currently vary widely between Member States, reflecting differences in average income levels and a relative rather than absolute view of the poverty line. The differences in income levels between Member States are in some cases larger than differences in income within Member States, and it is difficult to see how means-tested benefits could be paid out across the Community according to the same poverty means-test. Equally, the amounts paid in contingent benefits vary depending on average income levels, and a uniform Community benefit level would provide lower support relative to current levels in high-income areas of the Community, or higher support in poorer areas. In the case of these benefits, however, there may be some scope for Community payment of some form of uniform 'baseline' benefit, which Member States could then choose to top-up to existing benefit levels, if they wished.

A further problem with transfer payments related to unemployment is that this variable lags movements in incomes and output by perhaps as much as a year, and hence is less suitable as a pure stabilization mechanism (section 5).

8.2.3. Taxes on companies

The incidence of taxes on companies is less clear, and the potential stabilizing effect of such taxes is harder to assess. Indeed, as far as taxes on corporate income are concerned, it is becoming clear that one of the strongest arguments for assigning revenue to the Community level is precisely the difficulty of attributing revenue to any particular geographical area.

Even so, we think that further study of the stabilization properties of Spahn's proposed cash-flow corporation tax would be warranted.

8.2.4. Taxes on individuals

The potential value of taxes on individuals as an interregional stabilizer with respect to fluctuations in income can be directly 'read off' from the distributional incidence of the tax across income groups. Taxes with a more progressive incidence will in general have a greater value as an automatic stabilizer. This suggests that taxes on individual incomes would be more effective as stabilizers than taxes on individual expenditure, if individual consumption decisions smooth out temporary fluctuations in income. Taxes on individual incomes, moreover, will be more effective as stabilizers the higher the marginal rates faced by taxpayers are.

8.3. Some problems with using income taxes as automatic stabilizers at the federal level

Although the above discussion implies that income taxes may well provide the best automatic stabilizers, there are a number of serious problems that are likely to prevent them being used in this way at the Community level.

The first, and main, problem is that other considerations, political and economic, would seem to rule out any transfer of the competence to tax incomes to the federal centre. It is not on the agenda.

An alternative, however, is to make a transfer of funds, e.g. an unconditional block grant, from the federal centre to the region, or nation, when an index of aggregate real incomes/output falls below some trigger point.

An initial problem with this alternative, which has already been discussed in section 4, is measurement error. We want to relate federal flows of fiscal funds to the change in national/regional incomes. The first difference, the change, in national real incomes is measured with a large range of error, especially initially, which would be when the stabilizers should be activated. As noted earlier, the proportionate measurement error in the calculation of regional (state/province) real income changes is probably very much higher.

Moreover, there appears, in the past, to have been some tendency for a downwards bias to appear in the initial estimate of real income/output made by cautious statisticians, e.g. in the UK's Central Statistical Office (CSO). If a sizeable block transfer were to be made, should incomes have appeared to have declined sufficiently at the initial estimate, it would place great pressures on the statisticians, with subsequent accusations when, and if, initial estimates were revised.

In any case there remains a considerable lag, of several months in the UK, and much longer in countries such as Greece, before initial estimates of real income become available.

Once again, we need to look for an alternative. The need is to find an indicator whose fluctuations provide a close proxy for cyclical variations in real output, and whose measurement is accurate and quick. At least two such measures have been suggested from time to time in the literature, electricity usage and usage of telephones. We can think of several problems, but we wonder whether a decline of a significant (exact measurement to be decided) extent below the previous trend rate of growth of such an index might provide a quick and verifiable measure of a sufficient downturn in economic activity to act as a trigger for a stabilizing transfer.

If such an indicator were to be used, it is doubtful whether any available regional division (e.g. the Electricity Board Areas in the UK) would coincide with the boundaries of economic regions, as defined for the Community. On general principle we would prefer to relate any automatic stabilizers to regions within the European Community of approximate equal population size (and roughly equal probability of being a recipient). The problems of measurement, administration and distribution, however, lead us reluctantly to the view that the local unit for the purpose of measurement, etc. would have to be the nation State. There would, of course, be problems when a nation State changes its boundaries, e.g. with German unification, but we shall ignore these for the time being.

Since the fiscal assistance, e.g. a block grant, would flow to the nation State, rather than the individual agent, it would at this stage have little or no effect on private-sector behaviour. People could not see what implications this would have for them. We would therefore suggest that any countries wishing to join this insurance scheme (and we see no reason why it should not be made voluntary rather than compulsory) would have to establish and publicize in advance exactly how they would redistribute any such Community funds to their own people. An equal lump-sum transfer to each taxpayer (or resident) would probably lead to the highest propensity to consume, and be fair; but again countries could decide on their own preferred schemes. The desideratum would be for the transfer to represent an assured, early augmentation of individuals' expected future incomes. (The payment of a lump-sum to each pensioner in the UK when the weather gets too cold, in order to meet extra heating bills, provides a rough model of this kind of scheme.

8.4. The financial implications of a stabilization scheme

If there was to be a scheme whereby funds from the federal centre were to be transferred to nations suffering declines in incomes (subject to the above measurement problems), there would be a sizeable potential net drain on EC finances. This would depend on the generosity of the scheme (the number of nations voluntarily joining) and the degree to which an adverse shock was common, or asymmetric.

There would be various ways of meeting the (econometrically) estimated probable call on EC funds for this purpose.

(i) To impose a countervailing levy on all (joining) countries whose index of real income growth rose by an equivalent extent above its previous trend. Again, the amount of the levy would be required to meet the Community's estimated average need, but how the individual country would finance it could be left for them to decide. This would not necessarily balance the books (e.g. if the European Community faced a series of common adverse shocks, or if the large countries had adverse shocks and the small countries beneficial shocks), but the expected value could be made to balance over time. Indeed, the expected value could even be made slightly positive (NB: insurance companies aim to make net profits). Even so, there would still be large cyclical variations in the EC budget on this account, but this is virtually a *sine qua non* of any effective stabilization scheme.

(ii) To finance the expected average usage of funds to meet block transfers to countries with declining incomes by raising some other existing tax, or cutting some other expenditure, e.g. the CAP. This would not have as much stabilizing effect as (i), which would offset booms as well as slumps. It would also still result in large cyclical swings in the EC budget.

(iii) If the prospective fiscal burden on the European Community, in response to an adverse common shock, was adjudged to be too great, then a scheme could be reorganized so as to benefit, say, the worst performing n countries (n equals one or two, perhaps). Thus each nation measures its real income growth relative to trend, and the n countries with the worst current record (and below trend growth) receive the transfer. This procedure is somewhat similar to that proposed by Majocchi and

Rey for the special financial support scheme. This would reduce the extent of potential stabilization, but also the call on the EC budget, though if the n country recipient(s) were large, e.g. Germany and France, the call on the EC budget would still be temporarily heavy.

9. Conclusions

Rigidities in EC labour markets, and externalities at the national level, make the provision of stabilization mechanisms at the federal level valuable insurance against cyclical fluctuations. Our reworking of von Hagen's exercise has persuaded us that existing federal fiscal systems (e.g. the USA) do provide a worthwhile element of such stabilization.

The standard vehicle for such stabilization in federal countries is the provision of automatic stabilizers via the federal income tax. We doubt whether any such transfer of income taxes to the federal level is on the agenda for the European Community. There appear to be strong political and economic arguments against redistributive mechanisms in the European Community, of which a common income tax would be a prime example.

This means that any stabilizing mechanism for the European Community needs to be developed on an *ad hoc* basis. Because of the relatively short length of downturns, such a mechanism must act fast, preferably automatically, to be effective. Indeed the main problem in devising such a scheme may well be that of coping with measurement errors. A rapid, verifiable, relatively accurate measure of fluctuations in real incomes is needed. Given that, the next requirement is that the fiscal transfer from the federal level to the recipient unit (probably the nation State) needs to be capable of rapid, and assured, translation into an easily calculable effect on individual incomes. On all these counts, the special financial support scheme, as outlined by Majocchi and Rey, has serious deficiencies as a stabilization scheme, whatever its other merits.

We have, in this final section, tried to outline a preferable alternative scheme. Measurement problems still certainly exist. Moreover, any effective stabilization scheme must, by its very nature, imply large fluctuations, between deficit and surplus, in the European Community's budget. Nevertheless, given the will, we believe that a practical and beneficial stabilization scheme could be designed within the parameters that the Community will wish to operate, i.e. without a federal income tax.

Appendix A

A retrospective on the MacDougall Report

Introduction

At the time of this report (1977), Community institutions' current expenditure amounted to about 0,7% of Community GDP, of which the CAP accounted for about two thirds. Not only was the overall budget very small, but its structure was such that it hardly had any redistributive stabilizing effects. The MacDougall Report commented: 'The Community's present finances achieve by contrast, only a very small redistribution. Expressed in the same terms as the foregoing example the Community's budget in 1975 is estimated to have had a 1% redistributive power, i.e. one fortieth of the average found in maturely integrated economies. Budget expenditure totalled 6,6 billion u.a. this year; its weak redistributive power, per unit of account, in relation to the preceding example reflects the fact that the European Agricultural Guidance and Guarantee Fund has specific sectoral objectives, with only an incidental inter-Member State redistributive effect (of 0,5% 'redistributive power'). The Regional and Social Funds have more explicitly redistributive powers of only about 0,25% each.'

The report expressed the hope that some savings could be made on agricultural expenditure!

Since then the EC budget has barely increased in size, relative to Community GDP, standing now at just over 1% of GDP. Although the proportion of such budgetary expenditure represented by agriculture has fallen, it still takes over half (projected to be 54% in 1991) of all such expenditure.

The EC budgetary position as found by MacDougall in 1977 has not changed materially since then, although the size and extent of the Structural Funds has increased. The report considered this situation inappropriate, even in a state of 'pre-federal integration' prior to monetary union, and likely to jeopardize the success of any subsequent monetary union, unless drastically revised.

The gist of their recommendations for the 'pre-federal integration' phase was as follows.

'A major part of the work of the Study Group has been a thorough study of public finance in various federations and unitary States. Financial relationships between levels of government and the economic effect of public finance on regions within countries merited special attention.

Based on this analysis, the theoretical literature on 'fiscal federalism' and given the political will for further economic integration (falling short, however, of monetary union), certain changes in Community expenditure and revenue during the 'pre-federal integration' phase are suggested, particularly extension of expenditure on structural, cyclical, employment and regional policies through more participation in regional policy aid, and in labour market policies, a Community unemployment fund, a limited budget equalization scheme, cyclical grants to local or regional governments and a conjunctural convergence facility. The net cost of these suggestions would lead to a rise in the Community budget from its present 0,7% to around 2 to 2,5% of Community GDP.

For more ambitious plans the Community budget would have to be extended by far more to provide sufficient geographical equalization of productivity and living standards together with cushioning of temporary fluctuations, in the absence of which monetary union in particular would be unattainable'.

Whereas the Group saw cogent arguments for greater Community involvement in stabilization policies even in this phase, based on possible economies of scale in such involvement and on spillover (or externalities) arguments, they were convinced that a far more ambitious system of EC transfers with a budget amounting to some 5 to 7,5% of Community GDP (raised further by some 2,5 to 3% if defence became a Community responsibility) would be necessary for the successful attainment of monetary union.

There is, however, a remarkable inconsistency between the advice that has been given by a sequence of economists on the appropriate role for the EC budget with regard to stabilization policy, and actions taken so far and currently under serious discussion in this respect. In particular none of the proposals of the MacDougall Report (1977) have been implemented. The Community is now proposing to move to full monetary union without even establishing those fiscal changes regarded by MacDougall as a necessary precondition in the 'pre-federal integration' period, in which Community finance might play some part in stabilization and growth policy, let alone the 'small Community public sector', which they saw as providing 'the necessary public finance underpinning for a monetary union'.

Thus they wrote, when specifically considering stabilization policy, in section 4.2:

'Stabilization policy

The Group has reflected on whether in the period ahead there is a plausible role at the Community level, beyond the important subject of coordination of national macro-economic policies, for fiscal stabilization policy; stabilization here meaning the control of short-term and cyclical fluctuations in economic activity.

The prima facie case for an increasing Community involvement in the general regulation of economic activity is based on the increasing interdependence of national economies, through increasing trade, capital flows, and internationally transmitted inflation. The more open the economies of Member States become in all these respects, the less effective national instruments of economic policy become. Multiplier effects on internal demand of tax or expenditure changes are dampened by a high propensity to import. The presumed remedy is to pursue the objectives at a 'higher' level of government with a broader jurisdiction encompassing major spillover or leakage effects, either through coordination or direct fiscal action.

However, any proposal for direct fiscal action for this purpose at the Community level encounters two major issues, the interrelation with monetary policy, and the question of how to achieve an adequate scale of operation.

There is a close and necessary connection between fiscal and monetary stabilization policy in any economy, and this would be true also at the Community level. There are major links between the public-sector deficit and its financing on the one hand and the external balance on the other. Because of its monetary repercussions, the harmonization of budgetary policies between member countries, in particular of public-sector deficits and borrowing requirements, has an important role to play in assuring a consistent pattern of intra-Community current account balances and capital flows. In this sense a Community fiscal stabilization policy is a key element in any programme for European monetary integration. At the same time the link between fiscal and monetary stabilization policy implies that proposals for fiscal anti-cyclical actions at the Community level will become fully effective only to the extent that it will be supported by a Community control over monetary conditions.'

Furthermore the report noted that: 'The difficulty for a country which joins with others in a common market and common monetary system without a developed central system of public finance, therefore, is that, like a region or federal State within a developed economy, it cannot use trade barriers or currency devaluation to help it to adjust to, for instance, a fall in demand for its exports or a rise in the price of its imports, nor does the built-in stabilization produced by its public finance system carry with it a built-in financing of the import surpluses which stabilization of income may cause. If internal activity is to be in some degree stabilized, pending either a structural adjustment of the economy to its changed circumstances or an autonomous reversal of the original cause of the trouble, then the country, unless it started with a sufficient export surplus, must be able to borrow from abroad or to draw on reserves. If it cannot do so then employment cannot be maintained; it has to be reduced, perhaps to something like the proportion by which export earnings fall short of import expenditure'.

They claimed that an EC budget of 5 to 7% (excluding defence) could be so designed to provide equivalent equalization and stabilization functions to those enjoyed by existing federal countries, such as the USA, Canada and Germany, with a large public-sector federation. This could be achieved by concentrating on fiscal measures with strong stabilizing and redistributive properties. They noted that:

'A federation with these special characteristics would facilitate creation of a monetary union. Existing national federations enjoy such union internally, and its maintenance is powerfully assisted by the largely automatic equalizing and stabilizing interregional flows through the channels of federal finance. In the view of some members of the Group the necessary public finance underpinning for the monetary union could be achieved with a small Community public sector, having the special characteristics that we describe. Other members, while agreeing that in these circumstances monetary union would become a much more practical possibility than it is at present, feel unable to be so confident that it would in practice be feasible and sustainable, partly because there is no relevant historical experience to help form a judgment.'

Virtually no progress has been made in implementing the recommendations of the MacDougall report. However, this has not been because the economics profession has rejected the arguments put forward in the report. Admittedly there is a greater preference, now than then, for relying on market mechanisms and eschewing attempts at discretionary demand management and stabilization policies. Indeed, we have used some of these arguments in our main paper to argue against discretionary decisions, subject to the need for a bureaucratic/political process, as a basis for the allocation of stabilization funding. But there is still strong support within the profession for the operation of automatic stabilizers.

Economists from the USA, e.g. Eichengreen (1990a and b) and Sachs and Sala-i-Martin (1989 and 1991) have noted that such automatic transfers offset some 35% or so of shocks to primary incomes in the USA, and have wondered how the European Community will cope without such automatic stabilization. The MacDougall report had noted that the average extent to which interregional income differences were reduced by central or federal public finance in a range of both federal and unitary States was 40% (Table 2, p. 30) and they sought to design their small public-sector federation, so as to achieve this with the smallest possible transfer of explicit expenditure/tax responsibilities to the federal centre. They did so by concentrating on mechanisms which would involve the largest possible stabilization/income transfer effect per ecu flowing through the federal centre.

As already noted, the arguments advanced by MacDougall have been echoed by subsequent economists. Van der Ploeg (1991a, also see 1989 and 1991b) writing on macroeconomic policy coordination during the various phases of economic and policy integration in Europe, stated, on p. 144, that:

'There is a danger that politicians will go along with the idea, advanced by the Delors Committee, that there should be constraints on too high budget deficits, where 'too high' presumably means that there is a danger that deficits get monetized and thus that there is a threat to monetary and exchange-rate stability. Budgetary stances, once corrected for full employment, are then likely to be pro-cyclical under the EMU. These are the main reasons why in the presence of asymmetric real shocks a float is to be preferred to economic and monetary union or, to a lesser extent, the EMS. The case for a float is convincing (as Mrs Thatcher repeatedly seems to suggest) when shocks consist of shifts in preferences, but if nevertheless the traditional advantages of a greater common currency area are large enough to warrant the move towards EMU then another form of policy adjustment must be used.

One possibility is that the establishment of an economic and monetary union must go hand in hand with the establishment of a European federal transfer scheme (EFTS), perhaps not unlike the system envisaged by the MacDougall Report of April 1977. The political merits of an EFTS should be clear, because it ensures an equitable distribution of the gains and losses of EMU, it responds to basic citizenship rights of people living in EMU, and its fits in with the principle of horizontal budgetary equity. It also fits in with the principle of subsidiarity, because the job of arranging such transfers can not be left to individual governments. The task of the EFTS is to make exchange-rate changes unnecessary by transferring income from one country to another country when there are such shifts in preferences (e.g. Sachs and Sala-i-Martin, 1989). In practice, the scheme operates by transferring income from individuals of one nation to individuals of another nation and replaces, to a certain extent, the national unemployment compensation schemes. One could envisage a Community-wide tax, which in itself would act as an automatic stabilizer whose proceeds are used to finance a Community-wide unemployment compensation scheme. It is crucial that such a version of the EFTS is budget-neutral. To be more precise, the budget of the EFTS should be intertemporally balanced so that taxes are smoothed and that in time of a boom debt, which was accumulated in time of a recession, is paid off. It is a pity that the Delors Report does not contain any recommendations for the establishment of the EFTS, because without it regional imbalances induced by shifts in preferences may persist (for example, initial estimates suggest that one third of State-specific shocks in the USA seem to be cushioned by federal transfers).'

Similarly, Van Rompuy, Abraham and Heremans (1991) in their paper on 'Economic federalism and EMU' wrote in their section D on 'The macroeconomic stabilization function' (pp. 112 and 113) that 'Lower-level governments will have no incentive to use fiscal instruments to stabilize the overall economy. The reason for this lack of interest lies again in the externalities that result from the use of these policies by small and highly open economies. The more the benefits, if any, of the regional stabilization efforts spill over to other regions, the smaller the incentive for the regions to use them since they have to bear the full burden in terms of higher debt or tax rates. The situation is similar to the familiar prisoner's dilemma, which is typical for non-cooperative game settings, The way out of this dilemma is a coordinated stabilization policy. The costs of coordination in a system containing a large number of jurisdictions, each characterized by different economic conditions, may be prohibitively high. In these circumstances, the failure to reach a cooperative solution will lead to the assignment of the macroeconomic stabilization function to the central government. In this case, a federal stabilization function necessitates the exclusive use of some fiscal instruments in such a way that it cannot be disturbed by the independent action of lower-level governments. This may require explicit agreements between the federal, state and local level in order to guarantee the efficiency of the federal stabilization policy'.

We can produce a long list of further economists who claim that fiscal stabilization measures are highly desirable in a unified economy and that these are best done at the central, federal level, for the reasons already set out. These included Branson (1990), Buiter and Kletzer (1990), Giovannini and Spaventa (1991), Wyplosz (1991), Masson and Melitz (1990), Melitz (1991). On this issue the economics profession is largely united. Yet practically nothing has been done, and what has been done in the form of structural policies has been poorly designed, at least for stabilization purposes.

These structural policies have mainly taken the form of specific purpose grants, e.g. for infrastructure investment in poorer countries. The MacDougall report criticized such a system of grants, regarding them as distinctly inferior to general-purpose equalization grants and transfers. Thus, they commented , on p. 42, 'As to the efficient number of specific-purpose grant schemes, the evidence from the United States (which had over 400 such programmes) and France (whose regional and local government finances have about 150) is that there is a definite limit beyond which the system as a whole may degenerate into a game of 'grantsmanship' for the recipient government; from the donor's point of view, it becomes a complex web of partially contradictory and overlapping incentives whose effect are very difficult to monitor. The corrective solutions, seen in the countries mentioned, appear to consist of either consolidating programmes into broader categories, or replacing them by general-purpose equalization grants'.

There is another, even more important reason why such specific grants cannot function as an effective stabilization device. This is that the various lags involved, between the shock and its recognition, the recognition and the political decision to respond and the decision and the actual disbursement of the funds are so long that the exercise would be of little use to counteract a temporary, cyclical downturn.

But it is in such instances of short-term, temporary adverse shocks that stabilization is most desirable, since in the case of permanent shocks the need is for adjustment, which stabilizing transfers may delay. Indeed we wonder whether the main objection preventing the adoption of (automatic) fiscal stabilizers at the federal centre, besides a generalized national political disinclination for any further transfer of (fiscal) powers and competence to the federal centre, is the tendency for fiscal stabilization measures to be closely intertwined with redistribution between regions. Whereas (automatic) stabilization is still widely regarded as beneficial, redistribution is now seen as much more problematical by economists and politicians. There are strict (political) limits on the extent of, potentially unending, fiscal flows that richer regions (nation States) are prepared to make to the benefit of their poorer neighbouring regions (States), a reluctance that increases with cultural, geographical distance. The receipt of such continuing transfers tends, it is argued, to lead to a welfare mentality, and evidence that such happens is presented for the Canadian maritime and Italian Mezzogiorno. Meanwhile the higher marginal levels of taxes in the richer regions adversely affect incentives, etc., while the high and continuing levels of transfers (e.g. on unemployment expenditure in the poorer regions) make it more difficult to achieve overall fiscal stability in the aggregate budget.

Redistributions

Certainly the main objections to the policies put forward by MacDougall, and others, largely to achieve stabilization have been aimed at their redistributive implications. Thus van der Ploeg, on p.144, commented that 'The reasons for this reluctance to recommend an EFTS is that there may be strong incentive arguments against an EFTS, because unemployed individuals are then even less likely to pack their bags and find a job elsewhere in Europe and individual governments are less likely to pursue a rigorous and effective unemployment policy. In other words, an EFTS signals to the bargaining process that real wages can be kept high, provides an invitation for free riding on European funds, and gives a fiscal incentive for government failure. There are strong arguments against an EFTS to do with moral hazard and sometimes with adverse selection. They must be taken seriously, but at the same time it must be realized that they can be rallied against national unemployment compensation schemes as well. Most of these incentive problems can be overcome by changing the rules of national schemes in such a way that benefits are only handed out to the unemployed who at the same time have the duty to accept a job even when the job is not in his or her field of training (not unlike the Swedish model). If necessary, the schemes can then provide top-up payments to provide an acceptable standard of living. Obviously, the EFTS should be subject to similar rules of the game' (see also Begg, 1991).

Against this background, let us look at some of the proposals for specific stabilization mechanisms, to be adapted by the Community, made earlier in the MacDougall Report. They made three main suggestions for countercyclical policy. The first of these, a 'conjunctural convergence facility' rather akin to the present special financing scheme, has already been discussed in the main paper.

Their second suggestion (on p.16) was 'A Community unemployment fund on the lines suggested in the Marjolin Report under which part of the contributions of individuals in work would be shown as being paid to the Community and part of the receipts of individuals out of work as coming from the Community. This need not necessarily involve any increase in total public expenditure or contributions in the Community as a whole. Apart from the political attractions of bringing the individual citizen into direct contract with the Community, it would have significant redistributive effects and help to cushion temporary setbacks in particular member countries, thereby going a small part of the way towards creating a situation in which monetary union could be sustained'.

Unemployment benefits are frequently criticized as subject to moral hazard. In order to try as best as possible to counter that criticism, the benefit might be of a fixed, common amount throughout the Community (equal, say, to the average benefits now paid in Greece and Portugal), and should last only for a designated length of time, say 18 months. Member States could add their own further benefits on top of the Community payments as they chose. Meanwhile, the payment to the Community from workers' contributions would be in proportion to their wage/salary payments.

The third main kind of transfer, for stabilization and income equalization purposes, proposed by MacDougall, was some form of general-purpose equalization grants and transfers. These aim 'to enable state levels of government to provide adequate standards of public services in the areas for which they are responsible without forcing the poorer states to impose significantly higher tax burdens, and without depriving state governments of the freedom to manage these services according to their own preferences. For example, different regions may give different degrees of priority to certain categories of public expenditure, have different preferences as to how to organize certain public services and so on, and these are left open for the state authorities to handle. However, the "fiscal capacity" of the states is affected. (Fiscal capacity is defined for this purpose as the amount of tax revenue that would be yielded in a given state through applying a given tax system, plus the revenue it receives from federal grants.) In the relatively similar family of systems used in Germany, Australia and Canada grants or transfers are made so as to raise the fiscal capacity of poorer states up to a politically decided standard — 100% of the national average in Canada, and the standard of the two dominant and wealthiest states in Australia. A standard of 97% of the national average is reached in Germany under quite different constitutional arrangements (see below).

The economic function of these systems, apart from their formal public finance role, may be seen as (a) preventing excessive flows of migration that can be induced, in homogeneous and mobile societies, by sharp differences in local taxation or public service levels, and (b) providing an element of broad interregional redistribution with respect to the economic fortunes of the union. In Australia in the pre-war period, and in Canada from the outset of the confederation to the present day, the fiscal equalization systems, or their more *ad hoc* antecedent systems, have played quite prominent parts in the formation and holding together of the unions.

The German equalization system has particularly interesting features. It is in three parts. The first element is built into the sharing between *Länder* of their part of the value-added tax (VAT). A certain amount of VAT revenue is allocated not according to the *Land* of tax collection or its incidence, but by a formula which brings the poorer *Länder's* fiscal capacity up to 92% of the per capita average of all *Länder*. The second element carries per capita fiscal capacity equalization to the 95% minimum level. This is achieved not by federal grants (as mentioned, the Bund does not have as large a fiscal surplus as other federations) but by direct horizontal financial transfers from the richer *Länder* (Hamburg, Baden-Württemberg, etc.) out of their own fiscal resources to the poorer *Länder* (Saarland, Schleswig-Holstein, etc.); this is known as the "Länderfinanzausgleich" (state financial compensation). The third element consists of supplementary grants ("Ergänzungszuweisungen") from the Bund which have the effect of bringing the poorer *Länder* up to approximately 97% minimum per capita fiscal capacity compared to the average of all *Länder*.

The horizontal form of the "Länderfinanzausgleich" payments, which do not enter into the federal budget, compares with the more usual vertical form, as in Australia, Canada and the United States, where the federal level makes grants to the State level. The two forms can, however, give precisely the same results; the choice is a question of political preference or constitutional convenience. The horizontal form is the most transparent, which is an advantage for ease of analysis; even in Germany, however, only a part of the system takes this form'.

These cyclical general-purpose local grants could be 'related to regional unemployment levels and trend indicators. In the Community case this might be an automatic mechanism obeying quantified criteria (e.g. regional GDP per capita and regional unemployment trends). An advantage of dealing with regions rather than whole Member States is that it avoids taking the large Member States in their totality; but the grants would, presumably, have to be related to Member States' local government financing system, which could raise some further problems'.

In an earlier version of this paper, we had noted that such transfers could either be related to differences in the levels, between regions/states, of incomes and unemployment, or to differences in the rates of change (relative to historical trends) of incomes and employment. The first approach involves redistribution without necessarily much concomitant stabilization. The second approach involves stabilization without much concomitant redistribution. The choice of balance between redistribution and stabilization is essentially political.

In our judgment the political and economic ethos at present is such that stabilization schemes stand a much better chance of acceptance than (mainly) redistributive schemes. Consequently, we have tried to structure our main paper to emphasize the distinction between the two, and to outline proposals for possible stabilization scheme(s) that would have no (expected) redistributive effect at all. Nevertheless we do not accept that the existence of moral hazard, etc., implies that the optimal extent of redistribution at the Community level is zero.

Conclusion

Until recently there was a favourite question that used to be set in the Cambridge economic exams. It read, 'It is all in Marshall: discuss'. Similarly, it is arguable that the MacDougall Report (1977) provided all the necessary and appropriate analysis on Community stabilization issues.

The fact that that Report has been pigeon-holed, with none of its recommendations implemented, is not a commentary on its economic analysis, but, perhaps, on two failures. The first was a failure to distinguish sufficiently between stabilization and redistributive measures, and the second, crucial, failure was its inability to address the political, and also some of the economic, problems that any such redistributive transfers would involve.

Appendix B

A few thoughts on interregional redistributive fiscal transfers

We sympathize with the cogent arguments that Professor Prud'homme presents for the need for measures, to be taken at the Community level, to reduce the extent of spatial disparities within the European Community. At the same time, however, we find it hard to brush off the evidence from Canada (Courchene) and the Mezzogiorno (e.g. De Nardis and Micossi) that redistributive schemes can lead to misallocation, inefficiency and a welfare-reliant society in the recipient country. How then can one proceed?

A major concern with redistributive (much less so with pure stabilization), schemes is that they reduce the pressure for fundamental adjustment via migration and wage flexibility. Perhaps the implication is that redistributive schemes should be so constructed as to retain the incentives for such flexibility.

Both Prud'homme, and the example of German unification, suggest that transregional migration can become excessive with large population flows. Courchene, and others, note that redistributive schemes have, at times, unduly reduced migration to the detriment of efficiency. This suggests that there is an optimum internal level of migration. How could one calculate it? It is probably impossible, although Wildasin, 'Income redistribution and migration' (1991), makes a good analytical starting point. In any case the optimum may be changing over time, perhaps increasing as the 1992 process reduces the internal barriers to labour mobility.

Even if we cannot estimate the optimum, we could, perhaps, measure current migration flows relative to some historic norm, although this abstracts both from measurement problems and from the choice of norm and/or rationale of its use as a benchmark. Be that as it may, any scheme of fiscal transfers could be calibrated not only on the current levels of income/employment, but also on deviations of migration flows from the historic norm. Thus if there was net migration of EC nationals into region X, or country J, it would be prima facie evidence that the balance of pecuniary and non-pecuniary incomes made it comparatively attractive. There would be no need for any redistributive fiscal transfers to it, whatever its relative income levels. One could design an interregional transfer system which was some combination of relative income and migration data, e.g.

$$T_i = f$$

where the transfers were a function both of the level of area i's income compared to the Community level and the number of emigrants relative to its own long-term average.

Would this result in migration statistics becoming unreliable or falsified? Possibly. Would it result in regions (States) putting pressure on their own (unemployed) to move to another country, somewhat akin to the operation of the Poor Law in England in Elizabethan times? Possibly, but if there is felt to be insufficient flexibility at present, would that be a bad thing?

Again there is concern whether redistributive transfers, e.g. in the shape of unemployment benefit contributions from the European Community, might not reduce wage flexibility. Would not a reasonable response to that be to make any such transfers conditional on the achievement of adequate, *ex post*, evidence of wage flexibility, whether by means of incomes policy or through the market? An objective of policy is to encourage wages to be flexible downwards in the face of unemployment above the NAIRU. One solution might be for the Community to make transfers to each region (or State) when its unemployment level was above X% (say 10%, the calculation of national/regional NAIRUs is too uncertain, and 10% would seem conservative) conditional on wages in that same area, if in the last year unemployment had also been above X%, having risen by less than Y% (Y perhaps equal to 1%) above the estimated concurrent rate of growth of consumer prices.

A perceived problem is that unconditional redistributive transfers lead to less labour market flexibility of migration and wages. Why not then make the transfer conditional on evidence of satisfactory maintained flexibility? It would be more complex, harder to administer; it might well lead to a distortion of the relevant data, and other abuses. But is the idea, even so, worth considering?

Appendix C

The Jackman, Layard and Nickell model

The basic model used by Jackman, Layard and Nickell is as follows:

(1) $[1 - \beta'](p - w) = \beta_0 \cdot \beta_1 u - \beta_{11} \Delta u - \beta_2 \Delta^2 p$

(2) $[1 - \gamma'](w - p) = \gamma_0 - \gamma_1 u - \gamma_{11} \Delta u - \gamma_2 \Delta^2 p + (1 - \gamma^1) Z_w$

where p = GDP deflator, w = wages, u = unemployment rate, Zw = long-term wage pressure, L = lag operator.

They then further rewrite these equations, in long-term form, i.e. after the short-term dynamic adjustment has been completed, as follows:

$$p - w = \beta_0 - \beta_1 u - \beta_2 \Delta^2 p,$$

$$w - p = \tilde{\gamma}_0 - \tilde{\gamma}_1 u - \tilde{\gamma}_2 p + Z_w$$

This then enables them to show, in Table C.1, estimates of unemployment effects, hysteresis, nominal inertia, real and nominal wage rigidity, and various measures of lags arising from hysteresis and all the remaining dynamics. Their table, showing the precise definitions used, the estimated coefficients and the calculated values for RWR, NWR, H and ML, is reproduced below.

Table C.1

Model coefficients (Equations 1, 2)

	Unemployment effects				Hysteresis		Nominal inertia				RWR $[\beta_1 + \tilde{\gamma}_1]^{-1}$	NWR $[\beta_2 + \tilde{\gamma}_2]$	H $\frac{[\beta_{11} + \gamma_{11}]}{[\beta_1 + \beta_{11} + \gamma_1 + \gamma_{11}]}$	Mean lag (ML) (Equation 8)
	β_1	γ_1	β_1	γ_1	β_{11}	γ_{11}	β_2	γ_2	β_2	γ_2				
Belgium*	−0,03	0,65	−0,04	4,06	2,13	0	0,10	0	0,14	0	0,25	0,04	0,77	0,70
Denmark	−0,02	0,66	−0,02	1,74	0,98	0	0	0,05	0	0,13	0,58	0,08	0,60	0,45
France	−0,18	2,22	−0,18	4,35	10,10	0,73	0,60	0,14	0,60	0,27	0,23	0,20	0,84	2,72
W. Germany*	0,58	0,55	0,58	1,01	3,58	0	0,54	0,13	0,54	0,24	0,63	0,49	0,76	2,55
Ireland*	0,75	0,80	1,88	1,82	4,04	0	0,46	0	1,15	0	0,27	0,31	0,71	3,19
Italy	1,04	2,07	3,35	12,94	4,45	2,51	0,69	0	2,23	0	0,06	0,14	0,69	2,87
Netherlands*	0,83	0,66	1,66	2,28	3,34	0,36	0,47	0	0,94	0	0,25	0,24	0,71	2,51
Spain	0,48	0,17	0,73	1,21	0,93	0	0	0,15	0	1,07	0,52	0,56	0,59	2,75
United Kingdom	0,18	0,98	0,28	0,98	0,31	0,75	0,58	0	0,91	0	0,77	0,70	0,48	1,36
Australia	0,26	0,56	0,18	0,73	1,25	0	0,13	0	0,09	0	1,10	0,10	0,60	1,08
New Zealand	1,14	1,71	1,14	3,23	6,00	0	0,67	0,15	0,67	0,29	0,23	0,22	0,68	1,64
Canada	0,50	0,50	0,76	2,38	1,51	0,17	0	0,90	0	4,28	0,32	1,37	0,63	1,77
United States	3,10	0,32	3,10	0,94	−0,15	0,09	2.10	0,37	2,10	1,08	0,25	0,80	−0,02	1,62
Japan	0,32	6,40	1,69	14,50	1,44	−3,69	0,15	0,01	0,79	0,02	0,06	0,05	−0,50	< 0
Austria	0,63	1,43	5,73	3,11	2,30	0	0,30	0,63	2,72	1,37	0,11	0,46	0,53	< 0
Finland*	1,91	0,48	1,91	1,55	12,60	0,33	3,00	0,12	3,10	0,39	0,29	1,01	0,79	4,60
Norway	2,31	1,96	2,31	10,59	11,15	2,74	1,00	0,70	1,00	3,78	0,08	0,37	0,76	2,80
Sweden	1,10	2,31	1,10	12,16	14,43	0	1,61	0,68	1,61	3,57	0,08	0,39	0,81	1,44
Switzerland*	0,59	1,31	0,59	7,33	2,53	0	1,47	0,31	1,47	1,72	0,13	0,41	0,57	0,41

* In these countries, log u appears in the wage equation. The coefficient γ_1 reported here refers to the coefficient on log u divided by the average unemployment rate from 1969-85.
RWR = Real wage rigidity, NWR = Nominal wage rigidity.

Appendix D

Details of data and empirical results

The results reported in this paper use data sets for the USA, Canada and the United Kingdom. The data and models are described briefly below, and details of the results are given in Tables D.1 to D.3.

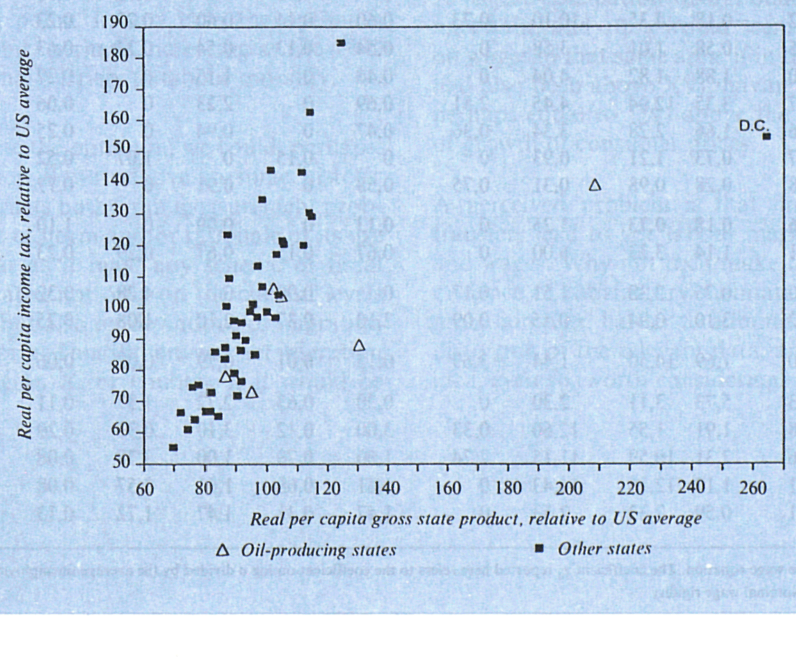
USA

The data used are for taxes, expenditure and gross state product for 44 out of 50 states. The six main oil producing states (Alaska, Colorado, Oklahoma, Louisiana, Texas and Wyoming) and the District of Columbia are omitted from the analysis. 'Levels' models are estimated on an overall sample of 264 observations covering the whole period 1981-86, and the models in first differences on a sample of 220 observations covering 1982-86.

The observations for the oil producing states have been omitted because the relationship between gross state product and tax payments is clearly different in some of these states, and omitting the states was preferred to the approach adopted in von Hagen (1991), where the oil producing states are included but the group of oil producers is allowed to have a different intercept to the other states in the estimated relationships. The differences amongst the oil producing states are in practice considerable, as can be seen in Graph D.1, and a single dummy variable to account for the position of all six oil producers would appear to be only partially satisfactory as a reflection of the differences between them. The District of Columbia is omitted because it is a distant outlier in the GDP data, for reasons that cannot be explained satisfactorily.

The data for gross state product are taken from the May 1988 *Survey of Current Business*. The tax data are taken from the table 'Federal individual income tax returns, income and taxes by state' which appears in the annual publication *Statistical abstract of the United States*. For the one year where these data were omitted from the Statistical Abstract (1984), and for another year (1983) where the data printed in the Statistical Abstract appear to be in error, data were taken from the corresponding table published in the *Statistics of Income (SOI) Bulletin*, published by the US Internal Revenue Service. Data on federal government spending by

GRAPH D.1: **Relative gross state product per capita and relative federal income tax payments per capita, for 50 US states and the District of Columbia, 1986**



state on grants to state and local government and on direct payments to individuals were obtained from the 1987 issue of *Federal expenditure by state for fiscal year*, published by the US Census Bureau.

Levels models of the following form were estimated for the 1981-86 sample:

log (fiscvar) = a0 + a1 log (GSP) + b year

where fiscvar represents the fiscal variable being examined (real per capita federal taxes, real direct transfers to individuals, or real total transfers including grants to state and local governments), GSP is real per capita gross state product, and 'year' represents dummies for each year. Details of the results for state residents' payments of federal taxes over the 1981-86 period and corresponding equations for federal spending on transfers to individuals and total transfers are shown in Table D.1.

In the models estimated in first differences, the dependent variables and gross state product are represented as dollar changes in real per capita terms, and year dummies allow the intercept to vary from year to year. Table D.2 shows the results for the tax variable, with and without a one-period lagged value of the change in GSP, and equations for direct and total transfers including the one-period lagged change in GSP.

Canada

The data for Canada cover federal transfer payments and taxes in the 11 provinces in each year during the period 1965-88 (1966-88 for the models in first differences). 'Levels' models are thus estimated on an overall sample of 264 observations covering the whole period, and the models in first differences on a sample of 255 observations.

Two different versions are used of each dependent variable, one considerably broader in coverage than the other:

Tax:

(i) federal taxes received from individuals in each province;

(ii) federal taxes received from individuals and companies in each province.

Transfers:

(i) federal transfer payments to individuals resident in each province;

(ii) federal transfer payments to individuals and companies in each province, and transfer payments to the provincial and local governments.

The data were constructed from data in the DRI Canada database (and have been made available to us by Paul Masson of the International Monetary Fund).

Observations for the years before 1979 are deflated by the all-Canada consumer price index, and those for 1979 and subsequent years are deflated by the appropriate provincial CPI.

The models in 'levels' were estimated in the following form:

log (fiscvar) = a0 + a1 log (income) + b year

where fiscvar again represents the fiscal variable being examined (one of the two definitions of real per capita federal taxes, or one of the two measures of real per capita federal transfers), 'income' is real per capita personal income in the province, and 'year' represents a time trend. Details of the results for payments of federal taxes and transfer receipts on the broad and narrow definitions are given in Table D.3. Table D.4 gives corresponding equations estimated for year-on-year changes in federal taxes and transfers. In these equations the variables do not enter in logarithmic form, and the effect of a dollar change in incomes can be read off directly from the estimated coefficient. Table D.5 shows similar equations including a lagged term in state income.

United Kingdom

For the UK, levels models were estimated with data for the period 1983-87, for the 11 standard regions of the UK (Scotland, Wales and Northern Ireland, and eight regions of England). Sample sizes are thus considerably smaller than for the US and Canada analyses, which have a larger number of regions and years respectively; for the levels models the UK analysis has 55 observations, and for the models in first differences, 44.

The only fiscal variable available is for personal income tax, and is derived from an analysis of the tax assessments made for individuals during the fiscal year beginning in April of each calendar year. The data are obtained from the publications *Inland revenue statistics* and *Survey of personal incomes* for the appropriate year. Due to the UK system of exact cumulative deduction-at-source of the income tax of employees, the tax assessments made for the majority of employee taxpayers are likely to coincide with actual payments of tax during the fiscal year; for self-employed taxpayers (roughly one in ten taxpayers), the correspondence between assessment and payment of tax is likely to be less exact, and payments may lag the assessments reflected in the data, although by a comparatively short period in most cases. The economic activity variable used is regional GDP at factor cost, published in *Regional trends*. Both tax and GDP are deflated by the retail price index for the whole UK.

Table D.6. reports the models estimated for levels and changes using these data.

Two versions of the changes model are shown, one with only the current change in GDP, and the other also including the one-period lagged change in GDP. All models include dummy variables for each year.

Table D.1

Differences between states and the US average in per capital federal taxes and in per capita federal transfers, in relation to differences in gross state product, USA, 1981-86

Independent variables	Federal income tax		Transfer payments to individuals		Total federal transfer payments	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Log (GSP)	1,528	22,17	−0,139	2,61	−0,100	2,18
Year 1982	0,002	0,06	−0,000	0,01	0,003	0,15
Year 1983	−0,002	0,06	−0,002	0,08	0,005	0,25
Year 1984	−0,012	0,41	0.013	0,59	0,021	1,06
Year 1985	−0,009	0,32	0,012	0,53	0,021	1,04
Year 1986	−0,015	0,50	0,013	0,57	0,015	0,76
Constant	−0,002	0,11	−0,022	−1,33	−0,010	0,73
n		264		264		264
R-bar sq		0,65		0,01		0,00
F		81,9		1,3		1,2
Mean (fiscal variable)	1 303		1 317		1 718	
Mean (income)	14 815		14 815		14 815	

Table D.2

Changes in per capita federal taxes and per capita federal transfers, in relation to changes in per capita federal product, USA, 1982-86

	Income tax		Income tax		Transfers to individuals		Total federal transfers	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
GSP change	0,064	4,02	0,069	4,76	−0,012	1,53	−0,012	1,20
Lagged GSP change			0,039	3,17	0,001	0,16	−0,002	0,21
GSP change * Year 1982	0,039	2,17	0,003	0,17				
Lagged GSP change * Year 1982			0,016	1,10				
Year 1982	−155,13	13,47	−155,96	14,90	95,929	7,39	154,051	9,67
Year 1983	−149,73	16,83	−111,12	11,08	−67,690	5,34	−7,216	0,46
Year 1984	−101,75	11,25	−103,00	12,63	12,653	1,14	81,151	5,95
Year 1985	−80,54	8,89	−112,35	11,76	−0,450	0,04	62,641	4,38
Constant	77,84	9,58	75,01	10,21	37,776	5,24	−13,143	1,48
n	220		220		220		220	
R-bar sq	0,82		0,85		0,60		0,55	
F	168,3		161,7		56,3		45,6	

Table D.3

Federal taxes and transfers in Canadian provinces, in relation to real personal income, Canada, 1965-88

	Individual tax payments		Individual and company tax payments		Transfer payments to individuals		Transfer payments to individuals, companies and governments	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
Constant	−0,505	−1,52	−0,828	−1,46	6,002	10,23	8,061	9,19
PE Island	0,038	1,71	−0,085	−2,21	0,258	6,49	0,082	1,37
Nova Scotia	0,359	13,93	0,205	4,65	0,181	3,97	0,061	0,90
New Brunswick	0,176	7,36	0,076	1,86	0,124	2,95	−0,024	−0,39
Quebec	−0,040	−1,08	−0,029	−0,46	−0,147	−2,25	−0,343	−3,50
Ontario	0,345	6,24	0,266	2,83	0,111	1,13	−0,181	−1,24
Manitoba	0,219	6,00	0,162	2,60	0,040	0,62	−0,186	−1,93
Saskatchewan	0,067	2,21	−0,025	−0,48	−0,043	−0,79	−0,224	−2,78
Alberta	0,259	6,56	0,242	3,60	−0,137	−1,97	−0,412	−3,95
British Columbia	0,355	7,07	0,284	3,32	0,243	2,74	−0,201	−1,52
Yukon & NW Territories	0,980	25,91	0,822	12,75	−0,790	−11,82	0,350	3,50
Time trend	0,006	4,02	−0,001	−0,34	0,019	7,94	0,005	1,40
PE*time	−0,001	−0,78	0,006	2,03	−0,010	−3,13	0,002	0,36
NS*time	−0,009	−4,75	−0,001	−0,46	−0,015	−4,75	−0,004	−0,76
NB*time	−0,005	−2,76	0,001	0,25	−0,009	−2,84	0,005	0,97
QU*time	−0,002	−0,87	0,000	−0,11	−0,008	−2,61	0,006	1,18
ON*time	−0,008	−3,80	−0,003	−0,76	−0,029	−8,35	−0,019	−3,65
MA*time	−0,007	−3,91	−0,004	−1,24	−0,017	−5,22	0,000	−0.10
SA*time	0,000	−0,14	0,008	2,58	−0,016	−4,94	0,003	0,65
AL*time	−0,001	−0,65	0,019	6,21	−0,022	−7,09	0,001	0,30
BC*time	−0,009	−4,81	−0,006	−1,84	−0,023	−6,78	−0,008	−1,63
YNT*time	−0,032	−17,50	−0,020	−6,56	0,028	8,80	0,054	11,28
Log (income)	1,059	13,22	1,141	8,36	−0,311	−2,20	−0,708	−3,34
n	264		264		264		264	
R-bar sq	0,984		0,961		0,915		0,928	
F	722,1		294,6		130,1		156,2	
Mean (fiscal variable)	134,29		175,33		91,61		156,2	
Mean (income)	1 301,8		1 301,8		1 301,8		1 301,8	

Table D.4

Changes in federal taxes and transfers in Canadian provinces, in relation to current changes in real personal income, Canada, 1965-88

	Individual tax payments		Individual and company tax payments		Transfer payments to individuals		Transfer payments to individuals, companies and governments	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
Constant	−0,269	−0,07	−2,494	−0,39	6,236	2,13	13,398	1,03
PE Island	−0,067	−0,01	0,727	0,08	2,024	0,49	7,484	0,41
Nova Scotia	1,506	0,27	2,335	0,26	0,244	0,06	6,153	0,34
New Brunswick	0,034	0,01	0,770	0,09	1,130	0,28	8,132	0,44
Quebec	−1,316	−0,23	−1,943	−0,22	0,265	0,07	−0,672	−0,04
Ontario	0,990	0,18	0,984	0,11	−1,167	−0,29	−7,424	−0,41
Manitoba	0,822	0,15	1,366	0,15	−2,153	−0,53	−8,107	−0,44
Saskatchewan	0,475	0,08	2,688	0,30	−2,387	−0,58	−10,400	−0,57
Alberta	3,825	0,67	16,818	1,88	−3,545	−0,86	−9,688	−0,53
British Columbia	2,166	0,38	2,564	0,29	−1,455	−0,36	−9,063	−0,49
Yukon & NW Territories	8,739	1,54	14,423	1,62	−0,975	−0,24	29,186	1,59
Time trend	0,035	0,11	0,044	0,09	0,064	0,28	−0,262	−0,26
PE*time	0,069	0,16	0,049	0,07	−0,219	−0,69	−0,691	−0,49
NS*time	−0,026	−0,06	−0,075	−0,11	−0,206	−0,65	−0,929	−0,65
NB*time	0,052	0,12	0,023	0,03	−0,238	−0,75	−0,942	−0,66
QU*time	0,164	0,37	0,243	0,35	−0,317	−1,00	−0,522	−0,37
ON*time	0,096	0,22	0,082	0,12	−0,312	−0,98	−0,198	−0,14
MA*time	0,016	0,04	−0,025	−0,04	−0,060	−0,19	0,489	0,34
SA*time	0,060	0,14	−0,093	−0,13	−0,062	−0,20	0,849	0,59
AL*time	−0,213	−0,48	−1,265	−1,82	−0,065	−0,20	0,194	0,14
BC*time	−0,069	−0,16	−0,124	−0,18	−0,152	−0,48	0,173	0,12
YNT*time	−0,751	−1,70	−1,277	−1,84	−0,129	−0,40	0,283	0,20
(Income change) $_t$	0,116	7,50	0,173	7,10	0,003	0,28	0,074	1,48
n	253		253		253		253	
R-bar sq	0,145		0,152		−0,034		0,060	
F	2,94		3,05		0,62		1,73	

Table D.5

Changes in federal taxes and transfers in Canadian provinces, in relation to current and lagged changes in real personal income, Canada, 1965-88

	Individual tax payments		Individual and company tax payments		Transfer payments to individuals		Transfer payments to individuals, companies and governments	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
Constant	0,476	0,11	−0,291	−0,04	7,021	2,16	18,757	1,29
PE Island	−0,884	−0,14	0,104	0,01	1,662	0,37	8,362	0,41
Nova Scotia	1,273	0,20	1,843	0,19	0,001	0,00	4,665	0,23
New Brunswick	−0,051	−0,01	0,617	0,06	1,211	0,27	9,713	0,48
Quebec	−1,468	−0,23	−1,701	−0,17	0,256	0,06	0,162	0,01
Ontario	1,387	0,22	2,208	0,22	−1,581	−0,35	−8,099	−0,40
Manitoba	0,180	0,03	0,690	0,07	−2,750	−0,61	−10,706	−0,53
Saskatchewan	0,536	0,09	2,907	0,29	−2,620	−0,58	−12,825	−0,63
Alberta	4,626	0,73	20,243	2,04	−4,381	−0,96	−9,456	−0,47
British Columbia	2,464	0,39	3,843	0,39	−1,787	−0,39	−9,214	−0,46
Yukon & NW Territories	10,161	1,61	17,478	1,77	−0,838	−0,19	39,274	1,94
Time trend	−0,011	−0,03	−0,028	−0,05	−0,005	−0,02	−0,478	−0,44
PE*time	0,123	0,26	0,095	0,13	−0,196	−0,57	−0,741	−0,48
NS*time	−0,010	−0,02	−0,027	−0,04	−0,193	−0,56	−0,802	−0,52
NB*time	0,058	0,12	0,039	0,05	−0,244	−0,71	−1,037	−0,67
QU*time	0,174	0,36	0,229	0,30	−0,318	−0,92	−0,573	−0,37
ON*time	0,071	0,15	0,015	0,02	−0,287	−0,83	−0,126	−0,08
MA*time	0,058	0,12	0,017	0,02	−0,020	−0,06	0,656	0,43
SA*time	0,055	0,11	−0,118	−0,16	−0,045	−0,13	0,989	0,64
AL*time	−0,266	−0,55	−1,484	−1,97	−0,011	−0,03	0,195	0,13
BC*time	−0,089	−0,19	−0,213	−0,28	−0,129	−0,37	0,174	0,11
YNT*time	−0,844	−1,75	−1,429	−1,90	−0,149	−0,43	−0,294	−0,19
$(\text{Income change})_t$	0,115	7,25	0,175	7,03	0,002	0,16	0,075	1,47
$(\text{Income change})_{t-1}$	0,001	−0,04	−0,039	−1,51	0,009	0,79	−0,069	−1,32
n	242		242		242		242	
R-bar sq	0,145		0,163		−0,028		0,077	
F	2,78		3,04		0,72		1,88	

Table D.6

Per capita tax payments and regional GDP, United Kingdom

	'Levels'		'Changes'		'Changes'	
GDP	1,532	19,07	0,009	0,11	0,048	0,73
Lagged GDP					0,296	4,27
Year 1983	0,031	1,24				
Year 1985	0,011	0,44	5,415	0,29	27,720	1,70
Year 1986	0,007	0,29	40,504	1,70	18,641	0,91
Year 1987	−0,013	0,52	1,569	0,08	−46,302	2,42
Constant	−2,480	6,79	−10,185	0,87	−57,890	3,90
n	55		44		44	
R-bar sq	0,87		0,13		0,40	
F	73,6		2,58		6,62	

References

Ballabriga, F. C., Dolado, J. J. and Vinals, J. (1991). 'Fiscal deficit guidelines in the transition to EMU', paper presented at the Second International Macroeconomics Programme Meeting, Bank of Spain, Madrid, 7 and 8 June.

Barrell, R. (1990). 'Has the EMS changed wage and price behaviour in Europe?', *National Institute Economic Review*, November.

Barro, R. J. and Sahaskul, C. (1983). 'Measuring the average marginal tax rate from the individual income tax', *Journal of Business*, Vol. 56, No 4.

Baumol, W. J. (1961). 'Pitfalls in contracyclical policies: Some tools and results', *Review of Economics and Statistics*, Vol. 43, No 1.

Bean, C. (1992). 'European unemployment', *Journal of Economic Literature*, forthcoming.

Begg, D. (1991). 'Alternative exchange-rate regimes: the role of the exchange rate and the implications for wage-price adjustment', Chapter 10 in *European Economy*, Special Edition No 1 — 'The economics of EMU'.

Brandsma, A. et al. (1991). 'Quest — A macroeconomic model for the countries of the European Community as part of the world economy', *European Economy* No 47, Part II, March.

Branson, W. H. (1990). 'Financial market integration, macroeconomic policy, and the EMS', CEPR Discussion Paper No 385, London, March.

Buiter, W. H. and Kletzer, K. M. (1990). 'Reflections on the fiscal implications of a common currency', CEPR Discussion Paper No 418, London, May.

Cohen, D. and Wyplosz, C. (1989). 'The European monetary union: An agnostic evaluation', in R. Bryant, J. Frenkel, P. Masson and R. Portes (eds), *Macroeconomic policies in an interdependent world*.

Commission of the European Communities (1990a). 'One market, one money', *European Economy*, No 44, October.

Commission of the European Communities (1990b). 'The impact of the internal market by industrial sector: The challenge for the Member States', *European Economy/Social Europe*, special issue, 1990.

De Nardis, S. and Micossi, S. (1991). 'Disinflation and re-inflation in Italy and the implications for transition to monetary union', *Banca Nazionale del Lavoro Quarterly Review*, No 177, June.

Delors Committee Report (1989). 'Report on economic and monetary union in the European Community', Committee for the Study of Economic and Monetary Union, June.

Eichengreen, B. (1990a). 'One money for Europe: Lessons from the US customs union', *Economic Policy*, Vol. 10, April.

Eichengreen, B. (1990b). 'Is Europe an optimum currency area?', CEPR Discussion Paper No 478, London, November.

Ermisch, J. (1991). 'European integration and external constraints on social policy: Is a social charter necessary?', *National Institute Economic Review*, No 136, May.

Fischer, S. and Cooper, J. P. (1973). 'Stabilization policy and lags', *Journal of Political Economy*, Vol. 81, No 4.

Frankel, J. A. and Rockett, K. E. (1988). 'International macroeconomic policy coordination when policy-makers do not agree on the true model', *The American Economic Review*, Vol. 78, No 3, June.

Fratianni, M. and von Hagen, J. (1990). 'Public choice aspects of European monetary unification', *The Cato Journal*, Vol. 10, No 2, autumn.

Friedman, M. (1953). 'The effects of a full-employment policy on economic stability: a formal analysis', in M. Friedman, *Essays in positive economics*, Chicago.

Giovannini, A. and Spaventa, L. (1991). 'Fiscal rules in the European monetary union: A no-entry clause', CEPR Discussion Paper No 516, London, January.

Goodhart, C. A. E. and Hansen, E. (1990). 'Fiscal policy and EMU' in R. Dornbusch, C. A. E. Goodhart and R. Layard (eds), *Britain and EMU*, Centre for Economic Performance, London School of Economics, December.

Intriligator, M. D. (1978). *Econometric models, techniques and applications*, Amsterdam, North-Holland.

Jackman, R., Layard, R. and Nickell, S. (1991). *Unemployment: Macroeconomic performance and the labour market*, Oxford, Oxford University Press.

Knoester, A., Kolodziejak, A. and Muijzers A. (1990). 'Economic policy and European integration', Research Memorandum 9001, Department of Applied Economics, Nijmegen, The Netherlands, February.

MacDougall Report (1977). 'Report of the study group on the role of public finance in European integration', chaired by Sir Donald MacDougall, Commission of the European Communities, Economic and Financial Series, No A13, Brussels, April.

Masson, P. A. and Melitz, J. (1990). 'Fiscal policy and independence in a European monetary union', CEPR Discussion Paper No 414, London, April.

Masson, P. A. and Taylor, M. P. (1991). 'Common currency areas and currency unions: An analysis of the issues', paper presented at the Money Macro Study Group Conference, Manchester, September.

Melitz, J. (1991). 'Brussels on a single money', CEPR Discussion Paper No 556, London, July.

Micossi, S. and Tullio, G. (1991). 'Fiscal imbalances, economic distortions and the long-run performance of the Italian economy', paper prepared for the International Workshop on Global Macroeconomic Perspectives, Rome, 29 and 30 May.

Phillips, A. W. (1954). 'Stabilization policy in a closed economy', *Economic Journal,* Vol. 64.

Pisani-Ferry, J., Italianer, A. and Lescure, R. (1992). 'Stabilization properties of budgetary systems: a simulation analysis', in this volume.

Ploeg, F. van der (1989). 'Fiscal aspects of monetary integration in Europe', CEPR Discussion Paper No 340, London.

Ploeg, F. van der (1991a). 'Macroeconomic policy coordination issues during the various phases of economic and monetary integration in Europe', Chapter 7 in *European Economy,* Special Edition No 1 — 'The economics of EMU'.

Ploeg, F. van der (1991b). 'Budgetary aspects of economic and monetary integration in Europe', CEPR Discussion Paper No 492, London.

Renshaw, V., Trott, A. and Friedenberg, H. (1988). 'Gross state product by industry, 1963-86', *Survey of Current Business,* May 1988, pp. 30-38.

Sachs, J. and Sala-i-Martin, X. (1989). 'Federal fiscal policy and optimum currency areas', mimeo, Harvard University.

Sachs, J. and Sala-i-Martin, X. (1991). 'Federal fiscal policy and optimum currency areas: Evidence for Europe from the United States', paper presented at a CEPR/CGES/IMF Conference, Georgetown University, Washington DC, 1 and 2 May 1991.

Van Rompuy, P., Abraham, F. and Heremans, D. (1991). 'Economic federalism and EMU', Chapter 6 in *European Economy,* Special Edition No 1 — 'The economics of EMU'.

Von Hagen, J. (1991). 'Fiscal arrangements in a monetary union. Evidence from the US', Discussion Paper 58, Indiana Center for Global Business, The School of Business, Indiana University.

Weber, A. A. (1990). 'Reputation and credibility in the European Monetary System', *Economic Policy,* Vol. 12.

Wyplosz, C. (1991). 'Monetary union and fiscal policy discipline', Chapter 8 in *European Economy,* Special Edition No 1 — 'The economics of EMU'.

A special financial support scheme in economic and monetary union: Need and nature

Alberto Majocchi[1] and Mario Rey[2]

Contents

[1] University of Pavia.
[2] University of Turin.

Summary

In a political framework, economic and monetary union (EMU), after the ratification of the Maastricht Treaty, is evolving towards a true federation and should be given the ability to carry out an autonomous stabilization policy through adequate reform of the rules governing budgetary policy, providing for: (a) an increase in the size of the EC budget, which is in any case also necessary for allocative reasons; (b) the possibility to adjust the budgetary balance according to the needs of a stabilization policy, while guaranteeing at the same time the achievement of monetary stability; (c) the introduction of own resources for the financing of the budget that will promote automatic stabilization via the revenue side.

Furthermore, even if in a business-as-usual scenario a regional economy is in external equilibrium within monetary union, a Member State's economy could be heavily hit by a country-specific external shock, or by a common external shock with asymmetric effects. In this case, the Member State's government is obliged to cope with this sudden change in relevant macroeconomic variables without adequate policy measures, since it no longer has the possibility of utilizing the exchange-rate instrument.

Developing the idea already put forward in the MacDougall Report of a 'conjunctural convergence facility', this paper proposes an effective instrument of mutual insurance within monetary union: a 'contingency fund', financed ad hoc *by the Member States and able to cope with the problems of a regional economy hit by an exogenous shock. The degree of utilization of this facility could be reduced if the built-in stabilizer capacity of the budget is increased and the availability of economic instruments for facing the problems of the economically weakest regions is enlarged through the strengthening of the Structural Funds.*

1. The rationale for a stabilization policy

The launching of the project to achieve economic and monetary union during the 1990s, in parallel with the completion of the internal market, has brought about fresh debate on the need for a stabilization policy within the European Community. The request for new instruments has been mainly supported by the economically weakest countries, who fear that giving up the rate of exchange would impair their ability to face effectively exogenous shocks hitting their economies. They also underline that every time an agreement has been reached at international level which puts limits on exchange-rate variations — and the best examples are the Bretton Woods Agreements — it has been backed up by the provision of a financial support scheme.

Fluctuations are present and relevant in economic life. Yet wide disagreement exists among economists with regard to both the nature and the duration of aggregate fluctuations. Competing economic theories are distinguished by differing views regarding the ultimate sources of macroeconomic instability and the alleged length of their persistence. The temporal dimension of cyclical swings is, however, of the utmost importance, since it has far-reaching implications for the scope of stabilization policies. In fact, if the built-in stabilizers of any economic system are weak and/or operating slowly, so that the macroeconomic consequences of initial exogenous shocks are drawn out, then there is a potential a priori case for the usefulness of a countercyclical policy.

Current macroeconomic analysis seems to be characterized by a broad consensus on the so-called 'natural rate hypothesis', according to which, in the long run, free market economies tend to reach an equilibrium position wherein all available resources are fully utilized, apart from unavoidable structural or frictional unemployment. The remaining dissent revolves around two strictly related matters:

(a) the features of the short-term situation, namely the nature of the mechanisms that may cause temporary departures from the long-term outcome;

(b) the length of the short-term situation, namely the average amount of time a transitory deviation from the natural rate of unemployment may persist.

'New classical macroeconomists believe prices to be fully flexible and expectations to be rational. In their analysis, external shocks may have effects inasmuch as they cause expectation errors which, however, cannot persist since agents' price forecasts are always unbiased. Endogenous fluctuations are the result either of a continuous random shock of opposite sign or of a slowly adjusting capital stock. In any case there is nothing anyone can do about them.

Traditional monetarists, instead, believe expectations to be of an adaptive nature. This learning mechanism implies that the effects of exogenous shocks will persist until expectations are fully revised so as to match actual outcomes. If expectations are corrected at discrete time intervals, the short run may be quite long; however, a priori belief in the strength of the built-in stabilizers, the presumed ignorance of policymakers about the actual working of the macroeconomic system and the existence of operational lags suggest an anti-interventionist attitude towards stabilization policies.

Neo-Keynesian economists finally believe that prices, and especially wages, react sluggishly to prevailing market conditions of excess demands and supplies. Rational expectations notwithstanding, inertia will imply long-lasting consequences of shocks, as wages and prices are only slowly revised to their equilibrium values. Furthermore, the structure of the macroeconomic system may be such as to exhibit no inherent tendency to dampen economic fluctuations. Activist stabilization policies are thus justified and suggested by the twofold belief that welfare losses may be large and that they may persist for long periods of time or not disappear at all' (Bianchi, 1991).

Throughout this paper it is assumed that institutional rigidities (long-term contracts) and structural parameters of the aggregate supply and aggregate demand functions are such that substantial and protracted welfare losses are implied in a non-interventionist attitude. An intervention of the public authority in economic life is always justified by the existence of a cause of market failure. As far as stabilization policy is concerned, the prevailing justification is related to the fact that labour markets are unable to reach an equilibrium either through wage flexibility or through migration from the areas where labour oversupply exists. If adjustment mechanisms in the labour market work slowly and imperfectly within the Community when the overall (or regional) economy is hit by a negative exogenous shock, intervention, even perhaps at the risk of overshooting, will then be preferable to the alternative of passively observing the economic and human waste implied by drawn-out periods of substantial unemployment. Furthermore, this conclusion is strengthened by the fact that the persistence of an economic and monetary union heavily depends on the maintenance of social cohesion, especially as far as the weakest Member States of the union are concerned.

2. Stabilization of the European economy

Once the need to carry out a stabilization policy is theoretically well established, two different problems must be carefully distinguished in the framework of economic and monetary union. The first concerns the way to achieve macroeconomic equilibrium in the whole European market through an efficient combination of fiscal and monetary policy measures, while the second concerns the need to guarantee the stabilization of macroeconomic variables in each Member State following the demise of the national exchange-rate instrument.

As far as stabilization of the European economy is concerned, the fiscal policy stance is particularly relevant, especially if one takes into account that in the statutes of the future European Central Bank it is clearly stated that the target to be achieved through monetary policy is stability of the price level.

The main problem regarding fiscal policy is to decide if the stabilization targets could be achieved through changes in the Community budget or through the coordination of Member States' fiscal policies. In this context, the time horizon adopted is of primary importance.

In all existing federations, the task of macroeconomic stabilization of the overall economic system is attributed to the central tier of government. From a theoretical viewpoint, the main reason for assigning this function to the federal level lies in the existence of externalities. In an open economy a relevant share of public expenditure will benefit non-residents due to a change in the amount of imports, while residents will bear the burden of the expenditure due to the higher taxes they will have to pay in the future to cover the increased public debt. As usual, when externalities are not internalized, 'governments in small open economies are likely to feel incapable of undertaking as much stabilization as would be optimal' (Goodhart and Smith, in this volume). Van Rompuy, Abraham and Heremans (1991) also underline that 'the more the benefits of the regional stabilization efforts spill over to other regions, the smaller the incentive for the regions to use them since they have to bear the full burden in higher debt or tax rates'.

A large convergence now exists among economists on the idea — already supported by Musgrave and Musgrave (1976) in their theory on the assignment of economic functions to different tiers of government — that stabilization policy must be attributed to the federal level (see Giovannini and Spaventa, 1990; Wyplosz, 1991; Masson and Melitz, 1990). Similarly, the MacDougall Report (Commission of the European Communities, 1977) remarks that 'the prima-facie case for increasing Community involvement in the general regulation of economic activity is based on the increasing interdependence of national economies, through increasing trade, capital flows and internationally transmitted inflation. The more open the economies of Member States in all these respects, the less effective national instruments of economic policy become. Multiplier effects on internal demand of tax or expenditure changes are dampened by a high propensity to import. The presumed remedy is to pursue objectives at a higher level of government with a broader jurisdiction encompassing major spillover or leakage effects, either through coordination or direct fiscal action. However, any proposal for direct fiscal action for this purpose at the Community level encounters two major issues, the relationship with monetary policy and the question [of] how to achieve [an] adequate scale of operation'.

The first limit for the Community to manage stabilization policy directly, suggested in the MacDougall Report (Commission of the European Communities, 1977), now seems overcome in the perspective of EMU, since monetary policy has become a European task. But the second limit remains if fiscal policy is to be utilized for stabilization purposes. The specific feature that differentiates the Community's position from the existing federal States is the larger share of public expenditure that within the Community is attributed to Member States' budgets *vis-à-vis* the expenditure managed through the Community budget, which amounted to 1,1% of European GDP in 1991.

The general view is that, given the actual size of the EC budget and the rules governing its management — the impossibility of a deficit (Article 199 of the Treaty of Rome), and the lack of flexibility according to the multiannual financial planning due to the 1988 agreements on budgetary discipline — the Commission of the European Communities' role in the management of stabilization policy at European level should be limited to promoting the coordination of fiscal policy carried out by Member States.

Coordination is in any case necessary even if the central level of government is carrying out direct fiscal actions, at least to avoid negative effects on the achievement of stabilization targets following procyclical behaviour in budgetary policy by lower tiers of government. The difference in this case lies in the fact that coordination remains the only instrument to face symmetrical shocks affecting the overall European economy.

In this perspective, it is firstly necessary to scrutinize the rules suggested in the Treaty on European Union on the limits on the deficits, which are determined in terms of a given deficit:GDP or debt:GDP ratio, while only investment expenditure can be covered by debt-financing. Since the tools of monetary policy can no longer be utilized for stabilization purposes at the level of each Member State, countercyclical changes in the budgetary balance — with a surplus during the boom phases and a deficit during a recession — should be more frequent if the whole responsibility of anticyclical policy lies with the Member States. Secondly, with the completion of the internal market, external effects are likely to be larger and therefore Member States will be less willing to carry out stabilization policies. Lastly, and this seems to be the decisive point, the impact on the economy of a discretionary policy based on the coordination of fiscal measures adopted by the Member States will manifest itself with such time-lags that the stabilization effects will be completely offset.

Coordination of fiscal policies carried out by the Member States is therefore a necessary condition, but is not sufficient to guarantee the effectiveness of a Community stabilization policy facing symmetrical shocks across the whole European economy in a degree relevant from a macroeconomic point of view. Also, it is useful to recall that in the experience of the European Monetary System (EMS), asymmetry in the effects of fiscal policy, and therefore a deflationary bias, could be recognized. If a deflationary policy is needed — for instance, to curb the inflationary impact deriving from exogenous shock-raising input costs — the risk exists that each Member State will increase taxes or reduce expenditure, without taking into account the deflationary effects deriving from the analogous measures adopted by the other Member States, with a concrete possibility of overshooting. If the exogenous shocks reduce demand — for instance, in the case of deflationary policies adopted by the United States of America or Japan — the adoption of expansionary measures is more difficult since the positive effects of fiscal measures are largely lost due to the existence of spillovers, with the consequent benefits going to the free-rider countries.

Effective coordination could certainly limit the likelihood of a deflationary bias being inherent in the management of fiscal policy by the Member States in the framework of EMU. However, possibilities of overshooting remain — due to the time-lags linked with the political process necessary for taking the necessary decision — either due to the effects of automatic stabilization or discretionary policies.

In conclusion, EMU, which in a political framework is evolving towards a true federation, must be placed in a position to carry out an autonomous stabilization policy through adequate reforms of the rules governing budgetary policy, providing for: (i) an increase in the size of the budget, also necessary for allocative reasons; (ii) the possibility to adjust the budget balance according to the needs of the stabilization policy, while guaranteeing at the same time the achievement of monetary stability; (iii) the introduction of own resources for the financing of the budget that will guarantee automatic stabilization also operating from the revenue side.

3. Stabilization of regional economies and the balance-of-payments constraint in a monetary union

The second aspect of stabilization policy is related to the problem of guaranteeing the establishment of internal and external equilibrium for a regional economy when hit by an exogenous shock.

In particular, the consequences for the economy of a Member State of an exogenous shock that is country specific, or from a common exogenous shock with asymmetric effects, must be evaluated (Murat, 1991). This is, for instance, the case in the following events: a drop in exports (or an increase in imports) deriving from a change in consumers' tastes in foreign countries or from a diminution in competitiveness of domestic goods *vis-à-vis* foreign ones; a natural event with very relevant effects on the level of productive activity; a rise in raw materials prices, especially oil, in an economy largely dependent on this source of energy; or other unforeseeable events which will provide a relevant economic impact in the country concerned (one can refer, for instance, to Greece, a country largely dependent on tourism since the Gulf crisis).

The first problem that a country hit by an external shock has to face is that of re-establishing the conditions for external equilibrium. It is true that in a monetary union with a single currency, as far as external equilibrium is concerned, the current-account constraint *vis-à-vis* the other members of the union disappears. Thus, the condition of an EC Member State becomes similar to that of a region within a unitary or federal State. However, the formal disappearance of the external constraint does not mean that related problems also become irrelevant. For a region, an external deficit in the current account implies that domestic absorption is larger than domestic production, and this problem must be tackled in some way if the exchange-rate variation is no longer possible.

'Given the high degree of substitution between financial claims of similar kinds issued in different regions, a region does not face the same immediate pressure to correct a current-account imbalance as does an individual country, with a lower international elasticity of substitution between financial assets. Even so, financial pressures will develop in regions if appropriate adjustment to current-account imbalance is long delayed. If a current-account deficit is not a reflection of local investment opportunities, it will involve a growing burden of debt-servicing, rising invisible account deficits, and falling incomes and wealth. Financial pressures to adjust will not appear in the guise of exhausted reserves, but of an increasing unwillingness to provide further loans to the borrowers in the indebted area' (Goodhart, 1989).

Within a monetary union the nature of the balance-of-payments problem changes and becomes mainly a regional problem of internal disequilibrium, that must be tackled seriously if the overall cohesion of the union is to be preserved. In any case, if the covering of the regional current-account deficit is guaranteed through external financing in a world of perfect capital mobility, there is still the constraint of long-term solvency. Sustainability conditions require that the trade balance does not stay in deficit for ever. The current account may be in disequilibrium only as long as there is a reasonable expectation that in the end the foreign debt will be repaid without issuing new liabilities. Thus, with a single currency, the situation is more similar to that of domestic borrowers towards domestic lenders and becomes less binding in the short run.

Further elaboration is needed on this point. First, the origin of the current-account deficit must be considered. The situation is different if the deficit takes place following a permanent drop in exports due to a diminution in competitiveness, increased imports of consumption goods, or a purchase abroad of capital goods that may increase productive capacity in the long run. In the latter case, the urgency of a policy action to cope with the deficit is evidently less binding. Moreover, the governments of Member States may consider the deficit in the current account as an indicator of an overexpansionary policy or may want to limit the inflow of foreign capital to maintain the control of the domestic economy. In both cases, policy measures will be implemented to eliminate the deficit.

Even if in a business-as-usual scenario a regional economy is in external equilibrium within the monetary union, this does not exclude the fact that a Member State's economy can be heavily hit by an external shock that is country specific, or by a common external shock with asymmetric effects. In this case the Member State's government is obliged to cope with this sudden change in relevant macroeconomic variables through adequate policy measures, no longer having the possibility to utilize the exchange-rate instrument. Mechanisms of adjustment towards external equilibrium, effectively working within a monetary union in the short and long run, must be evaluated before considering the impact of an exogenous shock on the internal equilibrium of the economy of a Member State.

4. External adjustment mechanisms

It will be useful to first examine in depth the mechanisms that a regional economy — within an internal market with a single currency — can rely on to face a balance-of-payments problem. Secondly, on the basis of this analysis, one can sketch the necessary ways for a region totally deprived of the exchange-rate instrument to return to conditions of internal equilibrium after an exogenous shock.

In normal life regions have to support current-account surpluses or deficits in their reciprocal trade within a country: some grow, with higher incomes and employment and increased wealth, while others find it increasingly difficult to sell their goods and services in the overall country market. Yet no balance-of-payments problem becomes evident and the reason is that the portfolio adjustment required to finance a current-account surplus or deficit for a region is so smooth that it may pass virtually unnoticed.

'The most important element for maintaining a regional balance-of-payments equilibrium in the United States has been the mobility of production factors, and especially capital mobility' (Hartland, 1949). The analysis of Mundell (1961) on labour mobility and optimal currency areas is thus broadened, and can be presented following the lines of Goodhart's (1989) model regarding the interregional payments equilibrium.

When a current-account deficit appears in a region, a shrinking of liquidity for the region's inhabitants follows and more generally of the liquid reserves of local banks. In a branch banking system the financing of the deficit is wholly automatic, since an outflow of reserves from the banking system will not take place and the deficit will manifest its effects through a growing deficit of the local banking system towards the central clearing, due to the fact that local loans are higher than local savings. The push towards a portfolio adjustment will be stronger, however, in a unit bank system, where every bank has to maintain independent reserves.

Eventually, when an undesired reduction in the monetary balance takes place, people will attempt to restore their asset balance by running down their holdings of financial assets on the integrated financial market (Scitovsky, 1969; Ingram, 1973). The reduction in the monetary balance could be backed by a reduction in (the rate of growth of) wealth if the investment flow is reduced to restore the desired holdings of real capital due to a disturbance of the asset balance arising from excessive capital (due to involuntary investment caused by growing unsold stock following the drop in demand for domestic products) and insufficient money.

If easily transferable financial assets are sold on the market, effects on prices and interest rates do not follow. But if the external disequilibrium persists for a long time, assets would be put on the market that are not saleable without a reduction in price or with higher interest rates. Deflationary effects in the deficit country would follow and are also due to the fact that owners of financial assets suffer capital losses following the reduction in the value of the financial assets, sold at prices lower than the purchase price. The adjustment process then starts, with a diminution in the level of income that brings about deflationary effects on the level of imports.

This process is strengthened over time, especially if the deficit is not due to new investment opportunities but to the diminished competitiveness of domestic firms, since the growth of external debt will cause a reduction in the credit worthiness of the region in question. Local banks will introduce more restrictions in giving loans to firms, which will in turn be obliged to sell financial assets, and perhaps also real assets, with ensuing capital losses that will reinforce the tendency towards an adjustment in the current account. The regional government can obviously draw financial resources on the overall country market to enlarge loans to firms that are financially constrained. But eventually the burden of external debt will be too high *vis-à-vis* the capacity of the local population to service it through higher taxes; then the interest rate facing the regional government for borrowing on the national market will increase, as its credit standing is impaired. This fact would also put pressure on an adjustment in the current account.

In conclusion, the process of external adjustment for a region having to face, within a monetary union, a current-account deficit is made easier by the smooth functioning of a perfectly integrated capital market, since the high elasticity of the substitution of financial assets permits the region to finance easily the deficit without any negative impact on interest rates. But eventually the commencement of the adjustment process, the result of which will be the disappearance of the surplus in domestic absorption over domestic output, thus eliminating net imports, brings about a deterioration in the economic situation in the country which is adjusting. The problem then arises of guaranteeing, in the mean time, internal equilibrium while achieving the process that must re-establish conditions of equilibrium in the balance of payments.

5. Internal adjustment mechanisms

In an economy hit by an exogenous shock, the first mechanism that can adjust the regional economy is the usual Keynesian multiplier effect. If the deficit has been brought about by a reduction in regional exports in a world where wages and prices are fixed in the short run, the amount of income-shrinking necessary to reach external equilibrium in the balance of payments will depend on the value of the marginal propensity to import. If there is, as usual, a higher import propensity for a small region *vis-à-vis* a large one, a smaller income change will be sufficient to balance the reduction of exports, while large, self-sufficient regions would have to support a massive shift in income to maintain external equilibrium in the absence of relative price effects.

If, as assumed, wages are fixed, the demand for labour will change with the level of output, and such fluctuations can be met either through a variation in employment or a migration towards other regions where demand for labour is increasing. Even if external financing has covered the balance-of-payments deficit, there is a loss in output and consequently a diminution in employment in the deficit country as well as a welfare loss.

But both unemployment and migration change the conditions of the labour market. If the possibilities of migration towards the regions where demand for labour is increasing are limited, the fluctuations in labour markets could be reduced, by variations in the relative wage rates in each region and thus in relative prices, favouring an external demand shift in favour of the deficit country through the terms of the trade effect. This means that the fixity of wages and prices, assumed in the short run, is replaced by a limited flexibility in the long run that helps to restore internal equilibrium.

The effectiveness of this adjustment mechanism — lower labour costs as a contribution to the relative price decrease needed to restore the competitive position of a region and to bring employment back to equilibrium — depends on the response of relative labour costs to differences in regional unemployment performances. Taking into account different elements existing in the EMU perspective, a study reached the conclusion that the effects of EMU on wage flexibility are largely dependent, either directly or indirectly, on changes in the behaviour of economic agents determining and influencing the wage determination process (Commission of the European Communities, 1990). Some factors — diminution of inflationary expectations in a fixed exchange-rate setting, difficulty for a type of fiscal policy to bail out a region lacking wage adjustments, and increased competition in product markets — may result in an increased responsiveness of wages to unemployment. The counter-argument suggests that social cohesion might put a limit on excessive deviations in income levels within EMU. In practice, this means that wage flexibility will be limited if a wage-demonstration effect is working effectively, for instance through the establishment of an all-European wage-determination policy. In any case, depending on such factors, wage flexibility may be able to support an effective adjustment process as regards regional balance of payments and in output and employment.

It must also be considered that wage flexibility can bring about further depressive effects on a regional economy already hit by the exogenous shock, through a reduction in the demand for non-tradable goods generated by the shrinking of disposable income (Begg, 1989). In this case the external adjustment is strengthened, but there is an additional cost for the deficit country, represented by further deterioration of the internal equilibrium.

As noted earlier, regional mobility could be a substitute for real wage adjustments to absorb a regional shock. But the evidence on regional mobility in existing federations and even inside Member States does not suggest that it would be large enough to bear a significant proportion of the adjustment burden. This conclusion is independent from any value judgments on the role of mobility itself, and from consideration of the linguistic and cultural barriers remaining in the union after the achievement of the internal market.

In conclusion, in the case of an adverse shock to a regional economy (for example, a shock to external demand or international competitiveness which brings the current account out of equilibrium), the initial output loss without devaluation is higher than with devaluation. Devaluation is able to cushion the size of the immediate output loss in the first few years due to its direct effect on real exchange rates. But without devaluation the return to equilibrium output is faster where there is a delay in real wage adjustment. The soft landing with devaluation is balanced by the fact that devaluation results in a higher inflation rate. 'A devaluation, therefore, has the benefit of not causing as much initial output loss as without devaluation, but the return to equilibrium takes more time and is accompanied by higher inflation' (Commission of the European Communities, 1990).

The reverse is naturally true in a monetary union with a single currency: the output loss is higher, but the inflation rate is lower and less time is needed to return to equilibrium. It is important to examine the instruments that Member States can rely on, having given up exchange-rate control, to face the output loss and the subsequent unemployment with the goal of maintaining social cohesion within the internal market, without impairing the process towards a balance-of-payments equilibrium.

6. The role of budgetary policy at regional level

Within EMU, external equilibrium disappears as a constraint in the short run, although it remains a long-term target. Even if wage and price flexibility are sufficient to restore internal and external equilibrium in the long run, they must nevertheless be supplemented by budgetary policy in the short run, where nominal rigidity prevails. In this case, when a temporary shock to a regional economy is triggered by a relative demand or competitiveness change, regional budgetary policy can be utilized to balance internal disequilibrium. Expenditure is increased or taxes are reduced, and the temporary budgetary deficit can be balanced by a future increase in the level of taxation, when equilibrium is regained.

Stabilization policy can be carried out at regional level, since fiscal policy effectiveness is relevant in a world of capital mobility with fixed exchange rates, as is the case for monetary union. According to the well-known Mundell (1963) and Fleming (1962) argument, in a world of flexible exchange rates an increase in public spending will bring about an appreciation of the currency through an increased interest rate, thus curbing the demand for regional output. In EMU this negative effect disappears, but the increase in interest rates spills over to other Member States, creating problems of coordination. In addition, inside EMU there are further constraints on regional budgetary policy deriving from the need for fiscal discipline and coordination of economic policy. The trade-off between real wage adjustment and budgetary policy as an alternative to devaluation shows that wage moderation has the most negative impact on real income loss (Commission of the European Communities, 1990). A reduction in employers' social security contributions strongly reduces the real income loss, but has a budgetary cost. The increase in government expenditure results in even slightly less real income loss, but comes at a greater budgetary cost.

Obviously, the risk exists for an active fiscal policy at regional level of delaying long-term adjustment, since the behaviour of economic agents can be biased by the fact that they know the government will intervene to dampen income fluctuations.

A permanent shock of the same type inevitably requires factor-market adjustment through changes in wages and prices. In this case budgetary policy at regional level cannot be utilized since a permanent increase in expenditure or a permanent tax cut can dangerously affect the amount of government debt. In any case, it can only help temporarily, and could cause factor adjustment to be sluggish.

Compensating fiscal policy for permanent shocks can be carried out at federal level since it does not require a budget deficit. In contrast, an active stabilization policy cannot be maintained at regional level facing a permanent shock, since the advantages of a temporary tax cut or a temporary expenditure increase would be mitigated by opposite changes in the future ability to pay back the money borrowed. The advantages of fiscal expansion would thus be lost — even more so if one accepts the Ricardian hypothesis that future taxes are immediately incorporated into the consumers' budget constraint.

Finally, a system of fixed exchange rates is able to protect a region from the effects of a monetary shock (Hall and Taylor, 1986; Dornbusch, 1980). An active fiscal policy at regional level can avoid a negative impact on the region of temporary real shocks. But, if a permanent real shock hits the regional economic system, its effects can be balanced only with the support of a federal fiscal authority.

7. The role of budgetary policy at the central level

In a monetary union, with a central fiscal system, another very effective adjustment factor exists. 'A region which forms part of a political community, with a common scale of public services and a common basis of taxation, automatically gets "aid" whenever its trading relations with the rest of the country deteriorate. There is an important built-in fiscal stabilizer which arrests the operation of the export multiplier: since taxes paid to the central government vary with the level of local incomes and expenditure, whilst public expenditures do not (indeed they may vary in an offsetting direction through public works, unemployment benefit, etc.), any deterioration in the export-import balance tends to be retarded (and ultimately arrested) by the change in the region's fiscal balance — in the relation between what it contributes to the central exchequer and what it receives from it... . This seems to me the main reason why there appears to be no counterpart to the "balance-of-payments problem" on the regional level' (Kaldor, 1970).

If, during the adjustment process in the deficit region, a diminution of output takes place, the revenue deriving from taxes levied by the central government also shrinks. The opposite happens in the surplus region. In the mean time the share of total expenditure — for example, for social security — received from the deficit region increases. This is a mechanism that does not require specific political decisions and, as an automatic stabilizer, while it cushions the income effects brought about by the external deficit, it tends to stabilize the balance of payments. Payment of taxes to the centre can be assimilated to imports, while social expenditure received, from a regional point of view, is similar to exports.

A model of this kind has been studied by Sachs and Sala-i-Martin (1989) with regard to the United States of America. They assume that if a real demand shock hits a region in the United States and labour mobility is limited, the real exchange rate must increase in the deficit region paralleling the diminution in demand for its products, and this result can be achieved through a slump in production. But in a federal State with a monetary union the magnitude of the necessary recession is reduced since the shocks are partly compensated by the functioning of a common federal fiscal authority. 'After a permanent taste shock like the one proposed by Mundell, we can maintain full employment without changing the nominal exchange rate or the nominal prices if we tax region B sufficiently and give the proceeds to region A (or reduce tax in A). This will, under some reasonable assumptions, increase demand for good *a* and reduce demand for *b* at the initial relative prices. More generally, the tax and transfer policy will mitigate, but not completely eliminate, the regional fluctuations' (Sachs and Sala-i-Martin, 1989).

If this authority exists and taxes vary directly with the change in income, while transfers vary in the opposite direction, the change in income dY following an exogenous shock can be assumed to be:

$$dY = dH/(1 - \lambda c)$$

where dH is the exogenous shock on demand, and:

$$\lambda = 1 - \beta_{tr}(TR/Y) - \beta_{tx}(TX/Y)$$

$$\beta_{tr} = -(dTR/TR)/(dY/Y)$$

$$\beta_{tx} = (dTX/TX)/(dY/Y)$$

If it is assumed that $\lambda < 1$, 'the multiplier on changes in H is smaller for smaller values of λ, i.e. for larger values of β_{tx} and β_{tr}. Procyclical taxes and countercyclical transfers stabilize the economy in the face of external shocks' (Sachs and Sala-i-Martin, 1989).

The results of Sachs and Sala-i-Martin, with reference to the US fiscal system, show that 'the existence of a federal system of interregional tax/transfers can partially absorb the real consequences of real shocks in a world of nominal rigidities and fixed exchange rates. ... We found that a one dollar decrease in a region's per capita income triggered a decrease in federal taxes between 28,1 and 30,9 cents and an increase in transfers between 6,2 and 10,1 cents. So the fall in disposable income is somewhere in between 61,6 and 65,1 cents on the dollar. The federal government, therefore, absorbs somewhere between 35% and 40% of the interregional cyclical income imbalances' (Sachs and Sala-i-Martin, 1989).

If a federal fiscal authority exists, then automatically a large absorption of exogenous shocks is realized. The total amount of this absorption depends substantially on three factors: (i) the global size of the budget, since the value of λ and also the value of the multiplier diminish with an increase in the amount of transfers and taxes on GDP (respectively, TR/Y and TX/Y); (ii) the provision of taxes that vary procyclically, i.e. they diminish with a reduction in income and increase with a growth in income, since taxes paid to the central fiscal authority can be considered to be like imports; (iii) the existence of expenditure that changes anticyclically, especially transfers in the field of social security that rise when income diminishes and decrease when income grows, since transfers that one region receives from the central fiscal authority can be considered to be like exports.

The results achieved by Sachs and Sala-i-Martin in their empirical work are challenged by Von Hagen (1991) who estimates the automatic stabilization effect through the fiscal system at 10 cents in the case of a GDP loss equal to USD 1. Von Hagen's conclusion is consequently that 'the United States provide an example of a monetary union working without significant mechanisms to balance regional shocks'. Anyway, given the uncertainty of the real effectiveness of these automatic stabilizers and the limited size of the Community budget, it seems even more necessary to enlarge the package of instruments that regional stabilization policy can exploit.

In this perspective, the suggestion already advanced in the MacDougall Report (Commission of the European Communities, 1977) of a 'conjunctural convergence facility to extend grant finance to economically weak Member States in particularly difficult economic situations' deserves renewed consideration, and is further developed in the proposal, described below, of a special financial support scheme.

8. Built-in stabilizers on the revenue side

Fifteen years ago the MacDougall Report, adopting a similarly analytical point of view, strongly supported the idea of increasing the size of the Community budget, up to at least 2 to 2,5 % of European GDP.

From this Report it emerges clearly that, in the Community's current situation, the task of promoting an effective stabilization of the all-European economy cannot be carried out effectively since the size of the EC budget is too limited to have a significant impact on macroeconomic variables. A priority task for the Community driving towards an economic and monetary union is also to redress imbalances in the level of income between the different Member States. This is necessary for the purpose of obtaining political consensus in order to achieve other objectives, such as the completion of the internal market. In addition, the Single European Act correctly reiterates the importance of economic and social cohesion.

A main priority in achieving these targets is surely to increase the size of the Community budget, and mainly to raise spending for structural policies. In the actual political situation of the Community it seems realistic to assume that a doubling of the present size of the budget — equivalent to the size indicated as a target in the MacDougall Report for the pre-federal phase — is the maximum level that could be achieved.

Based on this hypothesis it is necessary to evaluate the new own resources that could be utilized to finance the increased Community expenditure, only taking into account the type of taxes generating positive and sufficiently large redistributive and stabilization effects. As a matter of fact, some built-in stabilizers should also be introduced on the revenue side, if one wants to assign to the EC budget, at least partially, the role that Sachs and Sala-i-Martin attribute to the US federal budget.

A first step in this direction can be achieved if it is decided that every increase in the size of the EC budget must be financed through a new Community surtax on national income taxes, with a simple equalizing mechanism (Majocchi, 1991; Biehl, 1990; Majocchi and El Agraa, 1983). It implies a very simple reform of the existing fourth resource and yields significantly its stabilizing effects. Firstly, the total revenue from each Member State should be determined on the basis of the proportion of each country's GDP to total Community GDP. Afterwards, the total resources due by each Member State to the Community budget would be modified by applying a progressivity coefficient calculated on the basis of the ratio of the per capita income of that country to the average per capita income of the Community. In this way the wealthy countries would have to contribute more to the Community budget that the poor ones. The Member States would then levy on their citizens the overall Community surtax on the basis of their respective income tax structures.

The amount of the tax burden for a country i is defined in this way. If t_a is the proportional Community tax rate (the share of the respective GDP each country has to pay to the Community budget) and Y the income (Y_E is the Community overall income), then:

$$T_i = t_a Y_i$$

with:

$$T_E = \sum_{i=1}^{12} T_i = t_a Y_E \tag{1}$$

and, since the tax is proportional to GDP for each Member State i:

$$h_i = T_i/T_E = Y_i/Y_E \tag{2}$$

If T_i^* is the share of the total tax burden T_E due from each country i after the correction by a progressivity coefficient k_i, then:

$$t_i = T_i^*/T_E = k_i T_i / \sum_{i=1}^{12} k_i T_i$$

where the progressivity coefficient, N being the amount of population, is:

$$k_i = (Y_i/N_i)/(Y/N)$$

and the new effective tax rate, with:

$$T_i^* = t_i T_E = t^*_{ai} Y_i \tag{3}$$

and taking into account equations (1), (2) and (3), is

$$t^*_{ai} = T_i^*/Y_i = (t_i T_E)/Y_i = t_i (t_a Y_E)/Y_i = t_a (t_i/h_i)$$

where the ratio between the progressive and the proportional rate is:

$$t^*_{ai}/t_a = t_i/h_i$$

Therefore, if k_i tends towards 1 — as the per capita income in the country i tends towards the Community average — then t_i tends towards h_i and the tax rate tends towards the proportional rate. The amount of the Community surtax, whose purpose would be clearly perceived by the citizens, will thus be reduced for the wealthier countries (and increased for the poorer) if the differences in per capita income were ironed out. Eventually, if complete equalization were achieved, the budget would be financed, together with other own resources, by a proportional flat-rate income tax.

Once the tax burden for a country i is defined, the second step is the distribution of the tax burden within each country. In accordance with the conclusions of Tresch's analysis (1981), which states that it is up to the central level of government to redistribute income among the regions, while the lower levels of government should be responsible for intrapersonal redistribution (Tresch, 1981; Petretto, 1987; Rimini, 1991), each Member State would make provision for the Community surtax to be distributed among its own citizens in accordance with its existing progressive income tax structure (Majocchi, 1987).

Essentially, the citizens of the various Member States would have to pay a surtax earmarked for the financing of the Community budget. The rate of this surtax to be paid by each citizen in country i is determined in the following way. If:

$$T_i^* = t^*_{ai} Y_i$$

and the revenue of the personal income tax in country i is:

$$R_i = r_i Y_i$$

then:

$$T_i^* = (t^*_{ai}/r_i) R_i$$

The rate of the surtax to be paid by each taxpayer in country i to contribute to the financing of the Community budget would therefore be t^*_{ai}/r_i.

Naturally, the application of this surtax does not change in any way the form of the tax function for each country, and hence the degree of progressivity defined on the basis of the social welfare function supporting the progressive income tax legislation adopted by each Member State.

The advantages of this proposal are mainly the following:

(a) Tax transparency: EC citizens will be fully aware of the fiscal burden linked to the financing of Community expenditure. This transparency is particularly needed if the size of the budget is significantly increased;

(b) The redistributive effects among the Member States: this type of taxation will favour redistribution among areas characterized by different levels of economic growth (Majocchi, 1985; Rimini, 1991) and could represent a first step towards the introduction of an effective 'Finanzausgleich' system, which in the long run is unavoidable in order to maintain cohesion within EMU;

(c) Stabilization effects: a Community income surtax could be an automatic stabilizer, its impact also depending on some technical features of the tax which are able to reduce the time-lags between changes in income and taxation, as well as on the total amount of taxation.

Clearly, this proposal, which obviously does not presuppose any prior harmonization of national income taxes, is only feasible in the context of a deeply reformed Community, where the principles of solidarity are more firmly entrenched and the powers of political control over the size and management of the budget are clearly defined, attributing a major role to the European Parliament.

A second type of own resource tax that could be envisaged in this context is the so-called carbon tax. The Commission has recently presented a communication to the Council defining a strategy to limit CO_2 emissions and to improve energy efficiency, so that the target — fixed by the Joint Energy-Environment Council of 29 October 1990 — could be achieved of stabilizing carbon dioxide emissions by the year 2000 at the level of 1990. A first positive decision has been taken by the Joint Energy-Environment Council of 13 December 1991. It has asked the Commission to present formal proposals to the Council before May 1992.

In the communication, one of the measures included in the package suggested by the Commission is a new tax on all fossil fuels, nuclear electricity and electric power generated by large hydro plants. Half the tax should be established according to the energy content and the other half according to the carbon content. The rate could be equal to USD 3 per barrel of oil at the beginning (January 1993) and could be increased by USD 1 each year up to USD 10 in the year 2000. The carbon tax, together with other regulatory, fiscal and voluntary measures and if complemented by adequate national programmes, could be sufficient to guarantee the achievement of the stabilization target.

The communication explicitly envisages that the revenue deriving from the tax will go to the exchequers of the Member States. But, if the new legislation is defined at Community level, the carbon tax could also be utilized in the future for the financing of the Community budget. An own resource of this kind would largely increase the automatic flexibility of the budget, since the taxable base, represented by the consumption of energy, reacts immediately if output and income are increasing or decreasing. Equally, redistribution effects among the Member States appear positive, since energy consumption — and consequently carbon dioxide emissions — increases with an increasing level of income.

The possible negative effects on the personal distribution of income must be considered further, since energy expenditure represents a larger share in the budget of poor families than in the budget of rich ones. But these negative redistribution effects (Baker and Smith, 1991) could be balanced efficiently by the neutralization of the revenue deriving from the tax, mainly through a reduction of the taxes that put a burden (the deadweight loss) on the incomes deriving from labour and capital. In this way the fiscal system will evolve towards a structure which is more environment-friendly and, at the same time, less distorting and more favourable to employment and to the formation of savings, as has already been the case with Swedish fiscal reform (Rimini, 1992).

9. EC fiscal policy in practice: Strategies and instruments

On the basis of this theoretical background, it is possible to turn, in the second part of this paper, to more specific issues of the policy instruments available to support weaker national economies within EMU. For the past 15 years, several proposals have been submitted in the form of official EC documents and academic contributions. Two main issues stand at the forefront of this debate. First, traditional fiscal stabilization policies, based both on discretionary interventions and on automatic flexibility mechanisms, have been criticized from different points of view. Budgetary policy priorities and objectives have changed considerably over the past decade, showing a remarkable bias in favour of the efficiency aspects of fiscal measures. In other words, greater emphasis has been given to mid-term targets and to supply-side strategies as regards taxation, expenditure and public debt (Padoa-Schioppa, 1987). These theoretical and political views cannot avoid affecting the question of whether a stabilization policy of an orthodox Keynesian type at Community level is needed or, on the contrary, whether, in the case of an asymmetric shock to a country, redistributive-type policy measures, perhaps associated with some (more or less severe) efficiency constraints, are needed.

The second issue relates to the quantitative and qualitative features of the Community budget. In due time the Community budget could and should be changed both in amount and in structure. Nonetheless, in the early stages of EMU, because of the limited size of the Community budget and of its allocative-oriented structure, a traditional stabilization fiscal policy at Community level seems difficult to attain. The special support scheme envisaged in this paper could be considered as a 'necessary/possible' Community intervention, even if the authors are fully aware that from a less gradual and less pragmatic point of view it could easily be accused of being a 'too little' or 'too late' kind of policy.

10. Stabilization policy in the MacDougall Report

The major role played by public finance in cushioning short-term and cyclical fluctuations in existing economic unions has been underlined in the MacDougall Report (Commission of the European Communities, 1977). One half to two thirds (this seems to be rather exaggerated according to recent estimates) of a short-term loss in primary income in a region, due to a fall in its external sales, might be automatically offset by lower payments of taxes and social insurance contributions to the central government, and higher receipts of unemployment and other benefits. Because the European Community budget was relatively very small, there was no such mechanism in operation on any significant scale between Member States, and this was an important reason why in such circumstances monetary union was considered impracticable.

In fact, economic and monetary integration leads to the progressive loss by Member States of their ability to control trade, exchanges rates, and monetary and fiscal policies, although the loss of control over fiscal policy is only partial in a federal system. The more open the economies of Member States, the less effective the national instruments of economic policy. The presumed remedy is to pursue the targets of economic policy at a higher level of government encompassing major spillover or leakage effects, either through coordination or direct fiscal action.

According to the Report, a federation in Europe might be possible, presumably at some later date, in which federal public expenditure could be around 20 to 25% of GDP, as in the United States and the Federal Republic of Germany. An earlier stage entails lower federal expenditure of the order of 5 to 7% of GDP (a 'small public sector federation'). An essential characteristic of such a federation would be that the supply of social and welfare services would nearly all remain at the national level (Majocchi, 1987). Such an arrangement could provide a sufficient geographical equalization of productivity, sufficient standards of living and the cushioning of temporary fluctuations in a monetary union. A federation with these special characteristics would thus greatly facilitate the creation of a monetary union. The MacDougall Report, however, also tended to concentrate on what it called 'pre-federal integration', falling short of monetary union, with public expenditure at Community level amounting to around 2 to 2,5% of GDP, with limited public sector activity.

In considering which expenditure functions might be carried out to a greater extent at Community level, two major criteria were envisaged. First, the case for Community involvement in achieving economies of scale (external relations and trade, energy, advanced technology, industrial and technical standards). Second, the case for Community involvement in spillover events within the Community. This would imply Community action in the areas of structural and cyclical policies (regional, manpower, unemployment) to ensure as far as possible that the benefits of closer integration are seen to accrue to all citizens and that there is growing convergence — or at least not widening divergence — in the economic performance and fortunes of Member States.

Among the main directions in which Community expenditure might be changed, even in the pre-federal integration phase, the MacDougall Report suggested a need for substantial expenditure at Community level in the area of structural, cyclical, employment and regional policies in order to reduce interregional differences in capital endowment and productivity. The suggestion included some items, outlined below, which are fully compatible with the orthodox fiscal policy instruments.

First, a Community unemployment fund, of which part of the contributions from individuals in employment would be shown as being paid to the Community and part of the receipts for individuals out of work as coming from the Community. This would have significant redistributive effects and help to cushion temporary setbacks in particular member countries, thereby going a small part of the way towards creating a situation in which monetary union could be sustained.

Second, a system of cyclical grants to local and regional governments, that would depend upon regional economic conditions related to regional unemployment and trend indicators (for example, regional GDP per capita and regional unemployment trends).

Third, a conjunctural convergence facility, aimed at preventing acute cyclical problems in weak Member States leading to increased economic divergences, taking into account the extent to which the Member State was or was not prospering in the areas of trade and competition in the Community and, according to circumstances, subject to negotiated economic policy and performance conditions.

Where grants are involved, they should be made as cost-effective as possible. This could involve the use of specific-purpose matching grants, having variable matching ratios, and possibly the attachment of macroeconomic performance conditions to some of the grants, in order to increase the likelihood of increased economic convergence.

To summarize, the MacDougall Report considered whether the Community budget could or should be used as an instrument for helping to stabilize short-term and cyclical fluctuations in economic activity. The Report concluded that this would be very limited in the pre-federal integration period. With a budget of the order of 2 to 2,5% of GDP, the budget balance would have to swing by enormous percentage fractions to have a perceptible macroeconomic effect on activity in the Community as a whole. In any case, budgetary deficits and surpluses would only have limited effects unless they were linked to a coordinated Community monetary policy. Nonetheless the Report favoured:

(a) limited power for the Community to borrow (and repay) in order to prevent Community budgetary policy from actually accentuating cyclical movements, by forcing tax increases or expenditure cuts in recession years and vice versa, and to allow the EC budget to 'lean in the right direction' as far as the general thrust of coordinated national conjunctural policies is concerned;

(b) specific countercyclical policies, such as those mentioned above, i.e. the unemployment fund, cyclical grants to local and regional governments, and a conjunctural convergence facility.

However, whether the necessary public finance underpinning a monetary union could be achieved with a small Community public sector was one of the main issues of the debate.

11. The debate on stabilization policy following the MacDougall Report

A few years later, the study group on the economic effects of budget and financial transfers in the Community (Forte Report, Commission of the European Communities, 1979) developed a global approach to convergence within the Community. The group felt it necessary to submit the items suggested in the MacDougall Report to a critical evaluation. As to the issues more directly related to stabilization policy at Community level, the group considered that the Community unemployment fund would significantly complement a Community job-creation programme. Apart from its symbolic and psychological value as a means of fostering European awareness, such a system would have the important merit of affording an opportunity to harmonize the fragmented national systems, with their different levels of benefit and financing arrangements. Like the national systems, a partial Community unemployment benefit system would have the advantage of providing an automatic cyclical equalization structure.

According to the Forte group, the MacDougall proposal that cyclical grants be made to local or regional governments appeared to be premature in the pre-federal stage. It would cut deeply into the Member States' administrative structures and budgetary systems and would have no political basis. If the grants were general-purpose grants, they would in many cases fail to be converted into investment, because of a lack of clearly defined planning responsibilities. If they were given in the form of specific-purpose grants, there would be a bias in favour of regions in countries where the relevant tier had the power and duty to draw up medium-term investment programmes. It would therefore be necessary for such an arrangement to be prepared as part of a partial harmonization of administrative structures that should include a gradual transfer of regional policy responsibilities to the Community.

Furthermore, it was considered unwise to provide such grants solely at times of depressed economic activity, since this would mean regionalizing short-term economic policy or at least its fiscal component. It would be preferable to have a combination of a determined cyclical policy aimed at smoothing out fluctuations in economic aggregates, and an efficient regional policy, which would basically vary only in terms of its general tendency. This does not mean that programmes geared to evening out cyclical swings could not and should not have regional points of emphasis.

It would therefore be important to take steps to also improve the set of economic policy instruments available at Community level. According to the Forte group, since interstate coordination appreciably enhances the efficiency of national measures, given the close interdependence of international trade, the conjunctural convergence facility would clearly be a major step forward on the road to integration. In periods of generally depressed economic conditions, funds from this facility would normally have to be available to all governments, but there should be a bias in favour of those countries faced with the sharpest recessionary trends. It would clearly be too great a burden on the Community budget if a sufficiently large conjunctural convergence facility were to be made available exclusively or predominantly in the form of grants. It is only conceivable as a credit facility. The Community's powers to issue its own loans should be increased accordingly. Two conditions should be attached. Firstly, crowding-out effects should be avoided. Secondly, institutional arrangements should ensure that the recipient governments did, in fact, spend the funds in a way which affected demand. Finally, using the Community funds for the purpose of countercyclical economic policy would require an ability on the part of the Community authorities to act quickly.

The key importance of a stabilization policy at Community level has been re-emphasized recently. The Report of the group chaired by Padoa-Schioppa (1987) holds that macroeconomic stabilization has long been regarded as an essential function of national economic policy. Nevertheless, as markets open up and international interdependence grows, macroeconomic policies are vulnerable to the increasing cross-border effects of national policies and situations. With the additional factor of the liberalization of the capital market, the international repercussions of internal policies become extremely significant. Stabilization policy is thus naturally shifted towards higher levels of government.

According to the Padoa-Schioppa Report, the commitments required by the Community documents for greater coordination of budgetary policies are in line with the Keynesian idea of economic fine-tuning, which was fashionable more than 10 years ago. The idea implicit in the decision on convergence of 1974 is that national budgets should be aligned with the requirements fixed by the Community, whose authority gradually strengthens as progress is made towards economic and monetary union. Initially non-binding guidelines should gradually acquire enforceability.

Budgetary policy priorities have changed considerably over the past few years. Greater emphasis has been given to mid-term targets and to fulfilling objectives as regards taxation, expenditure and public debt.

The international impact of these strategic aspects of budgetary policy may be less immediate than their short-term impact on aggregate demand. The idea behind the decision on convergence of 1974 that Community orientations prevail on national budgetary policy is not plausible for institutional and economic policy reasons. Nevertheless, the opposite view, which rejects the possibility of sometimes using coordinated action or claims that adjustments to national budgetary policies cannot have any real and useful impact on the economy, is also wrong and dangerous. The international consistency of mid-term budgetary strategies and the problems of their timing require greater attention from the Community.

If monetary integration progresses to a more qualitatively advanced stage, then, according to the Padoa-Schioppa Report, the need could arise for a Community-level budgetary policy with a wider range than a system of limited potential designed simply to coordinate national policies. More specifically, it may be necessary to ask whether, in the future, Community finances should acquire a dimension that would permit macroeconomic interventions.

A number of proposals have been put forward. The Community could raise the level of its investment financing activities for a few years with loans from the European Investment Bank and the New Community Instrument, and with Community subsidies to cover interest liabilities. The Community's budgetary current account would continue to balance and its capital spending would be reflected as loans, and not as direct expenditure (proposal put forward by Albert, 1983).

A second criterion could be a cyclically balanced Community budget. This would enable public investment spending to be accelerated, for example on transport and communication projects of common interest, during periods of economic weakness. As long as the cyclical fluctuations of the Community budget are of macroeconomic importance for the entire EC economy, their minimum dimensions should be equivalent to 1% of GDP.

Recent studies have returned to the issue of a Community fiscal policy. According to Krugman (1987), in a situation of capital mobility, it is technically possible for European countries to maintain fixed exchange rates through coordinated monetary policies, whilst simultaneously pursuing independent fiscal policies. But independent fiscal measures in this context can give less than optimum results because each country is unaware of the consequences of its own actions on the exports of its neighbours. Since interdependence is already very strong in Europe, further intensification also makes coordination a matter of urgency in this sector. Coordinating fiscal policies is perhaps even more difficult politically than coordinating monetary policies. No country is capable, even temporarily, of assuming the leadership in resolving the problem of coordination. Nevertheless, in reviewing the problems of European integration, it is difficult to avoid the conclusion that this is the 'systemic' change that will be most required in the near future.

According to more recent contributions, widespread concern can be felt that fiscal policy independence might bring conflicts in EMU leading to proposals for deficit ceilings, policy coordination and a Community-wide system of taxes and transfers. Would individual governments borrow too much on the assumption that their debt would be monetized by a European central bank? Would Member States independently attempt to reduce the relative prices of their goods through contractionary fiscal policy in order to be competitive? Or, alternatively, would they use expansionary fiscal policy to improve their terms of trade (Masson and Melitz, 1990)?

A strong approach to these questions has recently been supported by Sachs and Sala-i-Martin (1989). Looking at the US experience, they argue that a joint fiscal policy may be required for the survival of EMU. The US Federal Government absorbs one third of the shocks affecting its regions, which partly 'insures' the fixed exchange-rate system from real shocks that would otherwise lead to its collapse. In the absence of a major Community-wide mechanism of transfers, a Member State hit by an adverse country-specific shock might be tempted to move out of the monetary union and devalue. In order to raise the chances for survival of a European monetary union, it would be advisable to create a European fiscal union in parallel. When Europe looks to the United States as a model of an optimal currency area, it should think about implementing a European federal fiscal institution, at the same time as implementing a European federal reserve system.

These conclusions have been contrasted by Masson and Melitz (1990). They tend to show that, as far as the value of fiscal policy independence is concerned, the benefits of fiscal cooperation remain largely a moot point of discussion. The same conclusion stands as regards the issue of possible incentives for Member States to run excessive fiscal deficits in a monetary union, and the role of deficit ceilings in limiting this possibility.

Another basic question concerns the possible use of regional transfers to alleviate the undesirable consequences of monetary union. Such transfers might be an advantageous means of putting limits on the redistribution associated with fiscal policy independence. However, according to Masson and Melitz, this would not imply that a fully integrated fiscal system may even be essential for monetary union to work. More precisely, one should remain sceptical about the critical need for a system of taxes and transfers in order to compensate for unfavourable country-specific shocks. How much does the argument for an integrated fiscal system really concern the viability of monetary union rather than an independent question of redistributive justice? Depressed areas tend to call for aid, not for monetary independence. Besides, what would prevent an automatic transfer system from coming into operation because of problems that a country brought upon itself (for example, an enormous wage settlement or an excessively tight fiscal policy) and that aroused no sympathy elsewhere in the union? A system of taxes and transfers between member countries might be acceptable as a way of funnelling aid to poorer States. It might not be acceptable if it were a means of providing collective insurance for everyone.

12. The main issues related to stabilization policy in the light of the theory of fiscal federalism

The basic underpinning of the MacDougall Report has been the theory and practice of fiscal federalism. The various stages towards economic and monetary union between the EC countries have attracted new attention to fiscal federalism developments, with particular reference to the assignment of functional responsibilities between the various governmental tiers, including stabilization policy. Assignment of stabilization functions to the highest level of government is one of the corner-stones of the traditional theory of fiscal federalism. But it would be unrealistic to expect the full realization of this task by the Community budget in the earlier stages of EMU. What one could pragmatically expect is the introduction of some selective financial instruments, consistent both with the size and workings of the Community budget, and retaining strong autonomy for Member States. Some recent lessons from the fiscal federalism theory must be taken into account, relating to the main issues involved in stabilization policy.

(a) The size of the Community budget. The quantitative dimension of the overall Community budget has been extensively indicated as one of the main issues concerning the effectiveness of fiscal policy at Community level. From a traditional Keynesian point of view of aggregate demand management, the present Community budget as a percentage of the Community GDP is substantially below what is usually considered a critical level in order to have a significant impact on the main macroeconomic variables.

Both the MacDougall and the Forte Reports made clear the strategic relevance of this point especially in comparison with other federal experiences, such as in the United States and Germany. The overall amount of the Community budget has been taken into account here, and not only the dimension of some selected fund or expenditure item of the Community budget. In fact, looking at present federal experiences, such as those previously mentioned, the stabilizing role of the budget largely relies on the built-in flexibility of the revenue side, in particular the automatic countercyclical behaviour of federal income taxes. Federal government acts as a cushion to regional income imbalances, mostly through the tax system rather than the transfer system. As a consequence, the overall budget is involved and not only some expenditure items.

Ideas to endow the budget with a significant capacity to stabilize the EC economy on aggregate (like the one advanced by the Marjolin Committee in 1975 for EC public finance to get involved in unemployment insurance, or that of Albert (1983) to empower the Community to borrow for onlending, with interest-rate subsidies, to the private sector) have never received strong political support from the Member States. For the budget to fulfil a meaningful anticyclical role, a huge swing in budgetary dimension would have to be allowed. From the point of view of fiscal policy at Community level, the various stages of the institutional, political and economic roles of the European Community will be largely characterized by this indicator, namely the relative weight of the Community budget on GDP.

In conclusion, even if in the long run an increase in the size of the Community budget — justified in itself by allocative reasons — is unavoidable to guarantee an effective stabilization capacity for Community fiscal policy, in the present circumstances the Community budget is still unable to play an important stabilization role for the EC economy as a whole.

(b) The direction of EC stabilization policy and the dimension of stabilization funds. In the present situation, and in the near future, the revenue side of the Community budget is expected to have a limited impact on Community stabilization policy. Should an active fiscal stabilization policy be seen as useful and necessary, this expected inflexibility of the Community revenue sources presumably would negatively affect both the automatic and the discretionary manoeuvres. The reform suggested before with regard to the fourth resource or the adoption of the so-called carbon tax, with the provision of a strengthened built-in stabilizer on the revenue side, could limit this rigidity. Nonetheless the present structure of own resources is still inadequate.

It is generally accepted that the proper stance of budgetary policy for the Community as a whole would have to be secured essentially through the coordination of national policies. Instead, Community budgetary interventions should be geared toward the absorption of adverse country-specific shocks having two main features: (i) an exogenous nature, i.e. not linked to Member States' governments' political behaviour and decisions, and (ii) a significant and durable macroeconomic incidence for the country concerned.

Thus, in designing a shock adjustment policy, it would be more realistic to rely on specific grants and loans programmes. This hypothesis could be seen as suboptimal with respect to wider involvement of the Community budget. Nonetheless, in the earlier stages of EMU it would be more practicable. Furthermore, it would be more consistent with the critical views on the effectiveness of aggregate demand management policies. This subordinate and, perhaps, suboptimal hypothesis would nevertheless imply that an adequate amount of financial resources be directed to shock adjustment.

This Community financial support instrument could take the form of a contingency fund. There are strong reasons for having such a fund separate from the normal budget, which the Council could draw on if a shock were to happen. The idea of a contingency fund is by no means new in Community budgetary affairs. In fact, the agricultural 'war chest' to absorb unfavourable developments in the US dollar/ecu exchange rate fulfils such a role already.

As it needs to exhibit a clear macroeconomic dimension, a major economic problem can be taken to mean that, for unchanged policies, it would cause the GDP growth of the Member State in question to decline drastically below its normal trend. Since transfers under the financial assistance programme should be able to exert a significant macroeconomic impact irrespective of the size of the Member State under consideration, it appears reasonable to suggest that the maximum level of assistance (grants and loans) per individual support case, for example, should be about 1% of national GDP of the biggest member country, i.e. Germany (about ECU 15 billion).

Because their economic structure is typically less diversified, smaller member countries are relatively more vulnerable to exogenous disturbances of a macroeconomic dimension. Therefore it could be argued that financial assistance should exhibit a favourable small-country bias.

(c) Balanced budget constraint and revenue-expenditure cyclical behaviour. A crucial point of traditional stabilization policies is that a balanced budget constraint brings about procyclical effects. In periods of expansion, unless tax rates are timely and properly reduced through discretionary actions, the automatic increase on the revenue side encourages expenditure expansions, thus feeding further demand. On the contrary, during recessions, the automatic decrease of tax revenues induces expenditure cuts in order to preserve the balanced budget constraint. From an orthodox, functional, Keynesian point of view, it would appear suicidal behaviour to increase taxes through *ad hoc* decisions in order to prevent cuts in public outlays. As mentioned above, the MacDougall Report was well aware of this problem for the Community budget, due to its balance constraints. The Report was in favour of a limited power of borrowing (and repayment) to prevent the need for a Community budgetary policy that actually accentuated cyclical movements, by forcing tax increases or expenditure cuts in recession years and vice versa, and to 'lean in the right direction' as far as the general thrust of coordinated national conjunctural policies is concerned.

New proposals have recently been put forward to take this point into account. In suggesting the creation of a European federal transfer scheme (EFTS) (Van der Ploeg, 1991), it has been maintained that it would be crucial that such a transfer programme be budget-neutral. The budget of the EFTS should be intertemporally balanced so that taxes are smoothed and that, during a boom, debt accumulated during a recession is paid off. This could perhaps imply relaxing the Community rules about the balanced budget obligations from time to time. However to remove such constraints could induce serious criticisms from member countries with tied budgetary policies.

The proposal to create a contingency fund, separate from the normal budget, could overcome these difficulties.

(d) The limited range of expenditure functions. Community functional responsibilities are at present rather limited. So far the Community concern has been more oriented towards the area of the allocation branch, with some limited interest in the distributive field. Furthermore, some of the functions give rise to pure regulatory activity. Thus, using direct expenditure programmes in shock adjustment policies would imply relying on very specific and selective interventions. Structural and microeconomic implications (or supply side for example) of such actions could be more pronounced and efficient than a short-term macroeconomic impact, even if this could appear as a severe limitation for the Community's political and economic roles.

13. Some lessons from the most recent fiscal federalism experiences

Should the Community decide to activate further grants and loans programmes in order to adjust to shocks, some lessons could be learned from recent fiscal federalism experiences. To be more precise, in almost all industrialized countries the overall amount and the variety of intergovernmental financial transfers are the most relevant features of intergovernmental financial and institutional relations. The huge weight, both in quantity and variety, of central grants on subcentral (or, broadly speaking, local) government financing has recently received growing criticism for several reasons (Rey, 1991).

First, it has been maintained that intergovernmental grants negatively affect fiscal accountability and give room to rent-seeking activities. Grant-financing does not encourage the recipient's accountability. Intergovernmental grants shift the balance of fiscal responsibilities, thus increasing all sorts of connections and collusion between the grantor authority and the grantee. Transfers place a premium on those politicians who can lobby for grants and usually place little premium on those who are effective managers of their governments.

Second, intergovernmental grants could negatively affect government performance. Central grants might importantly influence the incentives for the receiving government to behave efficiently. Intergovernmental aid may lead the beneficiary authority to provide services in a less than optimal way for at least two reasons. First, grants may alter the effective prices which the receiving body must pay for inputs for the production of a service. In fact, these prices no longer reflect the true cost of resources. Second, due to the so-called 'other people's money effect', fewer incentives are given to efficiency efforts, since they do not turn into advantages for local taxpayers.

Third, intergovernmental grants might encourage further expenditure expansion due to the so-called 'fly-paper effect', i.e. 'money sticks where it hits'. Intergovernmental grants could be an important expansionary factor for the grantee expenditure. Worse, they could encourage expectations and pressure for further financing, thus inducing strong rigidity elements in the grantor budget.

Fourth, intergovernmental grants are a privileged case for information asymmetries. Intergovernmental relations and, in particular, the grantor-grantee relation have been a useful field for applying the findings of the economic theory of information. If the case for general purposes unconditional grants is disregarded, in which the amount granted is totally independent from any behaviour of the recipient authority, two kinds of information asymmetries could easily emerge in many grant programmes. The *ex ante* asymmetry — in the 'hidden information' case or the 'adverse selection' case — occurs when the grantor authority (the principal) may not be able to be fully acquainted with the relevant characteristics of the grantee authority (the agent). The *ex post* asymmetry — the 'moral hazard' case — occurs when the grantor authority may not be able to adopt adequate counteractions against the misleading or disappointing behaviour of the receiving government. The so-called 'creative accounting' or 'grantmanship' practices can be seen in this light. The problem of finding appropriate incentive-compatible mechanisms is one of the main lessons of this new approach to public finance in general, and to any grant programme in particular.

The risk of perverse incentives is even greater in grants awarded to individuals and firms. Proponents of the European federal transfer scheme, a variant of MacDougall's idea of a Community unemployment fund, are fully aware of the strong incentive arguments against it. As a system which operates by transferring income from individuals (as Community taxpayers) of one country to (unemployed) individuals of another country, thus replacing at least partially the national unemployment insurance programmes, the EFTS 'signals to the bargaining process that real wages can be kept high, provides an invitation for free-riding on European funds, and gives a fiscal incentive for government failure' (Van der Ploeg, 1991). As a final result, the necessary real adjustments in factor markets could be delayed instead of being accelerated. The establishment of open-ended entitlements in favour of a great number of potential beneficiaries, as a result of the Community's extensive involvement in social policies, will face this kind of efficiency objection.

14. The special financial support scheme in economic and monetary union: Different alternatives

Several further issues must be solved in organizing a proper structure for a grant and/or loan programme in order to mitigate the effects of shocks occurring in a Member State. It will be useful to review the main alternatives one encounters in proposing a Community special support scheme. It should also be agreed that in the future the Community should have at its disposal more than one instrument of intervention, as suggested by the literature examined previously.

(a) The first question concerns the way of determining the total amount of the fund. The issue is whether the total amount of financial resources devoted to such programmes should be determined yearly on the basis of automatic criteria (for example, a given percentage of total EC revenue or of some specific revenue item; the total amount of an earmarked tax revenue) or on a purely discretionary basis.

The first choice would signify a greater political commitment to these policy objectives, since an automatic mechanism will insure that resources are earmarked for such a task. On the contrary, it would imply a greater rigidity in budgetary decisions. It seems useful in the early stages of operation to rely on discretionary decisions, thus determining yearly the total amount of resources devoted to this task.

(b) The second issue is related to the question of whether the projected support scheme should establish conditions for eligibility on an a priori basis, in order to bring about open-ended entitlements, or whether the programme should be based on predetermined amounts (closed-end grants/loans).

One should recall that most existing social security benefit schemes belong to the former, including unemployment compensation programmes such as the EFTS. It is difficult to suggest at this stage in which of the two systems described above the special financial support scheme envisaged here should fall. On the one hand, all countries affected by some shock and ready to fulfil some pre-established requirements should be entitled to receive Community aid. On the other hand, the total amount required to face the expected interventions could put the Community resources under severe strain. Bearing in mind a gradual and experimental attitude, the latter choice would be preferable in order to keep the overall expenditure under control.

(c) The third issue concerns conditionality, i.e. whether the amount granted would have a specific destination constraint or not. Should the grant/loan programme be conditional, or even conditional and matching, or would a general purpose unconditional structure be preferable?

A conditional structure for assistance aid would be more practicable. In other words, the granted aid should be devoted to a particular and predetermined task, sector or project. This choice would be more consistent with the allocative and structural approach of Community functions. On the other hand, for the beneficiary State to satisfy such conditions would imply a time-lag with implications for economic effectiveness. An alternative choice would be between a strictly conditional intervention (for example, a specific investment project) or a broad area of intervention (for example, in the field of telecommunications).

(d) The fourth question concerns eligibility. More precisely, what kind of indicators or conditions should be chosen when determining the occurrence of a shock?

Specific economic indicators (GDP tendency, rate of unemployment) should be chosen as the terms of reference. It appears from the above consideration that a financial assistance scheme of grants or loans should offer Member States limited mutual insurance against the occurrence of adverse shocks that are both macroeconomically significant and of a lasting nature. Possible examples of such shocks include national or environmental disasters, sudden disruptive market developments in external demand or supply, or massive migratory flows from outside the Community. In order to minimize the chances of such assistance giving rise to perverse incentives, the provision of aid should be preceded by a careful examination of whether the shock in question could be reasonably considered as 'exogenous', i.e. lying beyond the domestic government's economic policy responsibility and behaviour.

(e) The fifth issue is related to the beneficiary subjects. In particular, should only national governments be the beneficiary subjects, or should other agents, such as subnational governments, firms or individual persons, be entitled to receive Community aid?

As mentioned above, several proposals have been suggested which involve either subnational governments or individual persons in becoming beneficiaries of Community aid. But this would imply rather complex issues from the institutional and operational points of view. On the one hand, as mentioned above, the Forte Report made strong objections to the MacDougall proposals to provide direct aid to subcentral governments, due to the complexity of interfering with differing institutional situations. On the other hand, 'the desideratum would be for the transfer to represent an assured, early augmentation of [the] individual's expected future incomes' (Goodhart and Smith, in this volume). One of the most relevant features of MacDougall's Community unemployment fund and of the EFTS is that they fulfil such a condition. As outlined in the General Report, 'the major advantage of such schemes is that they constitute a cushion providing direct and immediate household income, hence demand, for regions going through a slump and that they spread part of the economic risk arising from EMU membership over the whole of the union'. Unfortunately such projects could face even greater efficiency and managerial problems: above all, several kinds of inextricable interferences with different conditions for eligibility and different levels of provisions established by national systems. In conclusion, in the early stage of application of the special financial support scheme, it would be preferable to rely on the central governments of the Member States.

(f) A sixth issue concerns whether other conditions and constraints (economic performance; economic and fiscal behaviour and discipline) should be attached to the grant/loan programmes.

It would be advisable to design provisions of aid subject to positive conditionality, monitoring and sanctions forming the counterpart of Community support. Subjecting financial aid to conditions only makes sense if their respect can be monitored and their non-compliance sanctioned. In the case of macroeconomic conditions, monitoring should be relatively easy as progress can be gauged from a standard set of macroeconomic indicators. The respect of microeconomic provisos (for example, sectoral restructuring) is in principle harder to verify. It would therefore be advisable to formulate, where possible, conditions in terms of objectively measurable variables (like sectoral employment or the volume of oil and energy consumption). The Commission should have the task of drawing up, for each support intervention under the first mode, regular reports within the multilateral surveillance framework reviewing national policy measures and the evolution of the local economic situation. The credibility of sanctions is an essential requirement for a conditional aid scheme to function properly. Non-compliance with conditions should be ascertained by the Commission and, after deliberation in the Council, could lead to demands for a partial or total refund of grants or loans already made available.

(g) The seventh question concerns the basic issue of automatic flexibility versus discretionary *ad hoc* decisions. In other words, should the aid procedure and decisions be activated on a discretionary basis, or should some sort of automatic mechanism be introduced (such as a formula flexibility framework)?

Fiscal discretionary policies have received the well-known Friedman criticisms based on time-lags affecting *ad hoc* decisions. Since then, built-in flexibility has received continuous attention as a positive factor of the revenue and expenditure system. The problem for the Community, therefore, and especially for the special support scheme, is to act fast. Unfortunately, at the present stage of political integration, the time is not yet ripe for a full introduction of automatic stabilizers at Community level. On the expenditure side, it has been seen at point (e) that mechanisms like a Community unemployment fund (which has been repeatedly envisaged) are liable to pose severe problems of perverse incentives, delaying instead of accelerating the necessary adjustment in factor markets. Furthermore, there would also be serious managerial difficulties in coordinating the European schemes with the national unemployment schemes, which already face considerable problems to counter inappropriate use. Furthermore, it follows from point (d) that the programme would function in a discretionary way and be activated only after compliance with clear Community decision procedures bringing about *ad hoc* measures. The problem, therefore, is how to overcome the great danger of time-lags in discretionary policies. Thus, Community aid should be designed in such a way as to reconcile the discretionary nature of intervention with the need for a quick response to shocks.

Similar to the well-established International Monetary Fund (IMF) procedure, this reconciliation could be secured by allowing Member States, upon consultation with the Commission, to draw at any time on a certain tranche of the funds available under the scheme (amounting, for example, to 25% of the maximum aid available for an individual case). The money taken up through this tranche would be considered an advance payment. Pursuant to the positive conditionality idea, the remainder of the support provided for in the intervention decision would be put at the applicant's disposal as and when the problem at hand would be deemed to make this necessary and domestic policy developments would be judged satisfactory. Conversely, the tranche would have to be reimbursed integrally within a predetermined time if the Council came to the conclusion that the problem invoked did not meet the necessary conditions.

(h) A final issue concerns whether a pure grant programme would be preferable or a grant/loan mixed formula. A pure grant programme has the great advantage of administrative simplicity. Furthermore, a lump-sum grant formula does not imply rigidity elements in the grantor budget in view of future commitments. On the contrary, a grant/loan formula, for example loans with a (partial) coverage of interest costs, would imply some administrative complexity and would introduce a growing rigidity in the grantor budget especially for medium/long-term loans. In fact, such a formula has a great advantage: that of amplifying the opportunities for intervention.

15. Conclusions

The problem of implementing a monetary union within the European Community must be solved without delay since the completion of the internal market in 1993. However, in the Community the size of the budget is limited and does not guarantee adequate effects of automatic stabilization. Even if, in the long run, equilibrium is reached in the economy according to the hypothesis of the natural rate of unemployment, it is evident, nonetheless, that short-term cyclical fluctuations cannot be excluded.

This paper mainly considers the problem of country-specific exogenous shocks — or common shocks with asymmetric effects — affecting a Member State deprived of the exchange-rate instrument within monetary union. If wages and prices are fixed in the short run, there could be a major production and employment drop with a consequent welfare loss without recourse to devaluation. In the long run, adjustment comes through changes in real wages and thus in the relative prices of domestic tradable goods. Also in this perspective, an effective fiscal stance must be designed to cope with the difficult problems of the transitional period.

In a monetary union with a budget of adequate size, an automatic adjustment mechanism exists if revenue sources behave procyclically and expenditure anticyclically. But this does not happen within the Community. As a matter of fact, it is true that for some Member States the net contribution of the EC budget is already of a macroeconomically significant magnitude — for instance, the difference between revenue paid and expenditure received through the EC budget is equal to 3,94% of GDP in Greece and 4,49% in Ireland. But the automatic stabilization properties of these net contributions is not relevant and the budget is thus unable to face effectively the problems of stabilization.

The goal to be pursued was already well established in the MacDougall Report: an increase in the size of the EC budget. Furthermore, the achievement of this target is justified by the necessity to implement new policies and to strengthen existing ones in the framework of economic and monetary union. It is also important to reform the European fiscal system by introducing new revenue sources with higher automatic flexibility. This paper suggests financing the EC budget with the revenue of a carbon tax, which provides a large amount of automatic stabilization without significant time-lags. Another possibility is to reform the fourth resource, providing it with a degree of progressivity and with the capacity to act as a built-in stabilizer, thus establishing the basis for an effective 'Finanzausgleich' system, which is unavoidable in the perspective of a workable economic and monetary union.

Unfortunately, it seems unlikely that these reforms will be realized in the short run, given the present political constraints. In the mean time, the weakest countries economically will not be able to give up the exchange-rate instrument if an adequate safety net is not provided. For this reason, this paper suggests, by developing the idea already put forward in the MacDougall Report of a 'conjunctural convergence facility', that the relevant instrument of mutual insurance within the monetary union could be a contingency fund, financed *ad hoc* by the Member States and able to cope with the problems of an economy hit by an exogenous shock.

It is assumed that this fund could be used only once it has been ascertained that the shock is not tied to a policy failure, i.e. its responsibility lies beyond the economic policy behaviour of the domestic government. The maximum amount of grants and loans distributed according to this facility could be equal to 1% of the gross domestic product (GDP) for the member country concerned, or to ECU 5 billion (in 1990), whichever is highest, in order to provide a positive bias for small Member States. The aid is discretionary, but a first tranche equal to 25% of the maximum aid available for an individual case can be activated automatically, thus avoiding time-lags tied to discretionary action. This tranche must be reimbursed if the conditions for receiving the aid are not fulfilled. Grants and loans are conditional, and the established conditions must be satisfied by the receiving country in order to promote the convergence of economic performance in Member States.

This is probably only a second-best solution, but it has the great advantage of being politically more workable in the short run and of being able to provide the minimum conditions necessary to guarantee the adhesion of the economically weakest countries to the monetary union. At the same time, the degree of utilization of this facility could be reduced if the built-in stabilizer capacity of the budget is increased and the availability of economic instruments for facing the problems of the economically weakest regions is enlarged through the strengthening of the Structural Funds. This instrument can thus be framed correctly in the perspective of reform of the Community's finances envisaged by the MacDougall Report.

References

Albert, M. (1983), *Un pari pour l'Europe*, Paris, Seuil.

Baker, P. and Smith, S. (1991), 'Distributional effects of market-based environmental policy instruments in OECD countries', Paris, OECD.

Begg, I. G. (1989), 'European integration and regional policy', *Oxford Review of Economic Policy*, 5(2), pp. 90-104.

Bianchi, C. (1991), 'On the need of a stabilization policy in a monetary union', paper presented at the Department of Public Economics Conference, University of Pavia, mimeo.

Biehl, D. (1990), 'Reforming the financing system of the EC: A progressive surcharge proposal', paper presented at the IIPF Congress, Brussels, mimeo.

Commission of the European Communities (1977), 'Report of the study group on the role of public finance in European integration' (MacDougall Report).

Commission of the European Communities (1979), 'Report of the study group on the economic effects of budget and financial transfers in the Community' (Forte Report).

Commission of the European Communities (1990), 'One money, one market', *European Economy*, No 44.

Dornbusch, R. (1980), *Open economy macroeconomics*, New York, Basic Books.

Fleming, J. M. (1962), 'Domestic financial policy under fixed and under floating exchange rates', *IMF Staff Papers*, pp. 369-379.

Giovannini, A. and Spaventa, L. (1990), *Fiscal rules in the European monetary union: A no-entry clause*, London, CEPR.

Goodhart, C. A. (1989), *Money, information and uncertainty*, London, Macmillan.

Goodhart, C. A. and Smith, S. (1992), 'Stabilization', this volume.

Hall, R. E. and Taylor, J. B. (1986), *Macroeconomics. Theory, performance and policy*, New York, Norton.

Hartland, P. C. (1949), 'Interregional payments compared with international payments', *Quarterly Journal of Economics*, pp. 392-407.

Ingram, J. C. (1973), 'The case for European monetary integration', *Princeton Essays in International Finance*, No 98.

Kaldor, N. (1970), 'The case for regional policies', *Scottish Journal of Political Economy*, pp. 337-348.

Krugman, P. R. (1987), 'The economic integration in Europe', in Padoa-Schioppa, T., *Efficiency, stability and equity*, Oxford, Oxford University Press.

Majocchi, A. and El Agraa, A. (1983), 'Devising a proper fiscal stance for the EC', *Rivista di Diritto Finanziario e Scienza delle Finanze*, pp. 377-400.

Majocchi, A. (1985), 'Gli effetti redistributivi del bilancio', Rapporto CER, No 3.

Majocchi, A. (1987), 'Le fédéralisme fiscal et la fonction rédistributive: le cas de la Communauté européenne', *Revue française de Finances Publiques*, No 20.

Majocchi, A. (1991), 'The future financing of the Community', European Parliament, Hearing before the Committee on Budgets, mimeo.

Masson, P. and Melitz, J. (1990), 'Fiscal policy independence in a European monetary union', paper presented at the Bundesbank Conference, Frankfurt, mimeo.

Mundell, R. A. (1961), 'The theory of optimum currency areas', *American Economic Review*, 51, pp. 657-664.

Mundell, R. A. (1963), 'Capital mobility and stabilization policy under fixed and flexible exchange rates', *Canadian Journal of Economics and Political Science*, pp. 475-485.

Murat, M. (1991), 'Natura ed effetti di shock all'economia. Un'analisi nell'ipotesi di unione economica e monetaria tra Stati', paper presented at the Department of Public Economics Conference, University of Pavia, mimeo.

Musgrave, R. A. and Musgrave, P. B. (1976), *Public finance in theory and practice*, Macmillan, New York.

Padoa-Schioppa, T. (1987), *Efficiency, stability and equity*, Oxford, Oxford University Press.

Petretto, A. (1987), *Manuale di economia politica*, Bologna, Il Mulino.

Rey, M. (1971), 'A review of the theory of automatic fiscal stabilization', M.Phil. dissertation, University of York.

Rey, M. (1991), 'Towards a revision of the theory of fiscal federalism?', in Owens, J. and Panella, G., *Local government: An international perspective,* Amsterdam, North-Holland.

Rimini, L. (1991), 'La funzione redistributiva in uno Stato federale e il finanziamento della Comunità Europea', paper presented at the Department of Public Economics Conference, University of Pavia, mimeo.

Rimini, L. (1992), 'La riforma fiscale svedese', *Rivista di Scienza delle Finanze e Diritto Finanziario.*

Sachs, J. D. and Sala-i-Martin, X. D. (1989), 'Federal fiscal policy and optimum currency areas', Harvard University, mimeo.

Scitovsky, T. (1969), *Money and the balance of payments,* Chicago, Rand McNally.

Tresch, R. W. (1981), *Public finance. A normative theory,* Plano, Business Publications.

Van der Ploeg, F. (1991), 'Macroeconomic policy coordination during the various phases of economic and monetary integration in Europe', in 'The economics of EMU', *European Economy,* Special edition No 1.

Van Rompuy, P., Abraham, F. and Heremans, D. (1991), 'Economic federalism and the EMU', in 'The economics of EMU', *European Economy,* Special edition No 1.

Von Hagen, J. (1991), 'Fiscal arrangements in a monetary union. Evidence from the US', Discussion Paper 58, The School of Business, Indiana University.

Wyplosz, C. (1991), 'Monetary union and fiscal policy discipline', in 'The economics of EMU', *European Economy,* Special edition No 1.

Stabilization policy in economic and monetary union in the light of the Maastricht Treaty provisions concerning financial assistance

Theodoros Papaspyrou

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

Table

Summary

The Maastricht Treaty, in its chapter on economic policy (Article 103a), includes provisions allowing for the granting of Community financial assistance to Member States in difficulties or seriously threatened with severe difficulties caused by exceptional occurrences beyond their control.

These provisions will replace, from the start of the third stage, those included in the current Article 108 concerning Community financial assistance to Member States facing balance of payments difficulties.

This paper examines the implications of these Treaty provisions for the scope, nature and form of such Community financial assistance. This examination takes account of the experience gained from the operation of the present Community balance of payments mechanism.

A comparative analysis of the current and the new Treaty provisions concerning financial assistance of a macroeconomic nature makes evident that, despite differences in the institutional and analytical framework, they are inspired by a common philosophy: Community financial assistance is granted only in exceptional situations and under well-specified conditions. An implication of the new Treaty provisions for the nature of the Community's contribution is that 'genuine' stabilization mechanisms at Community level are not on the agenda regardless of their merits. The analysis of such mechanisms is, nevertheless, indispensable in that they constitute a bench-mark against which the stabilization properties of other 'second-best' schemes should be measured.

Regarding the form of Community financial assistance in economic and monetary union (EMU), arguments of both a financial and economic nature suggest that a pure loan mechanism would not be able to provide an adequate response to the requirements of the new situation. A mechanism combining grants and loans is seen as the most appropriate alternative.

1. Introduction

Since the general issues concerning stabilization policy in economic and monetary union (EMU) are discussed elsewhere in this volume, this paper will focus on the potential role of a Community financial mechanism which has been activated, in well-defined situations, in order to support the stabilization efforts of Member States.

The scope for such a macroeconomic facility in the context of EMU, as well as its size and form, are examined, taking account of the new institutional and analytic framework as well as the experience gained from the use of the present Community mechanism providing financial assistance in case of balance of payments difficulties.

In order to have practical relevance, the analysis and the proposals on this issue are kept within the framework set by the Treaty provisions concerning Community financial assistance as agreed at Maastricht. This implies that 'genuine' stabilization mechanisms, conceived of as an extension of national automatic stabilizers, are not on the agenda, however desirable they might be. The analysis of such mechanisms is nevertheless indispensable in that they constitute a benchmark against which the stabilization properties of other 'second-best' schemes should be measured.

2. Community mechanisms for balance of payments assistance

The legal framework for the design and activation of Community mechanisms for balance of payments assistance is based on the existing Article 108 of the EEC Treaty. The granting of financial assistance is conditioned by the existence of difficulties, or the threat of difficulties, in the balance of payments of a Member State. Although details regarding the terms and conditions for the activation of such assistance are left to be defined by Council decisions, the Treaty itself gives some indications about the form of the assistance.

2.1. Legal basis

The current mechanism through which the Community provides financial assistance, in the form of conditional loans, to Member States facing balance of payments difficulties is the medium-term financial assistance mechanism (MTFA).[1] It was established by a Council Regulation[2] in June 1988

[1] This mechanism should be distinguished from short-term monetary support, an arrangement for short-term swaps and deposits effected among Community central banks in the case of temporary balance of payments deficits.

[2] Council Regulation (EEC) No 1969/88 of 24 June 1988.

which merged into a single mechanism the two previously existing facilities for medium-term balance of payments assistance:

(a) the medium-term financial assistance mechanism, created in 1971 and preserved in the context of the European Monetary System (EMS). The funding of this facility relied exclusively on credits received from other Member States;

(b) the Community loan mechanism, created in 1975 in the aftermath of the first oil crisis. Under this mechanism the Community borrows from the capital markets and on-lends the proceeds to the Member State(s) concerned.

Funds raised on capital markets are the preferred financing arrangement for the new 1988 mechanism, although the alternative of funding through credits from other Community members is also available if capital market conditions render fund-raising unsatisfactory.

2.2. Ceilings

The maximum total value of loans to be granted under this facility was fixed at ECU 16 000 million. The maximum amount that the Commission of the European Communities can borrow on capital markets and from financial institutions cannot exceed ECU 14 000 million. If conditions prevailing on capital markets are unsatisfactory or if the ECU 14 000 million limit mentioned above is reached, Community loans can be financed by other Member States according to specified ceilings and conditions.

2.3. Conditionality and monitoring

The granting of the loan is linked to the adoption by the beneficiary Member State of economic policy measures designed to re-establish, or ensure, a sustainable balance of payments situation. The decision to grant the loan is taken by the Council on a proposal from the Commission. The Council decision defines the terms of the loan as well as the economic policy conditions attached to it.

The Commission verifies at regular intervals, in collaboration with the Monetary Committee, that the economic policy of the Member State is in line with the conditions approved by the Council. The release of the consecutive loan instalments (as a rule the funds are disbursed in two or three tranches) is conditional on verification that the agreed economic policy terms were respected.

2.4. Use of the financial assistance facility

Since 1971, the facility for balance of payments financial assistance has been activated six times, most recently in favour of Greece in March 1991. Italy requested a balance of payments loan in October 1992, following the monetary turmoil inside the exchange-rate mechanism (ERM) and the lira's exit from the system. Specifically, the Member States listed in Table 1 have benefited from the facility.

Table 1

Balance of payments financial assistance

Year	Country	Amount (in millions)	Mechanism
1974	Italy	EUA 1 159,2[1]	MTFA of 1971
1976	Italy (10/13)	USD 1 100	Community loan
	Ireland (3/13)	DM 500	mechanism
1977	Italy	USD 500	Community loan mechanism
1983	France	ECU 4 000	Community loan mechanism
1985	Greece	ECU 1 750	Community loan mechanism
1991	Greece	ECU 2 200[2]	MTFA of 1988
1993	Italy	ECU 8 000	MTFA of 1988

[1] European units of account.
[2] In three tranches: the first tranche of ECU 1 000 million was disbursed in April 1991.

Taking account of the loans granted and repayments received, the currently available (31 December 1992) margin under this mechanism is about ECU 13 000 million (ECU 11 000 million through EC capital market financing).

2.5. Assessment[1]

To assess the value of the Community balance of payments facility in its various forms since it was established in 1971, two criteria are adopted:

(i) the degree to which the terms of the loans (conditionality) were met;

(ii) whether the broad objectives which led to the creation of the mechanism, as well as the specific ones set in each case, were attained.

[1] This does not take account of the recent 1991 loan to Greece.

Regarding wider Community objectives, it is considered that the mechanism proved its usefulness in facilitating stabilization and adjustment (see recitals of Council Regulation (EEC) No 1969/88) while preserving open trading and financial systems and supporting the Community drive towards integration.

Moreover, there was in general a high-enough degree of compliance with the economic conditionality terms and of success regarding the basic objective, i.e. the maintenance or re-establishment of equilibrium, or of an acceptable and stable situation, in the balance of payments.

Against this positive overall assessment should be set a number of weaknesses:

(a) in some instances, balance of payments situations were considerably improved but key intermediate targets were missed. Increased capital inflows and reduced outflows, following the granting of the loan and the adoption of an adjustment programme, were the basic reasons for such a rapid balance of payments improvement;

(b) there were cases of a reversal, after the end of the stabilization programme or even after the first year of stabilization, of the progress initially achieved regarding both economic adjustment and balance of payments equilibrium. To some extent this reversal can be attributed to the situation mentioned above, i.e. that of an early improvement in the balance of payments without substantial progress in the rest of the policy targets (a situation described as 'stabilization without adjustment'). This phenomenon often leads to a relaxation of efforts to pursue adjustment given that the basic objective of the loan operation, a restoration of the balance of payments situation, is achieved, even temporarily.

Important aspects of the mechanism, as reflected in the decisions by which it was set up, are its flexibility and its preventive character.

The mechanism obtains high marks on flexibility, at least as far as the last three Community loans are concerned: its activation, from receipt of a Member State's request for assistance up to the effective disbursement of funds, takes weeks rather than months. Although this quick activation may reflect the fact that there had been a prior period during which preparatory work was done, such as informal contacts and capital market research, it remains nevertheless a remarkable performance. It should be noted that the rapid activation of the mechanism only applies to cases where its funding is effected through fund-raising on financial markets. According to the evidence, the mutual assistance version of the mechanism, consisting of the granting of credits to the member concerned from other Member States, is more time-consuming as it involves, at least in several Member States, a procedure of parliamentary approval of such credits.

Although the role of the facility as a factor averting balance of payments crises has been considerable, and in certain cases decisive, its preventive character is less pronounced. It remains, at least in the perception of the prospective beneficiaries, as a 'last resort' facility activated only when the balance of payments difficulties reach a crisis level. The low frequency of the use of the facility since its establishment may partly reflect this phenomenon.

It is noteworthy that the improvement of the balance of payments and the attainment of macroeconomic equilibrium had a more lasting character in cases where the stabilization measures accompanying Community loans were part of a more general reorientation of macroeconomic policies and a commitment to a policy of sound money.

Although the economic policy conditions accompanying the granting of the loans invariably focused on macroeconomic variables (credit expansion, public expenditure, public sector deficit and monetary financing thereof, etc.), they also included, to a varying degree, a component of structural adjustment measures aimed at improving market organization, the efficiency of the tax system, etc. Evidence of Community and International Monetary Fund (IMF) conditional loans points to a superior performance and more lasting balance of payments improvement when stabilization programmes incorporated a well-designed array of structural changes (for IMF loans, see Sachs, 1983).

3. Financial assistance mechanism in the transition period

Existing Treaty provisions allowing for the possibility of Community financial assistance in case of balance of payments difficulties were maintained, for the transition period, by the new Maastricht Treaty.[1]

The maintenance of these provisions is justified by the fact that balance of payments difficulties may arise during the transition period and, therefore, the mechanism may need to be activated in order to facilitate adjustment and preserve the undisturbed movement towards EMU.

[1] For members with a derogation (i.e. those not having adopted the single currency), balance of payments assistance will be possible even after the start of the third stage and as long as that derogation lasts.

This assessment is principally based on two elements. First, even if exchange-rate adjustments remain possible during the transition period, their use is expected to be less and less frequent as a tool for macroeconomic adjustment — even for members not participating in the exchange-rate mechanism of the EMS — as we move closer to the final stage of EMU. Second, the abolition of restrictions on capital movements is expected to be completed by the end of 1992 in those Member States which still keep certain capital restrictions (regarding Greece and Portugal, the Council can extend, under certain conditions, this deadline for a maximum period of three years). A balance of payments facility should remain in place to guarantee an undisturbed movement to EMU for those members exposed to the risks of a completely open financial system after decades of tight financial and foreign exchange regulations.

4. Economic and monetary union: Scope for a Community financial support mechanism

A useful starting-point for discussion on the scope and form of a Community stabilization mechanism in EMU could be the examination of possible analogies between such a scheme and the existing mechanism for financial assistance in case of balance of payments difficulties. In EMU, the disappearance of the balance of payments constraint for the individual Member States obviously renders meaningless a facility for balance of payments difficulties.

Nevertheless, neither the external constraint, in its broader financial and economic sense, nor the need for stabilization measures following external disturbances would disappear. Although the assumption of monetary risk by the European System of Central Banks (ESCB), combined with the free mobility of capital, would make the liquidity constraint faced by Member States' economies much less pressing, this does not make the financial constraint any less real. On the contrary, precisely because the liquidity constraint is reduced, the risks of accumulated debt and insolvency following external shocks would rise.

The need, within EMU, for the availability of instruments to cope with disturbances similar, at least in their impact if not origin, to those for which the present balance of payments facility was designed is also reflected in Article 103a, in the chapter 'Economic policy', of the amended Treaty. The provisions of this article are as follows:

'1. Without prejudice to any other procedures provided for in this Treaty, the Council may, acting unanimously on a proposal from the Commission, decide upon the measures appropriate to the economic situation, in particular if severe difficulties arise in the supply of certain products.

2. Where a Member State is in difficulties or is seriously threatened with difficulties caused by exceptional occurrences beyond its control, the Council may, acting unanimously on a proposal from the Commission, grant under certain conditions Community financial assistance to the Member State concerned. Where the severe difficulties are caused by natural disasters, the Council shall act by qualified majority. The President of the Council shall inform the European Parliament about the decision taken.'

On the other hand, the present Article 108, which is the basis for the activation of the balance of payments mechanism, provides for '... the granting of mutual assistance ... where a Member State is in difficulties or is seriously threatened with difficulties as regards its balance of payments'.

The comparison of the above provisions makes evident that a common philosophy inspires both articles: to allow for the possibility of the activation of a Community financial mechanism in case of disturbances of an exogenous character. Although no explicit reference is made in the new article to the origin of the disturbances, it is clear that the phrase 'exceptional occurrences beyond the control of a Member State' is intended primarily to mean disturbances of an external origin.

4.1. Implications of Treaty provisions

The above provisions of the new Treaty set the framework and the limits for any Community financial assistance mechanism activated in order to support the stabilization efforts of Member States in case of asymmetric (country specific) shocks. It is evident that the European Council did not follow the views of many economists who suggested an enhanced role for the Community in stabilization policy measures on the fiscal side.

The proponents of such an enhanced Community role offer convincing arguments that in an economic and monetary union, whose central element is a single currency and a centralized monetary policy, shocks having an asymmetric impact on union members could be much more efficiently offset through stabilization measures at a central (Community) level which would complement national stabilization efforts. An optimal arrangement, regarding its stabilization effects, for such Community intervention would involve the automatic activation of a financial assistance mechanism in the case of country specific shocks. Such a mechanism could be seen as an extension of national built-in stabilizers to Community level.

The fact that the Council did not accept these suggestions but instead opted for a more restricted form of financial assistance should not be interpreted as necessarily implying that the arguments were not convincing enough in their own terms. A plausible alternative explanation is that such proposals, regardless of their merits, imply an enlargement of the Community's role which does not, at present, correspond to a common political will.

One implication of the Maastricht decision is that proposals aimed at the implementation of the Treaty provisions must take fully into account the limits they impose regarding scope, size and conditions for activation. None the less, the study and analysis of mechanisms providing optimal stabilization is considered indispensable in that they may help to indicate the 'feasible best' design of a mechanism which fits within the limits imposed by the Treaty: such an analysis would provide a yardstick by which the stabilization properties of other second-best arrangements could be measured.

The present analysis will focus on certain key elements of the abovementioned provisions of the Maastricht Treaty for the activation of the financial assistance facility. Elements examined include conditions for activation and financial aspects of such assistance. Reference is made, where advisable, to the experience gained from the activation of the balance of payments assistance. The main concern will be the identification of areas that need further study and clarification rather than to supply definitive answers to all questions.

5. Design and activation of the Community financial support mechanism

5.1. Conditions for activation

Key elements of the amended Treaty provisions concerning the granting of Community financial assistance within the EMU context are:

(a) the exceptional character of the situation;

(b) the severe nature of the difficulty for the economy concerned;

(c) the exogenous nature of the disturbance which provoked the difficulty.

A further important element, present also in the balance of payments facility, is the preventive potential of the facility, created by allowing its activation also in case of the threat of severe difficulties.

The requirement that, for activation of the facility, there should be the joint occurrence of all the above conditions underlines the restricted *ad hoc* character of the facility. It will be useful, in examining just how restrictive these turn out to be, to relate these Treaty guidelines to actual situations and conditions for implementation of the facility.

Compared to the present balance of payments financial assistance mechanism, the activation of the new facility presents the following three main differences.

1. Its scope is broader in that it is not restricted to balance of payments difficulties (although, as noted above, in practice it is expected to respond primarily to external shocks).
2. It is more restrictive regarding the nature of difficulties: its activation is made conditional on the verification that the difficulty emanates from an exogenous ('beyond the control of the Member State') cause. The activation of the balance of payments mechanism requires only the existence of balance of payments difficulties regardless of their origin. (Of paramount importance for the Community is that the situation be remedied and restrictive measures liable to jeopardize the functioning of a common market be avoided.)
3. Conditions for activation are more vague than the verification of a balance of payments difficulty: all the key concepts — 'exceptional occurrences', 'severe difficulty' and 'exogeneity' of disturbances — require judgments that cannot be made simply by reference to quantitative indicators.

With regard to the requirement that the origin of difficulties should lie beyond the control of the Member State(s) concerned (exogeneity requirement) the main difficulties of interpretation may arise in cases where both elements coexist: difficulties due initially to exogenous shocks but aggravated by inappropriate economic policies or vice versa.

The concept of 'severe difficulty' is related to the size of the adverse impact and has an unequivocal financial component: the granting of Community financial assistance (provided that the other conditions are fulfilled) would be linked to the capacity of the Member State concerned to cope effectively with the situation, without undue strain on its public finances and serious risks for its economic and financial situation.

The development of a system of suitable economic and financial indicators providing timely and accurate information would certainly help in the task of analysing and interpreting the nature and severity of the situation. The Commission, the institution responsible for making proposals to the Council on requests for financial assistance, should assume the tasks of both establishing and interpreting such indicators.

Regarding the nature of disturbances, beyond their exceptional character and their severe consequences, there is only the explicit reference to natural disasters. The provision requiring only a qualified majority for granting financial assistance in these cases (as against unanimity for the rest) underlines their character as the least controversial kind of shock, in terms of eligibility for assistance.

The absence of an explicit reference to the nature and origin of other disturbances implies that both economic and non-economic ones may qualify provided that the three fundamental requirements mentioned above are fulfilled. The legislator gave preference to guaranteeing the exceptional character of Community intervention — especially by the requirement of unanimity for a decision — allowing a degree of freedom regarding the origin of the disturbances.

5.2. Financial aspects

Central issues regarding the implementation of the facility are:

(a) its funding, i.e. the sources and amounts of funds that can be mobilized in case of need; and

(b) the forms in which financial assistance could be provided to the Member State(s) in difficulty.

The Maastricht Treaty provisions make no reference to this aspect, leaving it to the Council to decide on the most appropriate forms of financial assistance as well as funding methods. This is in contrast to the present Article 108 which refers explicitly, although in an indicative way, to credits from other Member States among the possible forms of financial assistance.

A basic question in this context is whether the design of a balance of payments mechanism based on a system of recycled loans can be transposed to the EMU environment and serve as a guide for the implementation of the new Treaty provisions, or whether the new situation requires new arrangements and forms of assistance.

A comparative analysis of the two situations leads to the conclusion that although the recycled loans system of the balance of payments mechanism could be kept as a component of Community financial assistance in the EMU context, certain key changes in its funding as well as in the form of the financial support it provides would better serve the objectives of the new facility. Both purely financial as well as economic arguments point in this direction.

Taking account of the fact that access to financial markets by members of the economic and monetary union would be easier, and that the mechanism is destined to be used by any Community member experiencing difficulties due to unforeseen disturbances, regardless of its level of development and access to financial markets, it is evident that a pure loan facility would not be an adequate response to the requirements of the new situation.

The examination of some analytical aspects in relation to the nature of the difficulties and their implications for the economy concerned underlines an important difference between the two situations, justifying a differentiated approach concerning the form of assistance:

(a) severe difficulties resulting from exceptional occurrences, under the new provisions, imply loss of income almost by definition. Moreover, the exogeneity requirement, although it does not affect the impact of the shock, ensures that the origin of the difficulty lies beyond the control of the Member State;

(b) a balance of payments difficulty, on the other hand, does not by itself indicate loss of income (although re-establishment of the balance of payments equilibrium does). On the contrary, in many cases of balance of payments crises, their principal cause was excess demand, mainly originating from excessive budget deficits (this is best reflected in the adjustment measures accompanying the granting of the loan).

A corollary of the above is that the form of the financial assistance (roughly loans or grants) should be differentiated according to the nature of the difficulty and its impact on the economy: a situation involving certainty of income loss (exceptional occurrences in EMU) should, in principle, be treated differently from one in which this is not necessarily the case (balance of payments difficulties).

Academic analysis of the issue of the stabilization of asymmetric shocks leaves no doubts on the appropriate form of financial assistance if maximum stabilization is sought: the stabilization of shocks implying a loss of income should be effected through grants to those hit (this is a necessary but not a sufficient condition for maximum stabilization: automaticity of compensation is also required; see Goodhart and Smith, in this volume).

Since Treaty provisions leave open the question of the form of assistance, it can be assumed that Community financial assistance in the form of grants could be envisaged. The practical implication of this is that appropriate arrangements should be developed allowing, within the framework of the institutional and financial constraints, for the incorporation of desirable elements in the design of the new facility.

In practice, the basic forms which Community financial assistance may take are either grants or loans and, in addition, some combination of both. As a Community measure, its funding would normally be Community borrowing for loans and the Community budget for grants (see option I in the annex). However, it may be useful to reflect also on some other variants, such as Member States' contributions, Member States' credits through a quota system, and special levies (see options II and III in the annex).

5.3. Conditionality

Economic conditionality is a standard component of balance of payments assistance mechanisms (Community, IMF). Its purpose is twofold:

(i) to ensure that the necessary measures will be taken in order to remedy the situation; and

(ii) to ensure that the borrower will be in a position to repay the loan.

It is evident that the two objectives are interrelated.

Financial assistance under the new facility will also be granted '... under certain conditions', according to relevant Treaty provisions. The nature and extent of these conditions would depend on the size, kind and origin of the difficulty. Mild conditionality, or no conditionality at all, may accompany assistance in case of natural disasters while more demanding conditions can be expected to be set in cases where the difficulties experienced require the adoption of appropriate adjustment measures in order to be overcome.

Bearing in mind the observed reluctance of prospective borrowers (see Section 2 above) to use conditional loan facilities, the issue of conditionality should be examined with care and in relation to other components of the financial assistance facility. The importance of this issue is also justified taking account of the stabilization role expected of a Community facility: since conditionality is the opposite of automaticity (considered as an ideal situation for maximum stabilization effect) its design merits particular attention.

On the other hand, the implementation of economic and other conditions attached to financial assistance to a Member State would be more easily monitored in a framework characterized by a higher degree of economic, financial and monetary integration.

5.4. Decisions on activation

The Council will decide on the basis of a proposal from the Commission.

The Member State concerned would accompany its request for financial support of any kind (grant, quota use, loan) with its preliminary assessment concerning origin, nature and extent of the difficulty. It should provide an assessment of its probable economic and budgetary implications. It should specify the measures that it considers necessary in order to remedy the situation.

The Commission would evaluate the situation on the basis of detailed economic, fiscal and financial indicators. It would discuss with the Member State all relevant aspects of the difficulty, the amount and nature of the financial support and the necessary economic policy measures. It would make proposals to the Council on the basis of this evaluation.

6. Concluding remarks

The possibility of granting Community financial assistance to Member States experiencing severe difficulties is foreseen in the Maastricht Treaty. The relevant provisions in the new Treaty will replace, from the start of the third stage of EMU for Member States having adopted the single currency, the provisions included in the current Article 108 concerning Community assistance in the case of balance of payments difficulties.

A comparative analysis of the existing and the new Treaty provisions concerning financial assistance of a macroeconomic nature makes evident that, despite differences in the institutional and analytic framework, they are inspired by a common philosophy: Community financial assistance is granted only in exceptional situations and under specified conditions.

These provisions set the limits regarding the scope and nature of Community financial contributions to national stabilization efforts in cases of country specific shocks. Their main implication is that fully-fledged stabilization mechanisms at Community level are not on the agenda, regardless of their merits.

Annex: Community financial assistance

Outline of basic options

	Option I	Option II	Option III
	EC budget and financial markets	Intergovernmental grants and financial markets	Stabilization fund and financial markets
Form of assistance		**Activation**	
Grants (100%)	—	—	Natural disasters
Grants (50%) Subsidized loans (50%)	Natural disasters	Natural disasters	—
Grants (30%) Subsidized loans (70%)	Other occurrences	Other occurrences	—
Quota drawings	—	—	Other occurrences
Subsidized loans	—	—	Other occurrences
		Funding	
Grants	EC budget	Member States' budget reserves	Members' contributions Share in ESCB profits
Subsidized loans	EC borrowing on financial markets	EC borrowing on financial markets	EC borrowing on financial markets
Quota drawings	—	—	Members' contributions Share in ESCB profits
		Budgetary implications	
Grants	EC budget	Member States' budgets	Fund's reserves
Loans	EC budget guarantee	EC budget guarantee	EC budget guarantee
Interest-rate subsidy	EC budget	EC budget	Fund's reserves
Quota drawings	—	—	Fund's reserves

References

Council Regulation (EEC) No 1969/88 of 24 June 1988.

EEC Treaty, Article 108.

Amendments to the EEC Treaty at Maastricht. Chapter on economic and monetary union, Article 103a.

Goodhart, C. A. E. and Smith, S. (1993), 'Stabilization', in this volume.

Italianer, A. and Vanheukelen, M. (1993), 'Proposals for Community stabilization mechanisms: Some historical applications', in this volume.

Majocchi, A. and Rey, M. (1993), 'A special financial support scheme in economic and monetary union: Need and nature', in this volume.

Pisani-Ferry, J., Italianer, A. and Lescure, R. (1993) 'Stabilization properties of budgetary systems: A simulation analysis', in this volume.

Sachs, J. (1983), 'Country studies: comments', *IMF conditionality,* Institute for International Economics.

Williamson, J. (1983) 'The lending policies of the IMF', *IMF conditionality,* Institute for International Economics.

Proposals for Community stabilization mechanisms: Some historical applications

Alexander Italianer and Marc Vanheukelen

Directorate-General for Economic and Financial Affairs,
Commission of the European Communities

Contents

Useful comments from Filip Abraham, Peter B. Kenen, Horst Reichenbach, Jürgen von Hagen and the participants of the seminar on Community public finance are gratefully acknowledged.

Tables

Graphs

Summary

Arguments have recently been advanced to provide the European Community during economic and monetary union (EMU) with a capacity to assist Member States in stabilizing their economy upon the occurrence of negative, country-specific shocks. Traditional automatic stabilizers are a by-product of large tax and transfer systems which cannot be drawn on to this end as they are unlikely to be transferred to Community level. A new instrument needs therefore to be devised. This paper presents a concrete proposal for two variants of stabilization mechanisms based on year-on-year changes in countries' unemployment rates relative to the Community average. It also offers a quantitative assessment of how these mechanisms would have performed over the past decade.

Contrary to prevalent beliefs that effective stabilization requires the mobilization of considerable budgetary flows, it is shown in this paper that a degree of stabilization similar to the one observed in the United States can be achieved with an estimated annual cost of only about 0,2% of Community GDP. The proposed mechanism proves very efficient because it is specifically designed for the purpose of stabilization. As the mechanism operates on the basis of relative changes in unemployment, rather than levels, the risk of inducing moral hazard problems or a bias towards any particular group of countries is minimal.

1. Introduction

The discussion on stabilization in economic and monetary union (EMU) has largely focused on theoretical arguments, often illustrated by the experience of existing federations. As shown elsewhere,[1] the federal experience is of limited value since the factors having the largest impact on stabilization in such countries (personal taxes and contributions, unemployment benefits) are unlikely to be transferred to Community level in the immediate future or in the medium term. One of the exceptions could be transfers of an intergovernmental nature such as the German 'Finanzausgleich' which, however, only partially serves as a stabilization mechanism.[2] Due to the specific character of the Community, which would make the straightforward application of the Finanzausgleich impossible (such as the absence of harmonized tax rates and tax bases), a new system would have to be devised.

The major choice to be made would be between an automatic stabilization mechanism which would operate for asymmetric shocks of all sizes (hereafter called the full stabilization mechanism), or a mechanism which would only be activated, either automatically or in a discretionary fashion, in the case of severe asymmetric shocks beyond a certain threshold (hereafter called the limited stabilization mechanism), and which would therefore serve as an insurance mechanism.

Without going into this debate,[3] this paper presents some concrete proposals for the two types of stabilization mechanisms, and how they would have worked over the past decade. Section 2 presents a simple full stabilization mechanism based on indicators of unemployment rates, while section 3 presents a related limited stabilization mechanism which is only activated for shocks beyond a certain threshold. Section 4, finally, presents some conclusions.

2. A full stabilization mechanism

Within federal or unitary countries, automatic stabilization takes place through many built-in features of the tax and transfer system. Depending on the country or on the estimates, stabilization can reduce the initial impact of a given shock on the income of a region by between 20 and 50%.[4] The important role in many countries of unemployment benefits in the stabilization process has caused several authors to propose a variety of European unemployment benefit schemes for EMU.[5] Nevertheless, the example of the United States, where the unemployment benefit system is mainly organized at State level,[6] shows that existing feder-

1 See Pisani-Ferry et al. (in this volume).

2 This is due to the fact that the 'tax capacity' indicator which forms the basis of the Finanzausgleich is partly determined by cyclical factors and partly by relative prosperity, therefore containing a distributional element. See Costello (in this volume).

3 For an extensive discussion and a view in favour of automatic stabilization, see Goodhart and Smith (in this volume). For a view in favour of a discretionary mechanism in the case of severe shocks, see Majocchi and Rey (in this volume).

4 See Pisani-Ferry et al. (in this volume.)

5 See Van der Ploeg (1991) or Wyplosz (1991).

6 See Von Hagen (1991).

ations can function with only a moderate stabilization capacity at central level. This could indicate that also in EMU there is no specific need for a strong Community full stabilization mechanism. In addition, there is also the fact that the Member States will, through their large degree of tax autonomy, provide themselves with a degree of automatic stabilization which is much higher than that of States in a federal system.

Nevertheless, the example of a system of transfers based on unemployment rates will be used in order to demonstrate how a system of moderate stabilization capacity could work. The proposed system, although based on unemployment rates, is not one of interpersonal transfers in the form of unemployment benefits. Instead, it is assumed to consist of payments to Member States' governments, which then decide how to spend these funds. The way in which governments make use of these transfers is of paramount importance, but will not be further pursued here.[1] Let it suffice to say that the impact of these transfers on the degree of stabilization obviously depends on the way the funds are used. A second question which will not be addressed is the way in which such a full stabilization scheme would have to be financed. This could happen in several ways: in a countercyclical fashion through offsetting payments by Member States experiencing higher than average economic activity, through the general Community budget (in which case an adequate provision for the funds needed would have to be foreseen), or out of a separate stabilization fund which would have to be constituted to this specific end.

The proposed system is quite simpie and would work as follows: for each Member State, the national unemployment rates are measured at regular intervals on a harmonized basis. In the numerical example below, both monthly and yearly unemployment rates based on Eurostat surveys are used, but for the explanation of the system, it is assumed that monthly data are available.[2] On the basis of the national unemployment rates of Member State i in month t, $U_i(t)$, the Community average excluding the Member State itself, $U_{iEC}(t)$ is calculated for the same month. In a second step, the change in the unemployment rates with respect to 12 months earlier is calculated as follows:

$$\begin{aligned} dU_i(t) &= U_i(t) - U_i(t-12) \\ dU_{iEC}(t) &= U_{iEC}(t) - U_{iEC}(t-12) \end{aligned} \tag{1}$$

In this way, seasonal variations are eliminated, and a measure of the shock is obtained. In order to be a recipient, the concept of stabilization requires that the shock be asymmetric and that the unemployment change in the Member State be positive. Therefore, the Member State would receive a transfer if the 12-month change in its unemployment rate is positive and greater than the average of its Community partners:[3]

$$\begin{aligned} &dU_i(t) > 0 \\ \text{and } &dU_i(t) > dU_{iEC}(t) \end{aligned} \tag{2}$$

In order to control the size of the payments in terms of GDP, each percentage point difference with respect to the change in the average of its Community partners implies a monthly payment $T_i(t)$ equal to a given percentage α of one twelfth of last year's GDP of the Member State concerned, say Y_i. In the example presented below, the value for α has been fixed at 1%. Furthermore, in order to put an upper ceiling on the system, relative unemployment changes above two percentage points are no longer compensated. In the example, the maximum monthly payment to a Member State is therefore equal to 2% of one twelfth of its annual GDP. Altogether, this leads to the following rules for the monthly transfers:

$$\begin{aligned} T_i(t) &= 0 && \text{if } dU_i(t) - dU_{iEC}(t) \le 0 \\ & && \text{or } dU_i(t) \le 0 \\ &= \alpha^*[dU_i(t) - dU_{iEC}(t)]^*Y_i && \text{if } 0 < dU_i(t) - dU_{iEC}(t) \le 2 \\ &= \alpha^*2^*Y_i && \text{if } dU_i(t) - dU_{iEC}(t) > 2 \end{aligned} \tag{3}$$

It should be stressed that the proposed system is only meant to serve as an example, and inherently contains a number of arbitrary elements which in practice would have to be the subject of political negotiations.

2.1. Why use the unemployment rate as an indicator?

A first important choice made concerns the use of the unemployment rate as the indicator of asymmetric shocks. In its survey form, the unemployment indicator has the advantage that it is available within a few months and is reasonably harmonized. An alleged disadvantage of using unemployment is, however, that it is a lagged indicator of economic shocks due to phenomena such as labour hoarding and that

[1] For an extensive discussion, see Goodhart and Smith (in this volume).

[2] When the data were collected from Eurostat in early January 1992, unemployment data up to October 1991 were available (excluding Greece for which no monthly data are available), therefore implying a recognition lag of two to three months.

[3] We have chosen Member States as the geographical units in this mechanism due to the fact that the stabilization scheme in principle compensates for the absence of the exchange-rate instrument, which is a national instrument.

the transfers could therefore have a procyclical impact.[1] Since this disadvantage is a characteristic of many stabilization schemes and since discretionary fiscal fine-tuning in general is no longer considered by the economics profession to be an efficient feasible policy instrument, this counter-argument does not seem to be specific to this particular stabilization instrument. This is not to say, of course, that instruments could not be devised which would a priori behave less procyclically.

A very crude idea of the link between changes in the unemployment rate and the occurrence of economic shocks may be obtained by estimating an equation for the so-called Okun's Law,[2] relating changes in the unemployment rate to deviations of GDP from trend growth. A cross-section estimation for all 12 Community countries using annual time-series data for the period 1981-90 gives the following result (with $y_i(t)$ being the annual growth rate of GDP; standard errors are in parentheses):

$$dU_i(t) = \underset{(0{,}138)}{1{,}035} - \underset{(0{,}046)}{0{,}347}\, y_i(t) \tag{4}$$

The coefficient estimates for this equation are highly significant. Rewritten in the form of Okun's Law,[3] this estimation implies an average trend growth rate in the Community over the 1980s of 1,035/0,347 = 3,0%. In other words, each percentage point growth rate below the trend growth rate of 3% was associated with an increase in the unemployment rate of about one third of a percentage point.[4] An estimation of this type could serve as a crude guide to the average empirical link between shocks in real economic activity and changes in the unemployment rate. Implicitly, this would assume, however, that changes in the unemployment rate are a stationary time-series. As can be seen from the data in Annex B, this assumption was not verified for most Member States over the sample period due to the occurrence of a negative trend. Therefore, equation (4) was re-estimated with a time trend, giving the following result:

$$dU_i(t) = \underset{(0{,}160)}{1{,}671} - \underset{(0{,}048)}{0{,}194}\, y_i(t) - \underset{(0{,}030)}{0{,}182}\, t \tag{5}$$

The negative trend turns out to be very significant (for further estimation details, see Annex A), and therefore this equation is more appropriate as a guide to the link between shocks and real economic activity, despite the fact that the trend growth rate is now difficult to identify from the constant.

A further refinement would require the estimation of such a relationship for each Member State, but since this paper is concerned with average orders of magnitude in the Community, this is not further pursued. Moreover, Annex A shows that the introduction of a country-specific constant or a country-specific semi-elasticity in equation (5) cannot reject the hypothesis that these coefficients are the same in all Member States.

Whereas equation (5) provides an indication of the link between absolute shocks in a Member State and corresponding changes in the unemployment rate, the proposed stabilization mechanism is based on relative shocks. An alternative indicator of the transmission of shocks can therefore be obtained by regressing relative unemployment increases on relative GDP increases. A cross-section estimation for all 12 Community countries using annual time-series data for the period 1981-90 gives the following result (with $y_{iEC}(t)$ being the annual growth rate of GDP for the Community partners of Member State i; standard errors are in parentheses):

$$dU_i(t) - dU_{iEC}(t) = - \underset{(0{,}076)}{0{,}038} - \underset{(0{,}050)}{0{,}179}\, [y_i(t) - y_{iEC}(t)] \tag{6}$$

As can be expected due to the use of deviations from the Community average, the constant of this equation is not significantly different from zero. The coefficient which translates relative GDP shocks into relative unemployment shocks is highly significant, however (for further details, see Annex A). According to this estimation, a relative decrease in the GDP growth rate of 1% will lead to a relative increase in the unemployment rate of 0,18 percentage points. This is virtually the same result as for equation (5), as could be expected due to the fact that averages for Community partners are subtracted on both sides of the equation.

2.2. The size of the payment

A second feature of the proposed system is that the payment is linked to the size of GDP. This has the advantages of simplicity and of putting a clear limit on the size of the

[1] In order to analyse whether changes in unemployment could be explained better by lagged changes in the GDP growth rate, equation (5) was also estimated using the previous year's growth rate of GDP, i.e. $y_i(t-1)$, as the explanatory variable (see Annex A). The estimation results are hardly different, indicating that the procyclical bias may not be a problem.

[2] See, for example, Dornbusch and Fischer (1984, pp. 489-490).

[3] i.e. as $U_i(t) - U_i(t-1) = -0{,}347\,(y_i(t) - 2{,}979)$.

[4] Equation (4) deviates from Okun's estimation in the sense that the trend growth is derived from the constant of the equation. Since there was a sample average of 0,3 percentage points in the dependent variable, the trend growth is overestimated, although this is not important for further argument. An estimation with both the dependent variable and the independent variable corrected for sample averages (see Annex A) shows that Okun's Law is hardly affected.

system. On the other hand, there is a less direct link with the number of unemployed persons. Since the system is not an unemployment benefit scheme, this is not a particular drawback. Moreover, since the payment is equal to the product of the 'excess' unemployment rate and GDP, this is equivalent to a payment per 'excess' person unemployed equal to GDP per person of the labour force, which can be interpreted as a measure of productivity.[1]

Although the proposed system is not one of unemployment benefits, it may be of interest to express the size of the payment as a percentage of the wage bill per person unemployed. On an annual basis, a payment of 0,5% of GDP per percentage point of unemployment is approximately equal to 70% of the average wage bill of the corresponding number of persons.[2] This calculation assumes that there is an unemployment increase only in the Member State concerned. For instance, if the unemployment increase in one Member State is equal to two percentage points, but equal to one percentage point in the other Member States, a payment of 1% of GDP, as in the example below, also represents 70% of the wage bill of the number of persons becoming unemployed. Consequently, depending on the size of the unemployment increase, the national unemployment benefit scheme and the size of the payment in terms of GDP, the payments under the proposed mechanism could more than fully compensate the additional national payments under a Member State's unemployment benefit scheme. It should not be concluded from this possibility that it would be 'profitable' to increase unemployment, thereby creating a problem of moral hazard. Firstly, the system is not an unemployment scheme and therefore does not create personal incentives. Secondly and more importantly, a one-time increase in unemployment which does not disappear will only lead to a transfer once, since the payment is based on changes in the unemployment rate. The long-term costs may therefore greatly outweigh the short-term 'benefits'. Thirdly, there is uncertainty since a costly national unemployment increase does not lead to payment if there is a similar increase in the Member State's EC partners.

As set out above, the size of the transfer has been set in the examples such that the payment can reach a maximum of 2% of the GDP of the Member State concerned. By way of comparison, it may be noted that the maximum observed transfer under the German Finanzausgleich over the period 1980-90 was approximately equal to 2% of *Länder* GDP in the case of Bremen, but hardly exceeded 1% of *Länder* GDP in all other cases (see Box). It should be noted, however, that the Finanzausgleich only partly may be considered as a stabilization mechanism. Its stabilizing effect has been calculated to amount to some 8% of the initial shock to income.[3] One cannot say, therefore, that by analogy the proposed system would stabilize the shocks in the Community in proportion to 8% depending on the size of the payment, since the degree of stabilization would probably be higher, and would also be delivered more promptly.

2.3. The degree of stabilization

A crude estimation of the degree of stabilization implied by the proposed system can be made in two ways, drawing on equation (5) or equation (6) respectively. For the first method, suppose that a Member State's GDP grows one percentage point less than trend growth, and that the average GDP of its Community partners growth is equal to trend growth. According to the estimation of Okun's Law, the unemployment rate in the Member State will on average increase by 0,194 percentage points, while the Community average will not change. Under the proposed system, the Member State concerned would receive on an annual basis a payment equal to 19,4% of 1% of its GDP. In the example, where the annual payment is equal to 1% of GDP, about 19% of the shock to GDP will be stabilized. A drawback of this method is that the degree of stabilization depends on the assumption that nothing happens in the other Member States. For instance, if the Member State's GDP grows two percentage points less than trend growth, and the average GDP growth of its Community partners is one percentage point below trend growth, the unemployment rate will on average still increase by 0,194 percentage points, but the payment will represent half the degree of stabilization calculated in the first example since the shock is twice as large.

This problem of measurement clearly indicates that it is important how the shock is measured. An alternative method, which is also used in the literature,[4] would be to define the shock as the GDP growth relative to the average growth in the partner countries, as in equation (6). Using such a definition and the coefficient estimate of equation

1 This can be seen as follows. Let the 'excess' unemployment rate be $u_i(t)/L_i(t) = dU_i(t) - dU_{iEC}(t)$, with $u_i(t)$ being the 'excess' number of unemployed persons and $L_i(t)$ the labour force. Then the payment is equal to a percentage of $u_i(t)/L_i(t)*Y_i$. In other words, the payment per 'excess' person unemployed is linked to $Y_i/L_i(t)$, i.e. GDP per person in the labour force, which is a measure of productivity.

2 In 1990, Community GDP (including the former East Germany) was equal to ECU 4 844,1 billion, the corresponding labour force was equal to 151,6 million persons and the average compensation of employees per head for the whole economy was equal to ECU 22 495. The average wage bill for 1% of the labour force is therefore equal to 1,516 x 22,495 = ECU 34,1 billion. A payment of 0,5% of GDP therefore amounts to 24,2/34,1 = 71% of this wage bill. *Data source:* Commission of the European Communities, *Economic forecasts 1992-93*, October-November 1991.

3 See Pisani-Ferry et al. (in this volume). This concerns the case of a *Land* whose indicator of fiscal capacity is already below the threshold at the moment a shock occurs.

4 See Bayoumi and Masson (1991).

(6), the degree of stabilization would on average be approximately equal to that calculated in the first example under equation (5). In other words, with the size of the payment equal to 1% of GDP, the degree of stabilization would in the average case be some 18%.

Whichever of the two methods of calculation is taken, it is clear that a degree of stabilization comparable to that in the United States could be obtained depending on the size of the payment and the method used.[1] Assuming a payment equal to 1% of GDP on an annual basis, the degree of stabilization of the proposed system can be assumed to be in the range of 18 to 19%, therefore. It should, however, be noted that these calculations are only valid for relative unemployment shocks below two percentage points. Since the transfer payment does not increase beyond that upper ceiling, the degree of stabilization will in both cases slowly decrease with the size of the excess above the upper ceiling.

[1] Pisani-Ferry et al. (in this volume) find a degree of stabilization in the United States of 17%. Bayoumi and Masson (1991) find a degree of stabilization in the United States of 28%, which is, however, based on the assumption that unemployment benefits are organized at federal level, while in reality they are mainly organized at State level; see Von Hagen (1991).

Box: The stabilization element in the German Finanzausgleich

The German system of Finanzausgleich is mainly used for the purpose of income redistribution.[1] As a by-product, however, the system also has the function of stabilization, since part of the 'fiscal capacity' indicator, on the basis of which the interregional transfers are calculated, is influenced by cyclical factors. It is difficult on the basis of institutional factors to determine which share of the Finanzausgleich is used for stabilization. A crude method is to analyse over a given period the average transfer paid or received per *Land*, and to calculate the mean absolute deviation from this average over the same period. This is what has been done in Table 1. The table presents for each *Land*, over the period 1980-90, the transfers under the Finanzausgleich expressed as a percentage of *Länder* GDP. The table shows that for most *Länder* the transfers vary around a stable level, thus exhibiting cyclical variations. The total amount of payments involved (i.e. the total of transfers received or paid) is also stable, and varies around 0,15% of German GDP. Assuming that the mean absolute deviation from the average level of transfers is a good measure of the cyclical component of the Finanzausgleich, it appears that the latter amounts on average to 0,13% of *Länder* GDP, using an arithmetic average of the *Länder*.

[1] See Costello (in this volume).

Table 1

'Finanzausgleich' transfers as a percentage of GDP

(%)

	Schleswig-Holstein	Hamburg	Lower Saxony	Bremen	North Rhine-Westphalia	Hesse	Rhineland-Palatinate	Baden-Württemberg	Bavaria	Saarland	Berlin	Total transfers
1980	0,61	−0,46	0,51	0,80	−0,02	−0,21	0,31	−0,65	0,16	1,29	—	0,15
1981	0,77	−0,59	0,65	0,69	0,00	−0,24	0,37	−0,68	0,10	1,09	—	0,16
1982	0,75	−0,58	0,70	0,99	0,00	−0,18	0,32	−0,72	0,06	1,06	—	0,16
1983	0,82	−0,49	0,42	1,05	0,00	−0,20	0,29	−0,55	0,05	1,19	—	0,13
1984	0,84	−0,35	0,48	1,25	0,00	−0,33	0,31	−0,53	0,01	1,25	—	0,13
1985	0,88	−0,47	0,46	1,29	0,02	−0,40	0,39	−0,50	0,01	1,28	—	0,14
1986	0,91	−0,22	0,45	1,69	0,00	−0,40	0,37	−0,56	0,01	1,30	—	0,14
1987	0,86	−0,07	0,57	1,85	0,03	−0,60	0,46	−0,59	0,00	1,13	—	0,16
1988	0,82	0,00	0,77	1,77	0,01	−0,67	0,28	−0,57	0,00	1,05	—	0,16
1989	0,76	−0,01	0,76	2,09	−0,02	−0,84	0,26	−0,39	−0,02	0,98	—	0,16
1990	0,73	−0,01	0,82	1,96	−0,01	−0,58	0,39	−0,64	−0,01	1,05	—	0,17
1980-90 (average)	0,80	−0,30	0,60	1,40	0,00	−0,42	0,34	−0,58	0,03	1,15	—	0,15
Mean absolute deviation	0,06	0,21	0,13	0,43	0,01	0,18	0,05	0,07	0,04	0,10	—	0,13

Source: Calculations based on Bundesministerium der Finanzen, *Finanzbericht 1991*, and Statistisches Bundesambt, *Statistisches Jahrbuch 1990*.

2.4. Past performance

Tables 2 and 3 provide some illustration of how the proposed system would have performed in the past using a payment on an annual basis of 1% of GDP (i.e. $\alpha = 0{,}01$). Monthly data cover the period from January 1984, the first month for which observations are available, until October 1991, the last observation. Unfortunately, monthly data for Greece are not available,[1] which is why the same exercise is also presented on the basis of yearly data, covering the longer time span, 1981-90.

Table 2 indicates for each Member State (excluding Greece) the months for which transfers would have been paid out under the proposed system. Since the system is symmetric (except for the fact that the Community unemployment rate is a weighted average rather than an arithmetic average), it appears that transfers would have been paid in about a quarter of the cases (in 289 cases, i.e. 28% of the number of months multiplied by the number of Member States). The right-hand columns give an indication of the amounts which would have been involved per year, expressed in billion ecus (1990 rate) and in per cent of GDP. The annual payments show considerable variation, and average around ECU 11,2 billion or 0,23% of 1990 Community GDP. This compares to an estimated annual transfer of 0,13% of (West) German GDP under the Finanzausgleich for stabilization purposes over the same period (see Box). The distribution of the average annual transfers over the Member States is uneven, reflecting diverging unemployment performances during the 1980s. There is no apparent link between relative prosperity and the size of the transfer payments, illustrating the fundamental difference between stabilization and redistribution.

[1] For the purpose of the proposed system, such data would of course have to be collected.

By way of illustration and in order to obtain an estimate for the case of Greece, Table 3 presents the same exercise as in Table 2, but using annual average unemployment rates as a basis for the calculations. Although the period covered starts earlier and ends earlier than that of the monthly data, the results in terms of annual averages hardly differ from those in Table 2. It should of course be noted that the time-lag incurred for the transfer payments, if the system was operated on the basis of annual rather than monthly data, would strongly increase. On the other hand, the German Finanzausgleich also works on an annual basis. From the results of Table 3, it appears that over the period concerned Greece would have obtained annual transfer payments equal to 0,284% of its GDP, which is in line with payments to some of the other Member States. The maximum annual payment under both examples would have been in the order of ECU 17 to 21 billion, which is considerably below the theoretical maximum which lies around 1% of Community GDP or ECU 48 billion, and which would be reached if Member States representing approximately 50% of Community GDP were each to receive the maximum payment.

Table 2

Full stabilization scheme using monthly data (months of activation and amount of payments)

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EUR 11	Total (billion ECU)	% GDP
1984	—	—	—	:	1-12	1-12	1-12	—	—	1-5	1-5	—	46	17,344	0,358
1985	—	—	—	:	1-10	1-11	1-12	7-12	—	—	4+11	2-12	51	11,851	0,245
1986	6-12	—	—	:	—	4-12	1-5	1-12	—	—	1+2	1-4+6-12	46	13,054	0,269
1987	1-3	4-12	11+12	:	—	1-9	—	1-3	4+6-12	—	—	—	34	7,576	0,156
1988	—	1-12	1+5	:	—	—	—	3-12	—	—	—	—	24	13,199	0,272
1989	—	1-12	—	:	—	—	—	1-7		—	—	—	19	8,043	0,166
1990	—	1-12	—	:	—	—	11+12	—	1+2	—	—	9-12	20	2,912	0,060
1991	1-6	1-10	—	:	—	1-10	1-10	1-2	1	—	—	1-10	49	14,041	0,290
Months	16	55	4	:	22	51	41	40	11	5	8	36	289		
January 1984 to October 1991															
Total (billion ECU)	0,349	4,988	3,282	:	11,625	19,836	1,135	29,431	0,033	0,369	0,115	16,859		88,020	
% GDP	0,225	4,835	0,261	:	3,004	2,116	3,393	3,427	0,476	0,168	0,245	2,152			1,817
Annual average (billion ECU)	0,045	0,637	0,419	:	1,484	2,532	0,145	3,757	0,004	0,047	0,015	2,152		11,237	
% GDP	0,029	0,617	0,033	:	0,383	0,270	0,433	0,438	0,061	0,021	0,031	0,275			0,232

Table 3

Full stabilization scheme using annual data (amount of payments, billion ECU)

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EUR 12 (billion ECU)	% GDP
1981	0,490	—	—	—	4,784	—	0,389	—	—	—	—	15,653	21,316	0,440
1982	0,503	0,279	7,435	0,304	2,476	—	0,120	—	—	2,990	—	1,096	15,203	0,314
1983	0,209	—	4,783	0,581	1,964	—	0,614	—	—	3,565	—	—	11,715	0,242
1984	—	—	—	—	7,741	8,954	0,354	—	—	—	0,141	—	17,190	0,355
1985	—	—	—	—	4,054	3,098	0,389	1,071	—	—	—	1,630	10,241	0,211
1986	—	—	—	—	—	1,557	—	9,650	—	—	—	1,335	12,542	0,259
1987	—	0,364	—	0,197	—	5,601	—	—	0,024	—	—	—	6,186	0,128
1988	—	1,412	—	0,427	—	—	—	10,813	—	—	—	—	12,653	0,261
1989	—	2,063	—	—	—	—	—	—	—	—	—	—	2,063	0,043
1990	—	0,948	—	—	—	—	—	—	—	—	—	—	0,948	0,020
1981-90 (cumulative)	1,202	5,067	12,218	1,510	21,018	19,210	1,865	21,534	0,024	6,555	0,141	19,714	110,059	
% GDP	0,775	4,912	0,971	2,843	5,431	2,049	5,577	2,508	0,355	2,983	0,300	2,516		2,272
1981-90 (average)	0,120	0,507	1,222	0,151	2,102	1,921	0,187	2,153	0,002	0,656	0,014	1,971	11,006	
% GDP	0,078	0,491	0,097	0,284	0,543	0,205	0,558	0,251	0,035	0,298	0,030	0,252		0,227

Source: Calculated using Eurostat survey data on average annual unemployment rates and DG II data on 1990 GDP.

3. A limited stabilization mechanism

In the previous section, the implications of a full stabilization mechanism were analysed. Given the high degree of national fiscal autonomy and the budgetary implications of such a mechanism, an alternative would be to devise a Community limited stabilization mechanism working to ensure that payments are only made if the damage (i.e. an asymmetric shock) is above a given minimum threshold. Building on the stabilization mechanism of the previous section, a simple proposal would be to add a threshold so that only relative unemployment shocks within a given interval would qualify for payment. Although this system will be presented here as working automatically, it could in practice be made operational in a discrete fashion. A shock above the threshold would then only be a necessary, albeit not sufficient, condition to qualify for payment. For instance, it could be required that the government show that the origin of the shock was beyond the control of the Member State.

A possible minimum threshold for such a limited stabilization mechanism could be an unemployment change relative to the average of Community partners equal to 0,3%. As may be seen from the distribution of unemployment shocks in Annex B, this would eliminate a considerable number of cases eligible under the full stabilization mechanism. In terms of equation (3), this would translate into the following rules for the transfer payments (assuming them to be automatic):

$$\begin{array}{lll} T_i(t) = 0 & \text{if} & dU_i(t) - dU_{iEC}(t) \leqslant 0{,}3 \\ & \text{or} & dU_i(t) \leqslant 0 \\ = \alpha^*[dU_i(t) - dU_{iEC}(t) - 0{,}3]^*Y_i & \text{if} & dU_i(t) - dU_{iEC}(t) > 0{,}3 \\ & \text{and} & \alpha.[dU_i(t) - dU_{iEC}(t) - 0{,}3] \leqslant 0{,}015 \\ = 0{,}015^*Y_i & \text{if} & \alpha.[dU_i(t) - dU_{iEC}(t) - 0{,}3] > 0{,}015 \end{array} \qquad (7)$$

The system of equation (7) implies that the payment starts if the relative unemployment change is above 0,3 percentage points. As long as this change is such that the payment on an annual basis is below 1,5% of GDP, the monthly payment is proportional to the size of the excess shock, amounting to α% of one twelfth of the Member State's annual GDP per percentage point relative change in excess of the threshold of 0,3 percentage points. For the simulations, the parameter α has been set at 2% instead of 1% for the full stabilization mechanism. The maximum amount received by a Member State in one month is therefore equal to 1,5% of one twelfth of its annual GDP. The limited stabilization mechanism is therefore twice as generous at the margin as the full system, in order to compensate for the fact that the initial average generosity per percentage point of relative unemployment increase is much smaller than under the full system. The maximum payment of 1,5% of GDP has been chosen so that the total cost would empirically be equal to that of the full system.

The degree of stabilization implied by this limited stabilization scheme depends on the distribution of the unemployment shocks. Again, a crude estimation can be made. The degree of stabilization is less linear than for the full stabilization scheme. However:

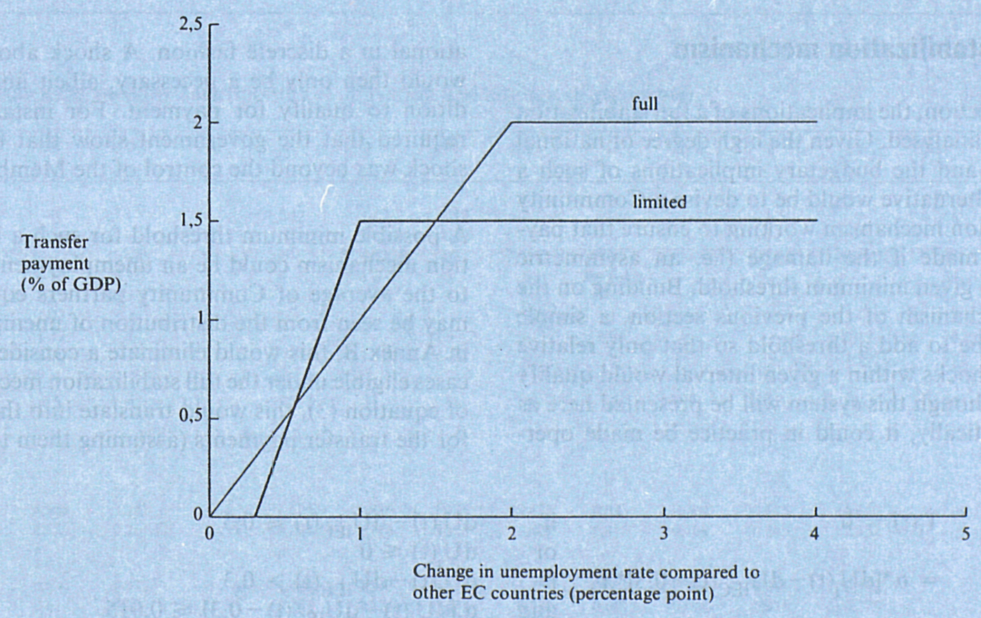
(a) for GDP shocks leading to relative unemployment changes below 0,3 percentage points, the degree of stabilization is zero;

(b) for GDP shocks leading to relative unemployment changes between 0,3 and 1,05 percentage points, the degree of stabilization increases from zero to reach a maximum when the relative unemployment change is equal to 1,05 percentage points (corresponding to a maximum payment of 1,5% of GDP);

(c) for GDP shocks leading to relative unemployment changes above 1,05 percentage points, the degree of stabilization decreases from its maximum.

The maximum degree of stabilization thus reached may be calculated as follows. Suppose that a Member State's GDP grows 1,05/0,194 = 5,41 percentage points below trend, and that the average GDP growth of its Community partners is equal to trend growth. Then the unemployment change relative to the average of its Community partners will be 1,05 percentage points. According to the limited stabilization scheme of equation (7), the Member State concerned would receive a transfer payment of 1,05% of its GDP. Therefore,

GRAPH 1: **Transfer payments with full and limited stabilization scheme** (% of GDP)



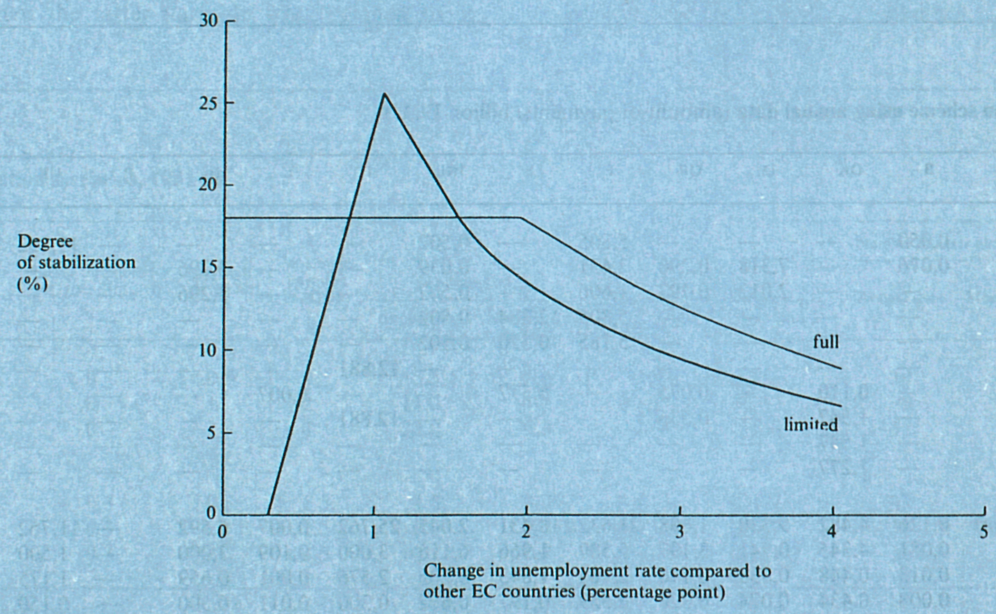
the maximum degree of stabilization of the limited scheme calculated in this way is equal to 1,5/5,41 = 27,7%. On the basis of equation (6), a similar calculation leads to a maximum degree of stabilization equal to 1,5/[1,05/0,179] = 25,6%.

The differences in the transfer payment and the degree of stabilization (calculated assuming equations (5) and (6) to be valid in all Member States) between the full stabilization scheme and the limited stabilization scheme are illustrated in Graphs 1 and 2.

The results of the automatic application of limited stabilization over the past decade are given in Table 4, using monthly data, and in Table 5, using annual data.

Table 4 indicates the months of each year in which a payment would have been made. The number of cases is reduced from 289 in Table 2 to 210 in Table 4, implying a historical application of the scheme in some 20% of all cases. On the basis of yearly data (Table 5), the limited scheme would have been applied in 31 out of 120 cases, i.e. some 25% of the cases. Depending on whether the monthly or the annual scheme had been used, the average annual costs would, by construction, have amounted to approximately those of the full scheme, i.e. ECU 10,2 to 10,7 billion per year on average or 0,210 to 0,221% of Community GDP, although the amounts have fluctuated, sometimes exceeding ECU 18 billion under both schemes. It is interesting to note that this is well below the maximum amount which theoretically could have been paid under the scheme, i.e. in the case where Member States representing 50% of the labour force would each receive the maximum payment of 1,5% of their GDP, implying a total of approximately 0,75% of Community GDP or some ECU 36 billion.

GRAPH 2: **Degree of stabilization with full and limited stabilization scheme** (as % of shock to GDP)



NB: Shock to GDP calculated using equation (6).

Table 4

Limited stabilization scheme using monthly data (months of activation and amount of payments)

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EUR 11	Total (billion ECU)	% GDP
1984	—	—	—	:	1-12	1-12	1-12	—	—	1-3	1	—	40	18,576	0,384
1985	—	—	—	:	1-9	1-4	1-12	9-12	—	—	—	5	30	8,728	0,180
1986	11	—	—	:	—	10-12	1	1-12	—	—	—	9	18	12,030	0,248
1987	—	4-12	11-12	:	—	1-9	—	1-3	4+6-12	—	—		31	7,741	0,160
1988	—	1-12	1+5	:	—	—	—	3-12	—	—	—	—	24	13,990	0,289
1989	—	1-12	—	:	—	—	—	1-7	—		—	—	19	9,061	0,187
1990	—	1-12	—	:	—	—	11+12	—	1+2	—	—	9-12	20	3,466	0,072
1991	—	1-4	—	:	—	—	1-12	—	—	—	—	1-12	28	10,268	0,212
Months	1	49	4	:	21	28	39	36	10	3	1	18	210		
January 1984 to October 1991															
Total (billion ECU)	0,010	4,569	4,046	:	9,698	18,914	1,298	32,823	0,031	0,275	0,059	12,138		83,060	
% GDP	0,007	4,429	0,321	:	2,506	2,018	3,881	3,822	0,448	0,125	0,125	1,549			1,731
Annual average (billion ECU)	0,001	0,583	0,517	:	1,238	2,415	0,166	4,190	0,004	0,035	0,008	1,549		10,706	
% GDP	0,001	0,565	0,041	:	0,320	0,258	0,495	0,488	0,057	0,016	0,016	0,198			0,221

Table 5

Limited stabilization scheme using annual data (amount of payments, billion ECU)

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EUR 12 (billion ECU)	% GDP
1981	0,050	—	—	—	5,805	—	0,502	—	—	—	—	11,752	18,109	0,374
1982	0,076	—	7,318	0,290	2,631	—	0,039	—	—	3,296	—	—	13,649	0,282
1983	—	—	2,012	0,797	1,606	—	0,502	—	—	3,296	—	—	8,212	0,170
1984	—	—	—	—	5,805	12,284	0,502	—	—	—	—	—	18,591	0,384
1985	—	—	—	—	5,785	0,570	0,502	—	—	—	—	—	6,857	0,142
1986	—	—	—	—	—	—	—	12,881	—	—	—	—	12,881	0,266
1987	—	0,110	—	0,075	—	5,577	—	—	0,007	—	—	—	5,769	0,119
1988	—	1,547	—	0,536	—	—	—	12,881	—	—	—	—	14,964	0,309
1989	—	1,547	—	—	—	—	—	—	—	—	—	—	1,547	0,032
1990	—	1,277	—	—	—	—	—	—	—	—	—	—	1,277	1,026
1981-90 (cumulative)	0,126	4,482	9,330	1,698	21,632	18,431	2,045	25,762	0,007	6,592	—	11,752	101,858	—
% GDP	0,081	4,345	0,741	3,197	5,589	1,966	6,116	3,000	0,109	3,000	—	1,500	—	2,103
1981-90 (average)	0,013	0,448	0,933	0,170	2,163	1,843	0,205	2,576	0,001	0,659	—	1,175	10,186	—
% GDP	0,008	0,434	0,074	0,320	0,559	0,197	0,612	0,300	0,011	0,300	—	0,150	—	0,210

Source: Calculated using Eurostat survey data on average annual unemployment rates and DG II data on 1990 GDP.

4. Conclusions

The exercise conducted in this paper has been very simple, and conclusions based on it are therefore subject to further refinements of the analysis. Nevertheless, some clear messages seem to present themselves.

The first conclusion is that, based on an estimated annual cost equal to some 0,2% of Community GDP, a full stabilization mechanism could be set up which would, on average, provide approximately the same degree of stabilization as in the United States. The main reason why such a high degree of stabilization can be achieved at relatively little cost is that, other than in existing federations where stabilization properties are usually a by-product of the tax and transfer system, the mechanism proposed here is explicitly designed for stabilization purposes. Consequently, its efficiency in terms of the degree of stabilization obtained in relation to the costs of the system is much higher than that in existing federations.

A second conclusion, however, is that the full stabilization scheme, although being simple and operational, could not be devoid of the standard problems involved in stabilization: identification of the shock, an implementation lag and possibly a procyclical bias. Nevertheless, it was demonstrated on the basis of two different cross-section/time-series estimations for all Community Member States that there is a clear link between the evolution of the unemployment indicator used for the system and shocks to GDP growth in the same year. When the latter variable was replaced by its lagged value, this did not change the estimation result. Moreover, due to the fact that the scheme is based on changes in unemployment rates but consists of intergovernmental transfers, the problem of moral hazard with respect to individuals, which is usually associated with Community unemployment benefit schemes, is avoided.[1]

The third conclusion is that if, for any reason, the full stabilization mechanism is not deemed to be desirable, a limited stabilization scheme can be devised at equal or lower cost which, as a form of insurance, can nevertheless provide a reasonable degree of stabilization in the case of an individual shock above a certain threshold. The overall degree of stabilization of both the full and the limited stabilization mechanism depends mainly on three parameters which ultimately would need to be determined politically: the minimum threshold for the relative unemployment change which qualifies for payment, the size of the payment and the maximum annual payment per Member State. Table 6 gives some examples of different scenarios, with their historical cost and estimated stabilization properties.[2]

[1] See also Goodhart and Smith (in this volume).

[2] The degree of stabilization of the full mechanism is calculated, as in the text, by taking the product of the size of the payment and the semi-elasticity from equations (5) or (6), the latter assumed to being equal to 0,19. For a given size of payment, the degree of stabilization of the limited mechanism is calculated by multiplying the degree of stabilization of the full mechanism by the cost of the limited scheme relative to the full scheme, taking the average of annual and monthly data. Thus, for a payment of 1% of GDP, the degree of stabilization of the limited scheme is calculated as 0,19*[6,6 + 7,2]/[11,0 + 11,2] = 12%.

Table 6

Different stabilization scenarios, 1981-90

	Lower threshold for $dU_i(t) - dU_{EC}(t)$[1]	Payment[2] (% GDP)	Maximum payment (% GDP)	Average annual cost (billion ECU) Annual data	Average annual cost (billion ECU) Monthly data	Average annual cost (% GDP) Annual data	Average annual cost (% GDP) Monthly data	Number of cases out of total[3] Annual data	Number of cases out of total[3] Monthly data	Average degree of stabilization[4] (%)
Full stabilization	0	0,5	1	5,5	5,6	0,114	0,116	39	289	10
	0	1	2	11,0	11,2	0,227	0,232	39	289	19
	0	2	4	22,0	22,5	0,454	0,464	39	289	38
Limited stabilization	0,3	0,5	1,5	3,5	3,7	0,072	0,077	31	210	6
	0,3	1	1,5	6,6	7,2	0,137	0,149	31	210	12
	0,3	2	1,5	10,2	10,7	0,210	0,221	31	210	18

[1] In addition, $dU_i(t) > 0$ is required.
[2] Payment per percentage point of relative unemployment increase above threshold, in % GDP.
[3] For the annual data, 120 observations are available; for the monthly data, 1 034 are available.
[4] Assuming a semi-elasticity of 0,19. Average of annual and monthly data.

Table 7

Estimation results with $dU_i(t)$ as dependent variable

		Constant	Trend	$y_i(t)$	$y_i(t-1)$	Dummies B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	Standard error	R^2 (%)	Degrees of freedom
A. No trend	Coefficient	1,035		− 0,347														0,915	32,4	118
	Standard error	0,138		0,046																
B. With trend	Coefficient	1,671	− 0,182	− 0,194														0,801	48,6	117
	Standard error	0,160	0,030	0,048																
C. Lagged GDP	Coefficient	1,642	− 0,183		− 0,188													0,802	48,4	117
	Standard error	0,159	0,030		0,047															
D. $dU_i(t)$ and $y_i(t)$ in deviation from national sample means	Coefficient	0,964	− 0,175	− 0,215														0,741	52,8	117
	Standard error	0,170	0,028	0,047																
E. Dummy = constant	Coefficient		− 0,175	− 0,215		1,380	1,536	1,684	1,701	2,051	1,727	2,427	1,771	1,407	1,577	1,247	1,680	0,779	56,0	106
	Standard error		0,030	0,049		0,281	0,282	0,282	0,282	0,287	0,282	0,289	0,282	0,290	0,281	0,285	0,284			
F. Dummy = $y_i(t)$	Coefficient	1,663	− 0,177			− 0,335	− 0,308	− 0,172	− 0,159	− 0,214	− 0,169	− 0,041	− 0,096	− 0,174	− 0,286	− 0,265	− 0,280	0,793	54,3	106
	Standard error	0,160	0,031			0,112	0,101	0,110	0,128	0,084	0,122	0,075	0,113	0,072	0,113	0,081	0,089			

F-tests: equation B versus E: F(11,117) = 1,783;
equation B versus F: F(11,117) = 1,324.

Time-series cross-section estimation for 1981-90 for 12 Community Member States (120 observations).
Source: See Annex B.

Table 8

Estimation results with $dU_i(t) - dU_{iEC}(t)$ as dependent variable

		Constant	Trend	$y_i(t) - y_{iEC}(t)$	Dummies: B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	Standard error	R^2 (%)	Degrees of freedom
A. No trend	Coefficient		−0,038	−0,179													0,836	9,9	118
	Standard error		0,076	0,050															
B. With trend	Coefficient	−0,182	0,026	−0,180													0,836	10,6	117
	Standard error	0,165	0,027	0,050															
C. $dU_i(t) - dU_{iEC}(t)$ and $y_i(t) - y_{iEC}(t)$ in deviation from national sample means	Coefficient			−0,200													0,774	12,1	119
	Standard error			0,049															
D. Dummy = constant	Coefficient		−0,026	−0,201	−0,487	−0,327	−0,187	−0,146	−0,214	−0,132	−0,558	−0,080	−0,470	−0,285	−0,639	−0,199	0,816	22,9	106
	Standard error		0,026	0,052	0,296	0,295	0,295	0,299	0,297	0,295	0,298	0,295	0,299	0,296	0,295	0,295			
E. Dummy = $y_i(t) - y_{iEC}(t)$	Coefficient	−0,160	0,021		−0,025	−0,419	−0,121	−0,144	−0,461	−0,308	−0,047	−0,031	−0,108	−0,254	−0,192	−0,185	0,842	17,9	106
	Standard error	0,176	0,029		0,267	0,134	0,222	0,169	0,224	0,282	0,124	0,441	0,145	0,211	0,136	0,163			

F-tests: equation B versus D: $F(11,117) = 1,692$;
equation B versus E: $F(11,117) = 0,951$.

Time-series cross-section estimation for 1981-90 for 12 Community Member States (120 observations).
Source: See Annex B.

Annex B — Presentation of annual data used for the calculations

Table 9

Average annual unemployment rate, based on survey data

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EC
1980	7,9	7,2	2,8	2,8	11,7	6,2	8,0	6,7	4,4	6,1	7,7	5,5	6,0
1981	9,9	7,8	3,9	4,1	14,5	7,4	10,8	7,4	3,9	7,3	8,1	8,8	7,7
1982	11,4	9,3	5,6	5,8	16,3	8,1	12,4	8,1	3,7	9,8	7,3	10,1	8,9
1983	12,5	9,5	6,9	7,9	17,7	8,3	15,2	8,8	3,5	12,4	7,7	11,1	9,9
1984	12,6	9,1	7,1	8,1	20,5	9,8	17,0	9,3	3,1	12,5	8,7	11,0	10,6
1985	11,9	7,6	7,2	7,8	21,7	10,3	18,3	9,6	3,0	10,6	8,8	11,4	10,8
1986	11,8	5,8	6,6	7,4	21,2	10,4	18,2	10,5	2,6	10,3	8,3	11,5	10,8
1987	11,6	5,8	6,3	7,4	20,5	10,5	18,1	10,3	2,7	10,0	6,9	10,6	10,4
1988	10,2	6,6	6,3	7,6	19,5	10,0	17,6	10,7	2,2	9,3	5,7	8,7	9,8
1989	8,6	7,9	5,7	7,4	17,2	9,5	16,2	10,6	1,9	8,7	5,0	7,3	9,0
1990	7,8	8,4	5,3	7,1	16,3	9,1	15,8	9,8	1,8	8,2	4,7	7,1	8,6

Source: Eurostat.

Table 10

Annual GDP growth rates

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EC
1980	4.3	−0,4	1,4	1,8	1,2	1,4	3,1	4,2	0,8	0,9	4,6	−2,2	1,3
1981	−1,0	−0,9	0,2	0,1	−0.2	1,2	3,3	1,0	−0,6	−0.6	1,6	−1,3	0,2
1982	1,5	3,0	−0,6	0,4	1,2	2,3	2,3	0,3	1,1	−1,4	2,1	1,7	0,9
1983	0,4	2,5	1.5	0,4	1,8	0,8	−0,2	1,1	3,0	1,4	−0,2	3,7	1,6
1984	2,1	4,4	2,8	2,8	1,8	1,5	4,4	3,0	6,2	3,1	−1,9	2,1	2,3
1985	0,8	4,3	2,0	3,1	2,3	1,8	2,5	2,6	2,9	2,6	2,8	3,6	2,5
1986	1,5	3,6	2,3	1,4	3,2	2,4	−0,4	2,5	4,3	2,0	4,1	3,9	2,7
1987	2,2	0,3	1,7	−0,5	5,6	2,0	4,4	3,0	3,4	0,8	5,3	4,7	2,9
1988	4,6	0,5	3,7	4,1	5,2	3,6	3,9	4,2	5,5	2,7	3,9	4,6	4,0
1989	3,9	1,2	3,3	2,8	4,8	3,6	5,9	3,2	6,1	4,0	5,4	2,2	3,3
1990	3,7	2,1	4,7	−0,3	3,7	2,8	5,7	2,0	0,9	3,9	4,0	0,8	2,8
Average 1981-90	2,0	2,1	2,2	1,4	2,9	2,2	3,2	2,3	3,3	1,9	2,7	2,6	2,3

Source: European Economy No 50, Commission of the European Communities.

Table 11

Miscellaneous data used, 1990

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EC
GDP (billion ECU)	155,0	103,2	1 258,8	53,1	387,0	937,5	33,4	858,7	6,8	219,7	47,1	783,5	4 843,9
(%)	3,2	2,1	26,0	1,1	8,0	19,4	0,7	17,7	0,1	4,5	1,0	16,2	100,0
Labour force (1 000)	4 021,8	2 863,7	29 799,3	3 962,8	15 021,9	23 909,9	1 291,0	24 146,0	191,4	5 221,0	4 474,4	27 729,0	142 632,2
(%)	2,8	2,0	20,9	2,8	10,5	16,8	0,9	16,9	0,1	3,7	3,1	19,4	100,0

Source: Commission of the European Communities, *Economic forecasts 1992-93*, Directorate-General for Economic and Financial Affairs, October-November 1991.

Table 12

Distribution of relative unemployment shocks

Threshold	Number of cases[1]	Idem $dU_i(t) > 0$[2]
−2,2	120	60
	117	60
−1,8	117	60
	115	60
−1,4	112	60
	111	59
−1	104	57
	100	55
−0,6	87	47
	82	46
−0,4	79	45
	74	44
−0,2	69	42
	66	40
0	62	39
	59	39
0,2	43	34
	39	31
0,4	27	23
	26	23
0,6	22	19
	19	18
1	15	15
	9	9
1,4	5	5
	5	5
1,4	4	4
	2	2
2,2	2	2
	0	0

[1] Number of cases in which $dU_i(t) - dU_{iEC}(t)$ is above threshold.
[2] Number of cases in which $dU_i(t) > 0$ and $dU_i(t) - dU_{iEC}(t)$ is above threshold.

References

Bayoumi, T. and Masson, P. R. (1991), 'Fiscal flows in the United States and Canada: Lessons for monetary union in Europe', mimeo, November.

Costello, D. (1993), 'The redistributive effects of interregional transfers: A comparison of the Community and Germany', this volume.

Dornbusch, R. and Fischer, S. (1984), *Macroeconomics*, McGraw-Hill.

Goodhart, C. A. E. and Smith, S. (1993), 'Stabilization', this volume.

Majocchi, A. and Rey, M. (1993), 'A special financial support scheme in economic and monetary union: Need and nature', this volume.

Pisani-Ferry, J., Italianer, A. and Lescure, R. (1993), 'Stabilization properties of budgetary systems: A simulation analysis', this volume.

Van der Ploeg, F. (1991), 'Macroeconomic policy coordination issues during the various stages of economic and monetary integration in Europe', in 'The economics of EMU', *European Economy*, Special Edition No 1, pp. 136-164.

Von Hagen, J. (1991), 'Fiscal arrangements in a monetary union. Evidence from the US', mimeo, Indiana University, March.

Wyplosz, C. (1991), 'Monetary union and fiscal policy discipline', in 'The economics of EMU', *European Economy*, Special Edition No 1, pp. 165-184.

Stabilization properties of budgetary systems: A simulation analysis

Jean Pisani-Ferry,[1] Alexander Italianer[2] and Roland Lescure[3]

[1] Centre d'études prospectives et d'informations internationales
(At the time of writing, Commission of the European Communities, Directorate-General for Economic and Financial Affairs)

[2] Commission of the European Communities,
Directorate-General for Economic and Financial Affairs

[3] École nationale de la statistique et de l'administration économique
and London School of Economics

Contents

The authors wish to thank Tamim Bayoumi, Charles Goodhart, Paul Masson, Jürgen von Hagen and the participants of the Community public finance seminar for their comments on an earlier version of this paper. They are also grateful to Henri Delessy and the Mimosa modelling team for providing them with the model's parameters and simulation results.

Tables

Summary

The prospect of economic and monetary union (EMU) in Europe has shifted attention to the stabilizing properties of federal tax and transfer systems in existing federations. The evidence to date points to diverging results, especially for the United States. This paper demonstrates that the origin of these diverging results, which are often based on regression analysis, may be due to a confusion of redistribution and stabilization properties of tax and transfer systems. Instead of using regression analysis, the paper uses a two-sector simulation model for a federal and a regional government which is calibrated to simulate stabilization properties in the United States, Germany and France. Although not devoid of methodological problems, this approach delivers plausible results. The lowest degree of stabilization is found for the United States, where the federal tax and transfer system absorbs about 17% of a regional shock. In Germany, it varies between 34 and 42%, depending on the working of the 'Finanzausgleich'. The degree of stabilization is also high in a unitary State such as France, with 37% of a regional shock being absorbed. The conclusion from the paper is therefore that monetary unions can be viable with a lower degree of stabilization provided by the central government than is often assumed. It is also found that stabilization in EMU at the Community level is less needed than in federations due to the large autonomy of Member States regarding spending and taxation decisions. If stabilization mechanisms were needed for EMU, they should not be the by-product of a large public sector at Community level, but rather explicitly devised to serve the purpose of stabilization.

1. Introduction

Ever since policy discussions on EMU were re-initiated in the late 1980s, there has been a debate on whether a single currency would necessarily have to be accompanied by a large federal budget, an equalization scheme, a special 'shock-absorbing mechanism' or a combination of these features. One of the main arguments in favour of such a parallelism in the process of unification is that without a sizeable federal budget monetary union would lack the automatic stabilizers which are needed to compensate for the loss of the exchange rate as an adjustment instrument.

The argument is theoretically simple (see, for example, Wyplosz, 1991, Frenkel and Goldstein, 1991). It basically states that a federal budget provides a kind of insurance to States taking part in a monetary union because it guarantees that a State, facing alone an adverse economic shock arising, for example, from a drop in the demand for its products, will automatically benefit from a net transfer of income from the rest of the union. This net transfer will take place through higher transfers to individuals (unemployment benefits and means-tested transfers), possibly higher grants from the federal budget or other regional budgets, and lower tax payments. As it will at least partially offset the adverse effects of the shock, the country which gives up monetary autonomy can be assured that it will not face a situation where it would benefit from reneging on its commitment to monetary union. A federal budget therefore would make the monetary union contract both less costly and more credible.

To present the issue in an insurance framework helps understanding that it is in principle disconnected from issues of static redistribution among the countries participating in EMU. If all EMU members initially enjoyed the same standard of living, this would not affect the debate over the regional stabilization function of the federal budget. What matters here is not average but marginal redistribution when any Member State, even the most wealthy one, is hit by a shock. Put differently, the issue is whether participating member countries can take for granted, not only that the present value of expected welfare gains from EMU are positive by the time they ratify the Treaty, but that the present value of these gains will *ex post* remain positive whatever the future changes in their relative well-being in comparison to other EMU members.[1]

The theoretical argument is indisputable. What is a matter for discussion is whether a federal budget is necessary to ensure that countries will actually benefit from monetary union. As pointed out by several authors (Eichengreen, 1990, Sachs and Sala-i-Martin, 1991), a major difference between EMU and existing monetary unions will be the very limited size of the Community budget. Obviously, it is not sufficient to observe that a federal budget does exist in those monetary unions (especially the United States, but also Canada and Australia) which can be used as reference experiences to conclude that the Community would need to replicate their budgets. What has to be assessed is to what extent these budgets automatically offset shocks affecting a region, and whether a similar degree of shock absorption is necessary for the stability of their monetary union. This paper deals with the first of these two questions as it provides comparative estimates on the degree of shock absorption which is automatically provided through the budget in three countries: France, a moderately decentralized unitary State; Germany, an equity-conscious federation; and the United States, a less equity-prone one.

[1] This relates to John Rawl's concept of the social contract as it is underwritten by participating members who ignore what their situation in the society will be.

Although, to our knowledge, this is the first time that such a comparison has been undertaken, Sachs and Sala-i-Martin (1991) and von Hagen (1991) have already attempted to measure the shock-absorbing properties of the US federal budget and to draw from it policy conclusions for EMU. The two papers, however, come up with very conflicting estimates, as Sachs and Sala-i-Martin (hereafter SSM) claim that the US federal budget automatically offsets 40% of regional demand shocks,[1] while von Hagen assesses its impact as being smaller than 10%. It was therefore necessary to understand the reasons for these differences and to determine which of these two views proves to be correct.

As discussed below in more detail, both SSM's and von Hagen's evaluations are based on estimates using US regional accounts. This has the advantage of relying on available regional data, but also has two drawbacks: first that only part of the budgetary data are available at the regional level, and second that this method is difficult to generalize for other countries where similar data are missing.

This paper therefore relies on a different method. Instead of using regional data, it is based upon simulations with a simplified neo-Keynesian model of a region within a federal monetary union. The model equations are representative of those of a fairly standard macroeconometric model and its major behavioural parameters have been calibrated using simulations with existing country models, but special attention has been given to representing the operation of a two-level tax and transfer system: all major categories of federal and/or State and local taxes and expenditure are explicitly modelled, with tax and spending parameters calibrated in order to simulate the effects of current legislation.

This type of method has three advantages: first the effect of the entire budgetary system is taken into account rather than that of one or two predetermined channels of redistribution; second the use of both a common accounting framework and similar models for the three countries compared leads to comparable country results; third, as macroeconomic variables are endogenous in the model, the assessment of stabilization properties is made on an *ex-post* rather than an *ex-ante* basis. The main drawbacks are, first, that the simulation results may depend on somewhat arbitrary assumptions as regards the degree of economic integration within the country, and second that the calibration of the regional model's budgetary parameters rests on the quality of country model estimates, which may not be as precise as specific cross-section estimates.

[1] An earlier version (1989) of the Sachs and Sala-i-Martin study came up with slightly lower estimates.

Section 2 of this paper compares and discusses the results of SSM and von Hagen, and puts them against the background of the MacDougall (1977) report. Section 3 presents the budgetary systems of the three countries. Section 4 sets out the method and model used. Section 5 gives the results of the simulations and compares the estimates to those of SSM and von Hagen. Section 6 summarizes the conclusions of this research for EMU.

2. Previous estimates of the stabilization effects of the US federal budget

Before presenting different methods for evaluating the regional stabilization effect of a federal budget, it may be useful to define more precisely what has to be measured.

Assume we are interested in the behaviour of a region's income within a (federal or centralized) economic union with a central government. An appropriate point of departure is equation (1), which gives an accounting definition of regional disposable income (RDI) as regional GDP (Y) less taxes and other contributions paid to the central government (TAX_c) plus transfers from the central government (TR_c) plus the region's share in central government expenditure on goods and services (G_c).[2] The inclusion of the latter term may be surprising at first sight, but public goods provided to the region by the central government have to be taken into account in the evaluation of the region's income.

$$RDI = Y - TAX_c + TR_c + G_c \tag{1}$$

Equation (1) may be rewritten in first difference form:

$$dRDI = dY - dTAX_c + dTR_c \tag{1'}$$

where it is assumed that government expenditure on goods and services are rigid in the short term.

Since we are interested in the degree of shock-absorption automatically provided by the federal budget, an indicator of its stabilization property in the presence of region-specific shocks is:[3]

$$S = 1 - dRDI/dY \tag{2}$$

[2] For the sake of simplicity, no distinction is made between real and nominal terms in equation (1).

[3] One could also measure the stabilization considering the relative variation of RDI with respect to the relative variation of Y, i.e. $S' = 1 - (dRDI/RDI)/(dY/Y)$. The results obtained in this study would nevertheless be nearly the same with this indicator, as the adversely shocked region's disposable income is approximately equal to its GDP in the base line.

S would be zero in the absence of a federal budget, and reach 100% in the event all shocks are absorbed without affecting regional income.

From (1'), it immediately follows that:

$$S = (dTAX_c/dY) - (dTR_c/dY) \tag{3}$$

Both SSM and von Hagen also attempt to measure S, although presentational ambiguities may suggest otherwise.[1] But they come up with very different results in the US case, as SSM find S = 40% while von Hagen finds S < 10%. This can be seen clearly from Table 1, which also presents the results of Goodhart and Smith (1993).

This difference is striking, since the two articles are based on the same US regional account data. Basically, they regress tax and transfer variables on real gross State product, using a combination of cross-section and time series techniques. Apart from differences in the estimation sample (see Table 1), a major difference between the two methods lies in the way equations are specified: SSM specify their equations in (log) level terms, while von Hagen uses (logarithmic) first difference specifications. Von Hagen claims that the latter choice is consistent with the aim of measuring marginal redistributive effects as opposed to average ones, which seems to be correct. But his own result seems hardly credible either, since he limits himself to measuring the marginal redistributive effect of the federal income tax and direct federal payments to individuals. Since part of the tax and transfer channels are omitted, the overall result is, to say the least, incomplete.[2]

In fact, it is difficult to imagine how a federal budget which amounts to some 20% of GDP could offset 10% only of regional shocks. This can be easily seen if equation (3) is rewritten using elasticities:

$$S = h_{tax}*(TAX_c/Y) - h_{tr}*(TR_c/Y) \tag{4}$$

where h_{tax} is the elasticity of tax receipts with respect to GDP and h_{tr} is the elasticity of transfer payments. Even assuming the latter term is zero, for S to be 10% when taxes represent 20% of GDP would imply that their average elasticity is below 0,5, which is clearly low, or that only half of the taxes have to be taken into account, which is questionable. A more comprehensive investigation is therefore needed.

[1] In fact, SSM's preferred indicator is $1-S$, while von Hagen uses $(dTAX_c - dTR_c) / Y$ for a 1% shock to Y, which is equivalent to S.

[2] See Goodhart and Smith (1993) for a discussion of SSM's and von Hagen's methods.

A further issue is whether SSM really measure 'average' redistribution. The question is whether S can be considered as an appropriate redistribution measure if the elasticities of equation (4) are based on (log) level estimation. Inserting the SSM results from Table 1 in equation (4) gives S = 40%. It is, however, questionable whether equation (4) is appropriate in this case. For instance, if h_{tr} and h_{tax} were each equal to one (a case in which the income distribution is clearly fixed, i.e. independent from the income level Y), equation (4) would only under special conditions result in S being equal to zero. This problem may also be seen from the MacDougall report (1977, pp. 135-144), in which two methods are used to measure interregional redistributive effects. The most relevant of these two methods (which are equivalent under certain conditions) measures the degree of average redistribution as follows:

$$\begin{aligned} S'' &= (h_{tax}-1)*(TAX_c/Y) + (1-h_{tr})*(TR_c/Y) \\ &= S - (TAX_c/Y) + (TR_c/Y) \end{aligned} \tag{5}$$

It is clear from this equation that the appropriate way of measuring average redistribution on the basis of a (log) level equation is not that applied by SSM. For instance, applying equation (5) to the SSM results for the United States from Table 1 gives S'' = 31%, which is somewhat higher than the equivalent MacDougall result for the United States of 28% due to the fact that the latter was based on data from the early 1970s.

Concluding this discussion on the appropriate ways of measuring 'average' and 'marginal' redistributive effects, we have found that the stabilization measure S of equation (4) should be applied to equations estimated in growth rates (i.e. logarithmic differences), while the redistributive measure S'' of equation (5) is appropriate for equations estimated in (log) levels.[3] The calculations of SSM may therefore be considered as misleading since they apply a stabilization concept to an equation which only can serve to calculate redistributive effects.

3. Institutional features of the US, German and French budgetary systems

In this section, we present the main features of the US, French and German tax and transfer systems within a single accounting framework (presented in Appendix A). Although as discussed in Appendix A this harmonization has obvious limitations, it provides a basis for an overview of the main properties of the three systems.

[3] Incidentally, we note that a positive estimate for h_{tr} obtained in a (log) level equation, sometimes qualified as 'anomalous', is not regressive in the distributional sense, see MacDougall (1977, p. 140).

Table 1

Shock absorption in regions through the central government: United States

Sample and income concept (y)	Dependent variable (x)	Estimation result	Share (x/y)	dx/dy Average	dx/dy Marginal	Other features
Sachs and Sala-i-Martin (1991)						
Nine census regions 1970-87 Per capita nominal income	Nominal total personal taxes per capita relative to US average	$\ln(x) = .. + 1{,}275 \ln(y)$[1]	25,8	32,8		Dummy variable and time trend for each region
	Nominal per capita federal transfers to individuals, State and local governments relative to US average	$\ln(x) = .. - 0{,}327 \ln(y)$[1]	17,9	−5,9		Dummy variable and time trend for each region
Von Hagen (1991)						
51 States 1981-86 Real GSP per capita	Real per capita federal income tax payments	$\ln(x/x_{-1}) = .. + 0{,}87 \ln(y/y_{-1})$ (1981-82)	8,8		7,7	Intercept and oil dummy (6 oil States) for each year
		$\ln(x/x_{-1}) = .. + 1{,}10 \ln(y/y_{-1})$ (1983-86)	8,2		9,0	
		$x = .. + 0{,}38\ y$ (1980-86)	8,4	38		
	Real per capita federal direct payments to individuals	$\ln(x/x_{-1}) = .. - 0{,}17 \ln(y/y_{-1})$ (1981-86)	9,1		−1,5	Intercept and oil dummy (6 oil States) for each year
		$x = .. - 0{,}088\ y$ (1980-86)	9,1	−8,8		
	Real per capita federal expenditure	$\ln(x/x_{-1}) = .. + 0{,}036 \ln(y/y_{-1})$ (1982-86)	19,9		0,7	Intercept and oil dummy (6 oil States) for each year
Goodhart and Smith (1993)						
44 States (excluding 6 oil States and District of Columbia) 1981-86 Real GSP per capita (relative to US average for log-level models)	Real per capita federal income tax payments relative to US average	$\ln(x) = .. + 1{,}528 \ln(y)$	8,4	12,8		Dummies for each year
		$(x - x_{-1}) = .. 0{,}019 (y - y_{-1})$ (1982)	8,5		1,9	Dummies for each year, current and lagged GSP change
		$(x - x_{-1}) = .. 0{,}108 (y - y_{-1})$ (1983-86)	8,2		10,8	
	Real per capita federal transfer payments to individuals (relative to US average for log models)	$\ln(x) = .. - 0{,}139 \ln(y)$	9,1	−1,3		Dummies for each year
		$(x - x_{-1}) = .. - 0{,}011 (y - y_{-1})$ (1982-86)	9,1		−1,1	Dummies for each year, current and lagged GSP change
	Real per capita total federal spending (relative to US average for log models)	$\ln(x) = .. + 0{,}477 \ln(y)$	19,9	9,5		Dummies for each year
		$(x - x_{-1}) = .. - 0{,}040 (y - y_{-1})$ (1982-86)	19,9		−4,0	Dummies for each year, current and lagged GSP change

[1] Weighted average of estimates with ordinary least squares. Other estimates lead to similar results.

The three countries' tax and transfer systems exhibit strong differences. Even though the 1982 decentralization laws have granted some autonomy to the regions, the French tax and transfer system remains highly centralized (Tables 2a and 2b). Central government income and expenditure are both five times higher than those of regional and local governments together. Furthermore, regional and local governments in part rely on central government finance as they receive one third of their total income from lump-sum vertical grants.

Moreover, virtually all income-elastic resources are assigned to the central government, which also finances virtually all means-tested and unemployment transfers. Half of regional and local governments' own revenues arise from taxes on property and wealth (amounting to 2,6% of GDP), which are extremely rigid in the short run and cannot be expected to contribute to stabilization in any significant manner. The bulk of their expenditure consists of the provision of public goods. One can therefore expect the French budgetary system to exhibit a high degree of regional stabilization.

The federal US system clearly presents a very different picture. First, the central budget is about half the size of France's, while the regional budgets are twice as large. Second, regional governments rely to a significant extent on income- or expenditure-elastic taxes, and their expenditure includes transfers to households. Third, federal transfers to persons represent less than 10% of GDP, and the bulk of these transfers consist of old-age benefits which are relatively insensitive to changes in the economic situation (Table 3). Fourth, unemployment insurance is only federal in appearance: although contributions and benefits are recorded as federal income or expenditure, all States have individual accounts with the Unemployment Trust Fund, and no consolidation is made between these accounts even though they are all managed by the federal Treasury.[1]

It is, however, necessary to take into account the existence of private pension and health insurance funds (Table 3). As these funds are generally organized on an industry basis rather than on a geographical basis, they have the same stabilizing properties as similar government or non-government social insurance schemes. Although they are clearly private, these institutions have generally been built up within the framework of a collective bargaining process and are equivalent to similar pension schemes organized on a nationwide basis in West European countries. The potential for developing such funds on a Community-wide basis is limited, due to the existence of national pension systems. Even taking

[1] See von Hagen (1991) for a detailed presentation of the US unemployment benefits system.

Table 2a

Income and expenditure of central governments

(% GDP)

	France	Germany	United States
Income	37,0	27,5	19,5
VAT	7,3	4,0	—
Other taxes on goods and services	3,52	2,3	0,8
Income-based taxes	6,4	4,9	10,8
Wage taxes and contributions	19,4	16,2	7,8
Other taxes	0,4	0,1	0,1
Expenditure	38,5	25,0	18,4
Transfers to households	20,7	13,3	8,6
Other transfers	0,7	0,5	—
Purchases of goods and services	14,6	10,1	7,6
Vertical grants	2,5	1,1	2,2

Source: National accounts.

Table 2b

Income and expenditure of regional governments

(% GDP)

	France	Germany	United States
Income	7,4	12,9	13,8
(Own and shared taxes)			
VAT	—	2,1	—
Other taxes on goods and services	0,5	2,3	5,3
Income-based taxes	1,5	6,4	2,3
Wage taxes and contributions	0,1	—	0,9
Other taxes	2,6	0,9	3,1
(Transfers from other governments)			
Vertical grants	2,5	1,1	2,2
Horizontal transfers	—	0,1	—
Other transfers	0,2	—	—
Expenditure			
Transfers to households	0,4	2,0	2,6
Other transfers	0,2	0,7	—
Purchases of goods and services	6,6	9,7	12,0
Horizontal transfers	—	0,1	—

Source: National accounts.

Table 3

Transcribers to households from central government and other central institutions

(% GDP)

	France	Germany	US federal government	Other instit-utions[1]
Total	20,7	13,3	9,6	4,5
Income-independent				
Fixed:	16,2	10,7	7,4	4,5
Health	5,7	0,5[2]	1,9	3,6
Retirement	10,5	10,2	5,5	0,9
Variable:				
Unemployment	1,6	1,4	—	—
Income-dependent				
Assistance	2,9	1,2	2,2[3]	—

[1] Private pension and welfare funds.
[2] German hospitalization benefits are classified as government expenditure for goods and services in the national accounts.
[3] Including Medicare (old-age health insurance) and means-tested welfare programmes.
Note: For the United States, differences with Tables 2a and 2b arise from the assignment of unemployment transfers to the State level, and the assignment to the federal level of Medicare and means-tested welfare programmes which are financed by the federal government through grants in aid to State and local governments.
Source: National accounts.

into account this correction, however, federal transfers to individuals remain well below their level in France.

The German case is especially interesting because of the peculiarities of German federalism, which aims at combining a significant degree of devolution with a strong preference for interregional equity.[1]

As illustrated in Tables 2a and 2b, tax sharing is the rule in Germany. This implies that when a given *Land* faces an asymmetric shock, tax payments to both the State budget and the federal budget decrease in the same proportion. One could therefore expect the German system to exhibit a low degree of regional stabilization. However, two features of the budgetary system can be expected to have the opposite effect.

(i) Social insurance is basically organized at the federal level; State and local transfers to individuals represent less than 15% of the total.

(ii) Several mechanisms are imbedded in the tax system which aim at reducing interregional income gaps: first, fiscally weaker *Länder* whose VAT revenue falls below 92% of per capita average receive supplementary resources out of the tax resources of the other *Länder*; second, the '*Länder*finanzausgleich' mechanism provides supplementary horizontal transfers to the least developed States; finally, vertical grants called 'Ergängszuweisungen' ensure that no *Land* is left with a tax capacity below 97,5% of average. Although these mechanisms aim at static redistribution across States rather than at stabilization, the automatic provision of horizontal transfers to fiscally weaker *Länder* can be expected to have an impact on stabilization if the State hit by an adverse shock happens to be one of the least developed. In such an (extreme) case, transfers from the rest of the federation totally compensate the loss of fiscal resources. However, it is apparent that these mechanisms operate in a non-linear way, as they only contribute to alleviate the impact of an adverse shock if the State's economy is already in a relatively weak position within the federation.

4. The method and the model

As developed in Goodhart and Smith (1993), the case for regional stabilization rests on Keynesian assumptions of market imperfections (especially price/wage rigidities) which prevent instantaneous market clearing. This is indeed a basic assumption in all the literature dealing with stabilization properties of federal budgetary systems. This assumption is therefore retained hereafter without further discussion.

As the same paradigm also underlies standard macroeconometric modelling, it is consistent with the nature of the issue at hand to make use of such models for the purpose of assessing regional stabilization in the three countries. In fact, the most straightforward method that could be used would be to run simulations with a multiregion model that would explicitly represent the main features of the budgetary system. One could, for example, simulate the effects of a shock to the demand for exports in a certain region, and measure the stabilization properties of the budgetary system using equation (2) above. But although regional models do exist for several countries, no such model exists that could be used to compare stabilization in the United States, France and Germany.

However, existing country models can be adapted for the purpose of the present exercise. The principle of the method is simple. Suppose we have a macroeconomic model for a given country. Since we are only concerned with marginal

[1] For a presentation and a discussion of the German budgetary system, see Costello (1993) and Spahn (1993).

redistribution, and we assume asymmetric shocks can affect any region with equal probability, we are not interested in specifying the economic characteristics of existing regions (or States or *Länder*). On the contrary, what we would like to measure is the extent of automatic stabilization for the average (abstract) region, whatever the actual differences between (concrete) regions. We can therefore assume that both economic structures as measured, for example, by the capital stock or the rate of unemployment, and the behaviour of private agents, are identical throughout the country. If there are n regions in the country, a region in the above sense can simply be defined as $1/n^{th}$ of the country's economy. A model of such a region can therefore be derived from the model of the country's economy as a whole. What needs to be defined in order to carry out this derivation are: (i) the operation of the budgetary system, and (ii) the degree of economic integration (for labour, goods and capital markets) between the regions.

(i) The major properties of the budgetary system have been represented in a detailed country macromodel, for instance, embedding information on tax bases and tax elasticities, and the economic characteristics of social insurance benefits in the model's equations. What is obviously missing in a model with a single government level is information on the assignment of taxes, contributions and expenditure to different government levels. This information could, however, be derived from national accounts and knowledge of the institutional characteristics of a country's budgetary system, and be combined with the model's aggregate information in order to build a region's model. The derivation of tax equations for regional and central governments is best understood in the two polar cases of generalized tax sharing (in such a case, tax equations for different government levels only differ by a constant factor) and of a clear assignment of different categories of taxes to different government levels (the only task is then to assign each tax equation to either one of the two government levels represented in the model), but it can also be dealt with in less clear-cut cases.

(ii) In order to derive a region model from a country model, assumptions also need to be made as regards the degree of economic integration among regions. Unfortunately, as no strong basis exists for the modelling of interregional linkages within countries, a priori assumptions have been relied on.

The choice was made to model interregional integration using standard international economic integration assumptions. Stronger assumptions were then introduced in order to test the sensitivity of the results.

The degree of labour market mobility resulting from integration within countries is both variable, depending on the country, and a matter for controversy (see, for example, Commission of the European Communities, 1990, chapter 6). The simulations presented here are based on two assumptions: (i) that labour mobility across regions is not a significant channel of stabilization in the short run; and (ii) that regional wages do not respond to regional unemployment nor to regional inflation, but rather to economy-wide conditions. As a consequence, a region hit by a shock tends to exhibit for a protracted period higher than average unemployment, because neither migration nor a drop in regional real wages bring the labour market back into balance. Since this is clearly the case in which stabilization has to operate through the federal budget, this kind of assumption can be considered appropriate for the simulations. However, these are quite extreme assumptions and alternative simulations considering a higher degree of labour market integration have been implemented (see Table 4 for the presentation of the different economic integration assumptions, and Table 7 for the results of the corresponding alternative simulations).

Goods market integration within the country can be measured in the framework of a macromodel by: (i) the share of trade with the rest of the country in regional GDP, (ii) price elasticities of exports and imports (to or from the rest of the country), and (iii) the relative impact of regional and national economic conditions on the behaviour of private agents, especially as regards investment and prices. The simulations reported in this paper were carried out under the simplifying assumption that goods market integration across regions is not significantly larger than across countries. The variables and parameters from standard country equations were therefore retained in regional equations. Again, this assumption is quite extreme, but the alternative simulations did not change the results considerably. For instance, if one were to assume a 75% share of trade instead of 30%, the impact of a regional shock is obviously reduced but the stabilizing role of the central budget remains essentially unaffected (see also Tables 4 and 7)

Capital market integration can be assumed to be perfect within countries as regions share the same currency, and all financial assets, including stocks, can be considered to be perfect substitutes.

On the basis of the above assumptions, a small-scale standard model of a region's economy within a country has been developed, which is presented in detail in Appendix B. The model is highly simplified as it attempts to capture in a compact fashion the standard short/medium-term characteristics of neo-Keynesian macromodels. The core behavioural equations consist of a wage-price block, investment and

Table 4

Alternative assumptions regarding economic integration

Degree of economic integration	Low	High
Labour markets		
Labour mobility across regions	0	50%[1]
Responsiveness of wages to regional economic conditions	0	50%[2]
Goods markets		
Export/GDP ratio	30%	75%
Share of demand from the rest of the country in the accelerator term of the investment equation	0	50%
Price elasticity of exports	0,7	1,4
Price elasticity of imports	0,5	1,0

[1] This 50% figure means that half of the newly unemployed leave the region after the shock to work in another region.
[2] In this case, the evolution of wages follows both regional and national values of prices and unemployment levels.

household demand equations, short-term equations for labour demand and unemployment, and 'foreign' trade equations. For the sake of simplicity, no distinction is made between trade within the country and trade with the rest of the world, and the region is supposed to be small enough for the shock to the region not to affect significantly rest-of-the-country variables ('small region' assumption). Since the focus is on differences in budgetary systems rather than on differences in agents behaviour, no attempt has been made to differentiate the US, French and German model whose structure and essential non-budgetary parameters are identical.

The budgetary side of the model is more developed, although the equations remain unsophisticated. On the tax side, personal and corporate income taxes are represented as well as taxes on goods and services, VAT, and social security contributions. On the expenditure side, there is only one category for all expenditure on goods and services, but three categories of transfers to households are distinguished on the basis of their institutional characteristics:

(i) income-independent transfers (basically old-age and health benefits), which do not depend on a household's current income;

(ii) income-dependent transfers (means-tested assistance transfers, and family benefits);

(iii) unemployment benefits.

Intergovernmental grants are also taken into account, but are basically considered exogenous, except for Germany. For that country, two cases are distinguished: in the first one (Germany I), which corresponds to the situation when one of the wealthy *Länder* is hit by an adverse shock, the drop in regional income is not supposed to trigger intergovernmental transfers; in the second one (Germany II), associated with the case of a shock affecting an already poor region, transfers are supposed to compensate entirely for the loss in internal tax revenues. These two situations provide two extreme cases for assessing the properties of the German budgetary system.

The model was calibrated using parameters and multipliers from the Mimosa multinational model (Équipe Mimosa, 1989).[1] This model was chosen because it relies on a fairly detailed representation of major tax and expenditure categories. Its macroeconomic properties are comparable to those of other similar multinational models of a neo-Keynesian strand, like the Commission's QUEST model or the OECD Interlink model (see Whitley, 1991, for a comparison of the model properties). Our results should therefore not be model-dependent, but rather represent what could be obtained with a larger class of simulation models.

A three-year time horizon was chosen as reference in order to eliminate the effects of lags in tax collection. This kind of horizon also corresponds to the approach of SSM and von Hagen. The calibration method is reported in more detail in Appendix C. The main tax and transfer parameters are given in Table 5.

An important issue is whether all categories of federal (or national) taxes and transfers have to be taken into account. Von Hagen (1991) limits his analysis of the US system to personal income taxes and transfers, leaving aside both the corporate income tax and social security contributions. In part, this results from data limitations: corporate income taxes and social security contributions are levied in the State where the company is incorporated, which may differ from the State where production takes place. Our method has the advantage of circumventing these limitations. We implicitly assume that establishments located in a region contribute to a firm's overall tax bill in proportion to their taxable profit (namely the wage rate).

[1] The authors are grateful to the Mimosa modelling team for providing model equations and simulation results.

However, there are also more conceptual problems with the treatment of corporate income taxes and employers' contributions for social insurance. Cross-regional ownership in companies results in distributing the impact of a shock (and of the resulting tax liability changes) across regions, therefore providing a kind of insurance against regional shocks and reducing the stabilizing impact of the tax system; also the incidence of a tax change may to some extent fall upon the citizens of other regions through goods and factors price changes.[1] It is therefore likely that a shock to regional enterprise income will only partially impact on the region's disposable income. Our modelling and our choice to include corporate income taxes and employers' contribution for social insurance therefore probably results in overstating both the impact of a demand shock on the region's primary income and the stabilization property of the tax system.[2]

The inclusion of social security also raises intertemporal issues. In a fully capitalized system, a reduction in the region's contributions would reduce the present value of future benefits by the same amount. It would therefore not imply more stabilization than intertemporal income smoothing through borrowing abroad. To the contrary, in a nationwide pay-as-you-go system, a decrease in social security contributions could have zero impact on the region's future payoffs. All social security systems involve a mix of these two polar cases. Here again, the choice of considering social security contributions as equivalent to federal taxes may lead to the overestimation of the stabilizing character of the tax system.

The characteristics of the personal income tax are captured by the aggregate elasticity of tax receipts with respect to households taxable income. These parameters are taken from the Mimosa model. The tax elasticity is higher in France than in the other two countries due to higher marginal rates.[3]

Modelling corporate income taxation at the regional level is challenging because firms generally operate on a wider scale. It has been assumed for the simulations that establishments located in a region were contributing to their firm's overall tax bill in proportion to their taxable profit. In such a case, a drop in regional pre-tax profit is partially offset by a reduction in corporate income tax. But it could also be assumed that in the context of stronger economic integration, multiregional firms allocate cash flow to regional establishments on the basis of the marginal profitability of investment projects. In that case, corporate income taxation would not contribute to regional stabilization. Nor would corporate income be affected by a temporary drop in demand, either.

As the corporate income tax is modelled as the product of an apparent tax rate by taxable profits, apparent tax rates are well below legal marginal tax rates (Table 5).

VAT is modelled in a simplified fashion as a consumption tax. The rates in Table 5 are obtained by dividing tax receipts by household consumption.

In the absence of reliable estimates for the elasticity of income-dependent transfers, a conservative evaluation was chosen; it is assumed that a decrease in households income by 1 percentage point triggers a rise in these transfers by 1 percentage point.[4]

For unemployment benefits, the assumption was made that the marginal replacement ratio (of average unemployment compensation to average wage) was 1,5 higher than the average replacement ratio. The implied marginal replacement ratio is very low for the United States, but since no federal unemployment insurance exists, this has little importance. For France and Germany, the marginal replacement ratios are rather high. Therefore, an alternative simulation was carried out assuming the marginal replacement ratio to be equal to the average one (see Table 7).

5. Results

In order to assess the stabilization properties of the three budgetary systems a demand shock, consisting of a fall in the demand for exports by 1 percentage point of GDP, was simulated with each of the three country models. This is the most interesting simulation for the analysis of stabilization. A supply shock in the form of a wage increase, for instance, will not give rise to much stabilization from the part of the budget, since the tax increase induced by the nominal income increase will add to the direct negative impact on GDP. The model responses followed as expected the standard neo-Keynesian pattern, so there is no need to comment upon simulation results, which are given in Appendix D. More interesting is the measurement of the stabilization effect of the central budget.

1 The authors are indebted to von Hagen for discussions on this issue.
2 It is important to remember that this does not apply to employees' social security contributions.
3 More precise information could be derived from tax simulation models.

4 It has been assumed, for the sake of simplicity, that the social transfers were open-ended, i.e. that their amount had no limit. One has to note that such a limit may exist (e.g. in the UK, where social transfers are subject to a ceiling).

Table 5

Main tax and transfer parameters

	France	Germany	United States
Tax parameters			
Personal income tax elasticity:			
federal taxes	1,4	1,3	1,2
regional taxes	—	1,3	1,0
Corporate income tax:			
apparent tax rate	0,14	0,17	0,09
share of regional governments	—	0,5	0,2
Contributions for social insurance:			
employers' payroll apparent tax rate	0,2	0,16	0,2
employees' payroll apparent tax rate	0,2	0,19	0,08
share of regional governments	—	—	0,07
VAT:			
apparent tax rate	0,1	0,09	—
share of regional governments	—	0,35	—
Transfer parameters			
Income elasticity of income-dependent transfers:			
central transfers	−1,0	−1,0	−1,0
regional transfers	−1,0	−1,0	−1,0
Marginal replacement ratio for unemployment benefits:			
central insurance	0,6	0,75	—
regional insurance	—	—	0,13

Demand shock

Table 6 gives the contribution of different taxes and transfers to overall stabilization in the three countries. Due to the non-linear character of the German system, two different simulations are reported for Germany, with Germany I representing the system without interregional transfers and Germany II a case where it is assumed to have full effect.

Table 6 is based on an analytical decomposition of the value of indicator S derived from equation (3) above.[1] A further refinement is that relative price effects have been taken into account, so that the expression for S is in fact:

$$S = 1 - dRDI/d(pY) \qquad (6)$$

Table 6

Contributions of different channels to regional stabilization (baseline simulation)

(%)

	France	Germany I	Germany II	USA
Total stabilization	**37,4**	**33,5**	**42,0**	**17,1**
Transfers	*9,9*	*12,8*	*21,3*	*1,1*
Unemployment benefits	9,9	12,5	12,5	—
Income independent transfers	—	—	—	—
Income dependent transfers	0	0,3	0,3	1,1
Horizontal transfers	—	—	8,5	—
Contributions for social insurance	*14,5*	*12,5*	*12,5*	*8,7*
Employers' contributions	7,25	5,7	5,7	6,1
Employees' contributions	7,25	6,8	6,8	2,6
Taxes	*13,0*	*8,2*	*8,2*	*7,3*
VAT	1,6	0,6	0,6	—
Corporate income tax	6,5	4,1	4,1	3,4
Taxes on goods and services	3,3	2,2	2,2	0,7
Personal income tax	1,7	1,4	1,4	3,2
Other taxes	−0,05	−0,0	−0,0	−0,0

The US case may be analysed first because it is the one examined by previous studies. In terms of overall stabilization effect, our result of 17% lies in between that of SSM (40%) and von Hagen (10%), where it should be noted that the result of SSM is not comparable, due to its hybrid nature. Decomposition of the effect explains the difference with von Hagen:

A major contribution to stabilization is provided by social security contributions and other employers contributions to pension funds (almost 9%). The clear reason for this rela-

[1] As is clear in the derivation of equation (3) from the accounting identity (1), any accounting identity giving regional disposable income can be used as a starting point.

tively strong effect is that these contributions are proportional to the wage bill; as the elasticity of employment with respect to output is assumed to be 0,7 and wages, which are set on a nationwide basis, remain approximately constant, a 1% fall in output leads approximately to a 0,7% drop in social contributions which is obviously not matched by a reduction in transfers or the provision of health services. This single element explains a large part of the difference between our results and those of von Hagen, who does not take social security into account. As developed before, this difference could be smaller due to the hybrid character of social security, but we do think that social security contributes to stabilization in a significant way.

In spite of the assumption of an elasticity above unity, personal income taxes have by contrast a relatively minor contribution to overall stabilization. The reason for this surprising result is that personal income taxes are based upon households taxable income, which is much less variable than regional output (because it is stabilized through the tax and transfer system). In the US case, the *ex post* elasticity of households income with respect to output is only 0,4 (see Appendix D). As we measure the stabilization effect of taxes on an *ex post* basis, this significantly reduces the effect of personal income taxes.[1]

Corporate income taxes contribute for some 3,5 percentage points to regional stabilization. The reason for this relatively strong effect is the high degree of variability of the tax base. However, the measurement may not be precise because of the very simplified way in which the tax base is modelled, and of the cross-regional effects of corporate income taxation.

The contribution of transfers is minor, mostly because of the absence of a federal unemployment benefits system. This is consistent with von Hagen's results.

The stabilization indicator is approximately twice as high in France and Germany compared to the United States. This is due to the following factors:

unemployment insurance, which contributes 10 percentage points (and even more in Germany) to stabilization;

the social security system, which due to a larger share of social contributions in GDP contributes some 4 percentage points more to stabilization;

interregional grants in Germany, which contribute 8,5 percentage points at maximum;

the operation of other taxes which (mainly because of their share in GDP) explain some 5 percentage points stabilization in France.

Summing up, the results for France and Germany are close to each other in spite of France's more centralized budgetary system. If interregional cohesion is taken fully into account, the German budgetary system appears to achieve even more stabilization than the French one. However, there is evidence that the French system also involves important discretionary transfers to regions hit by a shock. These transfers are obviously not taken into account.

Table 7 summarizes the results of simulations of the model under different alternative assumptions (changes in economic integration and different replacement ratio). The baseline simulation results are affected to the extent that an alternative assumption has a direct impact on unemployment benefits (replacement ratio, labour market integration), al-

Table 7

Contributions of different channels to regional stabilization (alternative simulations)
Differences with baseline simulations in percentage points

Assumptions[1]	France	Germany I	Germany II	USA
Lower replacement ratio for unemployment benefits[2]				
Total stabilization	−2,7	−3,6	−3,0	0,1
of which: unemployment benefits	−3,3	−4,2	−4,2	—
Higher labour market integration[3]				
Total stabilization	−4,1	−5,3	−5,3	0,1
of which: unemployment benefits	−4,9	−6,25	−6,25	—
Higher goods market integration[4]				
Total stabilization	—	—	—	—

[1] See Table 4 for details.
[2] Replacement ratio = average ratio instead of 1,5* average ratio.
[3] Higher mobility across regions (beta' = 0,5) and higher responsiveness of wages to regional economic conditions (k' = 0,5).
[4] Export/GDP ratio = 75%; share of demand from the rest of the country in the accelerator term of the investment equation = 0,5; price elasticity of exports = 1,4; price elasticity of imports = 1.

[1] As we have assumed the elasticity of personal income tax with respect to households income is 1,2, our results imply a tax/output elasticity of 0,5. Von Hagen's estimates are twice as high, which probably implies a higher tax/income elasticity.

though not very strongly. Furthermore, a higher goods market integration, if it decreases the effects of the shock on a regional economy, does not affect the stabilization results.

6. Conclusions

The simulation analysis presented in this paper, despite its theoretical and empirical shortcomings, has proved to be a useful tool in shedding light on the debate concerning the degree of stabilization provided by central governments in federal States, or unitary States for that matter. In particular, it has been shown that the von Hagen critique on the empirical work of Sachs and Sala-i-Martin has proved to be justified, but that von Hagen's own approach gives an incomplete and therefore excessively pessimistic picture of the degree of stabilization in the United States. Our simulation approach suggests that the degree of 'marginal' stabilization is significantly higher than that of von Hagen, and more than half that found for 'average' redistribution by Sachs and Sala-i-Martin. We also showed that the Sachs and Sala-i-Martin results are somewhere halfway between stabilization and redistribution and therefore of little relevance for the study of stabilization. In addition, our analysis has demonstrated that the main reason behind the relatively low degree of stabilization in the United States compared to a federal State such as Germany or a unitary State such as France lies in the fact that there is no federal unemployment insurance in the United States.

From our analysis, several conclusions can be drawn as regards stabilization in the Community. First, the example of the United States shows that a monetary union can be viable with a degree of regional stabilization through the central budget which is smaller than is sometimes believed or thought to be necessary. Secondly, for an element of the central budget to play a significant stabilizing role, it should not primarily be income elastic.[1] Thirdly, the major contribution to stabilization in the countries which we analysed comes from budget categories which are unlikely to be transferred to the Community level in the foreseeable future. Fourthly, the German Finanzausgleich shows, however, that stabilization does not necessarily need to arise from elements of the central budget and can be sizeable on the basis of interregional transfers.

It would not be justified to conclude from the foregoing that EMU would not be viable without the degree of stabilization observed, say, in the United States, the main reason being that the Community Member States will be much more autonomous both as regards spending and taxation than in any existing federal State. To the extent that a parallel can be drawn, it seems likely that automatic stabilization in EMU, if any, will be of the Finanzausgleich type, although it should be said here that the stabilization effects are mainly a by-product of the — predominantly redistributive — Finanzausgleich.

[1] This conclusion depends on the stabilization measure which is used. In the example of footnote 3 on p. 514, the size of the budget category alone is sufficient to have an impact on the degree of stabilization.

Appendix A — An accounting framework for the analysis of national budgetary systems

This appendix presents the structure of taxes and contributions on one side and grants and transfers on the other side, for the German, French and US budgetary systems. For comparative purposes, the accounting framework must be:

(i) simple, in order to be incorporated in the model;

(ii) general: it has to be applicable to the three cases which are to be treated in the present paper (France, Germany, and United States);

(iii) complete: all taxes and grants which may affect stabilization properties of a budgetary system have to be taken in consideration.

Accounting framework

National accounts are used in order to produce a simplified uses/receipts table in which the main operations assumed to have stabilization properties are presented. Five different agents are considered: households (including individual enterprises), corporations, regional governments (which are in fact the agglomeration of regional and intra-regional governments), the central government (in which the social security fund is included) and the rest of the world. Furthermore, the following categories of taxes and transfers are retained.

(a) Taxes and contributions

Four types of tax are considered:

taxes on goods and services: VAT, which is levied on consumption (for EC Member States, the part of this tax which is transferred to Community level is a receipt of the rest of the world), and 'other goods and services taxes' (especially excises), which are assumed to be levied on production;

income-based taxes: the two main components are personal and corporate income taxes;

wage-based taxes and social security contributions;

other taxes (especially on property): these taxes are based on private gross wealth, hence, they cannot be expected to have any significant stabilization property and therefore they appear for information purposes only.

(b) Grants and transfers

This category is divided into three main types:

intergovernmental transfers: these transfers may be vertical (from central to regional government) or horizontal; the latter concerns equalization transfers between regional governments, which mainly occur in Germany;

transfers to households;

other transfers.

National features

France

The French vertical transfers are lump-sum general grants, the level of which is re-evaluated each year:

the R651[1] grant (current transfers between government levels) is transferred from central to regional government according to the annual finance law. Its level approximately remains constant:

the R653 grant (transfers of fiscal receipts), is mainly composed of the 'dotation générale de fonctionnement'. Its level followed the inflation rate in 1990, and from 1991 the evolution of national GDP will also appear in the re-evaluation of this grant. This grant has, therefore, no regional revenue elasticity and hence no stabilization property.

Until 1990, there were no equalization transfers among French regions. In 1991, the 'dotation de solidarité urbaine' was installed. This is a system of horizontal transfers between French towns, which will amount to FF 700 million in 1991 and FF 2 billion in 1993 (approximately 0,03% of the national GDP). Even if these transfers are not as substantial as the German Finanzausgleich (0,1% of German GDP in 1987), they have to be noted as the first example of a horizontal redistribution system in France.

Investment aids (R71) are non-contractual transfers which have no direct effect on grantee's or grantor's revenue. They affect investment rather than consumption.

[1] This refers to standard national account codes.

Germany

German tax revenue is shared between different levels of governments. But VAT is the only shared tax with a strong redistributive effect: of the 35% of the total revenue received by the regional governments, 75% is allocated on the basis of the number of inhabitants, and the remaining 25% is mainly transferred to fiscally weak *Länder*. These VAT transfers are financed by the relatively richer *Länder*, and they may have stabilization effects. The other German taxes are shared on an own-resources basis.

The 'current transfers between government levels' concern mostly lump-sum general grants which are given to regional governments: they occur in compensation for the execution of federal laws and decisions at the *Länder* and local levels. They also concern the financing of universities.

Another part of these vertical grants consists of 'Ergängszuweisungen', the amount of which is determined as a percentage of total VAT receipts. These transfers have a redistribution aim: they indeed complete the horizontal transfers in order to make the tax capacity in all *Länder* reach a 97,5% minimum. But the main feature of Germany's budgetary system is the existence of horizontal general grants (Länderfinanzausgleich), which consist of a zero-sum transfer providing redistribution among *Länder*.

United States

Social transfers have been divided into four main categories: health, old age (retirement), assistance and unemployment insurance. Contributions to other pension and welfare funds also appear in wage-based contributions: these are mainly contributions to private funds which are organized by type of activity.

The US vertical transfers are categorical or block grants. The former are designed to achieve well-defined goals of the national government (specific purpose grants), the latter are in fact the consolidation of categorical grants in larger groups (education, defence, etc.), and they now represent now most of the grants in aid to State and local governments. They can be considered as specific-purpose grants, even if the goals on which they are attached are larger than the categorical ones. These two kinds of specific grants include the formula grants, in which recipients meeting the qualifying criteria are entitled to funds based on a legislative formula, and the project grants which carry no automatic entitlement to funds (the distribution of funds is determined by a federal administrator, based on application and review process: this is an example of effort-related grants). Furthermore, most of these specific grants are closed (the annual amount of federal expenditure is fixed). A few of the federal government's grants in aid to State and local levels (notably Medicaid and Public Assistance) are open-ended. In these cases, the federal government pays a fixed percentage of an indefinite programme of costs.

Both the State and federal governments make social transfers to households. As already noted, unemployment transfers have to be considered as State expenditure, even if they appear in the central account for institutional reasons.

The results of this appendix are available in the following tables, which are given in percentage of national GDP.

Table A.1

Uses and resources, France, 1990

(% GDP)

	Eurostat classification	Uses						Resources					
		Households	Corporations	Regional government	Central government	Goods and services	Rest of the world	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world
Taxes and contributions													
1. Goods and services													
VAT	R21	0	0	0	0	7,9	0	0	0	0	7,3	0	0,6
Other goods and services	R22-R2222	0	0	0	0	4,1	0	0	0	0,5	3,5	0	0

(% GDP)

	Eurostat classification	Uses						Resources					
		Households	Corporations	Regional government	Central government	Goods and services	Rest of the world	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world
2. Income-based taxes													
Personal income tax	R612	4,2	0	0	0	0	0	0	0	0	4,2	0	0
Corporate income tax	R611	0	2,1	0	0	0	0	0	0	0	2,1	0	0
Other income-based taxes	R2222	0,1	1,4	0	0	0	0	0	0	1,5	0,1	0	0
3. Wage-based taxes and contributions													
Wages and workforces	R2221	0	0,7	0	0	0	0	0	0	0,1	0,6	0	0
Social security contributions	R62 + R12*	9	8,8	0,6	1,5	0	0	0	0	0	20,1	0	0
4. Other taxes													
Property	(R613) + R72	2	0,9	0	0	0	0	0	0	2,6	0,4	0	0
Other taxes		0	0	0	0	0	0	0	0	0	0	0	0
Grants and transfers													
1. Intergovernmental transfers													
Vertical (total)	R65	0	0	0	2,5	0	0	0	0	2,6	0	0	0
grants	R651; R653	0	0	0	2,5	0	0	0	0	2,6	0	0	0
Horizontal equalization transfers		0	0	0	0	0	0	0	0	0	0	0	0
2. Transfers to households													
Social transfers (total)	R64	0	1,8	0,4	20,7	0	0	23,1	0	0	0	0	0
health		0	0	0	0	0	0	6,4	0	0	0	0	0
old-age pensions		0	0	0	0	0	0	11,7	0	0	0	0	0
family/ maternity		0	0	0	0	0	0	3	0	0	0	0	0
unemployment		0	0	0	0	0	0	1,6	0	0	0	0	0
other		0	0	0	0	0	0	0,2	0	0	0	0	0
3. Other transfers													
Investment aids	R71	0	0	0,2	0,7	0	0	0,1	0,2	0,5	0,1	0	0
Goods and services equilibrium													
Total		67,3	11,3	6,6	14,6	0	22,6	0	0	0	0	100	22,6
Consumption	P30	60,3	0	4,2	13,7	0	0	0	0	0	0	0	0
Gross capital investment	P41	7,0	11,3	2,3	0,8	0	0	0	0	0	0	0	0

* Actual social contributions which the government pays to itself as an employer.

Source: National accounts.

Table A.2

Uses and resources, Germany, 1987

(% GDP)

	Uses						Resources					
	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world
Taxes and contributions												
1. Goods and services												
VAT					6,8				2,1	4		0,6
Other goods and services					4,6				2,3	2,3		
on consumption					1,8				0,1	1,7		
on production					1,5				1,4	0,1		
excises					0,9				0,5	0,4		
other (administrative fees)					0,1				0,1	0		
2. Income-based taxes												
Personal income tax	9,9								5,7	4,2		
Corporate income tax		1,4							0,7	0,7		
Other income-based taxes												
3. Wage-based taxes and contributions												
Social security contributions	8,6	7,3								16,2		
retired people	3,9	3,9								7,9		
health insurance	3,9	2,6								6,6		
unemployment insurance	0,8	0,8								1,6		
4. Other taxes												
Property	0,3								0,3			
Wealth	0,2								0,2			
Other taxes	0,6								0,4	0,1		
Grants and transfers												
1. Intergovernmental transfers												
Vertical (total)												
current transfers between government levels				1,1					1,1			
including general grants ('Ergänzungs-zuweisungen')				0					0			
Horizontal												
equalization transfers ('Finanzausgleich')			0,1	-					0,1			
2. Transfers to households												
Social transfers (total)			2	13,3			15,3					
health and maternity			0,1	0,5			0,6					
old-age pensions			1,1	10,2			11,3					
family			0	0,7			0,7					
unemployment			0	1,4			1,4					
other			0,8	0,5			1,3					

(% GDP)

	Uses						Resources					
	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world
3. Other transfers												
Investment aids			0,7	0,5				1,2				
Goods and services equilibrium												
Total	55,3	19,2	9,7	10,1		31,8					99,9	26,2
Consumption	55,3		9,7	10,1		31,8						
Gross capital investment		19,2										

Source: National accounts.

Table A.3

Uses and resources, United States, 1989

(% GDP)

	Uses						Resources					
	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world
Taxes and contributions												
1. Goods and services												
Excises, sales taxes, non-taxes and motor-vehicle licences					6,2				5,3	0,8		
2. Income-based taxes												
Personal income tax	10,6								1,9	8,7		
Corporate income tax		2,5							0,4	2,1		
Other income-based taxes												
3. Wage-based taxes and contributions												
Social insurance contributions	3,9	4,8							0,9	7,8		
Federal social insurance fund	3,7	4,1								7,8		
health	0,8	0,6								1,4		
unemployment insurance	0	0,4								0,4		
old-age	2,9	3,1								6		
State and local insurance fund	0,2	0,7							0,9			
health	0	0,1							0,1			
unemployment insurance	0	0							0			
old-age	0,2	0,6							0,8			
Contributions to other pension and welfare funds		4,5					4,5					
old-age		0,9					0,9					
health		3,6					3,6					
supplemental unemployment		0					0					
other		0					0					
4. Other taxes												
Property	0,2	2,7							2,8	0,1	0	
Other taxes	0	0,3							0,3			
Grants and transfers												
1. Intergovernmental transfers												
Vertical: grants in aid to State and local governments				2,2					2,2			
national defence				0					0			
education				0,2					0,2			
health and hospitals				0					0			
Medicare				0,6					0,6			

(% GDP)

	Uses						Resources					
	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world	Households	Corporations	Regional government	Central government	Goods and services	Rest of the world
welfare and social services				0,5					0,5			
housing and community services				0,1					0,1			
agriculture				0					0			
natural resources				0					0			
transportation				0,3					0,3			
labour training and services				0					0			
other				0,5					0,5			
Horizontal equalization transfers												
2. Transfers to households (total)												
Federal government transfers (total)				8,6			8,6					
health				1,9			1,9					
old-age				5,5			5,5					
assistance				1,0			1,0					
unemployment				0,2			0,2					
State and local government transfers (total)			2,6				2,6					
health			1,3				1,3					
old-age			0,7				0,7					
assistance			0,6				0,6					
unemployment			—				—					
3. Other transfers												
Goods and services equilibrium												
Total	66,3	14,8	12	7,6		12					99,8	12,9

Source: National accounts.

Appendix B — The model of a region's economy

Variables without asterisk refer to a region (e.g. a State) within a country, assuming the size of the region is small enough to consider the country variables as constant (small-region assumption). Variables with asterisk refer to the rest of the country. Subscript c refers to central government variables; subscript r to regional government variables. The operator d is used to indicate difference with respect to the baseline.

Goods market equilibrium

Goods market equilibrium is represented in the usual way, except for the distinction between regional and central government expenditure:

$$Y + M = D + I + G_c + G_r + X \tag{1}$$

where

- D = households' demand (consumption and investment),
- I = enterprises investment (including changes in inventories),
- G_c = central government expenditure for goods and services,
- G_r = regional government expenditure for goods and services,
- M = imports (including both trade with other regions and with the rest of the world),
- X = exports (also including trade with other regions).

Equation (2), which gives the goods market equilibrium in value terms, determines the domestic demand price p:

$$qY + q^*M = p\,(D + I + G_c + G_r) + q\,X \tag{2}$$

where

- q = producer's price,
- q^* = foreign producer's price,
- p = domestic demand price (excluding VAT).

As VAT is simply modelled as a consumption tax, the domestic and foreign demand prices, P and P^*, including VAT, are determined as:

$$P = p\,(1 + t_v) \tag{3}$$

$$P^* = q^*\,(1 + t_v) \tag{3'}$$

where t_v = VAT rate.

Prices and incomes

The modelling of the wage-price block is straightforward. Starting with the accounting identity (4):

$$qY = [w\,N\,(1 + t_E)(1 + t_{prof}) + PRO]\,(1 + t_y) \tag{4}$$

where

- w = gross wage rate (including employees' contributions for social insurance),
- N = employment,
- t_E = rate of employers' contributions for social insurance,
- t_{prof} = 'taxe professionnelle' (France only),
- PRO = gross profit,
- t_y = rate of taxes on goods and services;

producer prices are modelled as resulting from a mark-up behaviour over costs:

$$q = (0{,}5\,N/Y + 0{,}5)\,w\,(1+t_E)(1+t_y)(1+t_{prof})(1+m) \tag{5}$$

where the productivity term enters the wage cost variable as an average of short-run and standard productivity (assumed to be constant), and m is a constant mark-up coefficient.

Taxable profits are assumed to be derived from gross profits after deduction of amortization, interest cost, etc.

$$PROT = PRO - A \tag{6}$$

where $PROT$ = taxable profit and A is a constant parameter.

Finally, households' taxable income is:

$$R = w\,N\,(1 - t_w) + k\,PROT\,(1 - t\Pi) + TR_c + TR_r + P^*RR \tag{7}$$

where

- R = households' taxable income,
- t_w = rate of employees' contributions for social insurance,
- $t\Pi$ = profit tax rate,
- k = dividends-profit ratio,
- TR_c = transfers received from the central government,
- TR_r = transfers received from the regional government,
- RR = real value of households' other (capital and labour) income from outside the region (exogenous).

Taxes and transfers

Personal income tax accruing to central or regional governments is simply modelled as a function of real taxable income (8, 8'). The deflator for this income is either the national retail price index P^* (for central government taxes) or the regional retail price level P (for local government taxes). A parallel rise in the regional price level and in regional incomes is supposed to give rise to higher real federal taxes (because tax brackets are indexed on nationwide inflation), but not to higher regional taxes.[1]

$$PIT_c = PIT_c^o \, [R/P^*]^{\sigma_t} \, P^* \quad (8)$$

$$PIT_r = PIT_r^o \, [R/P]^{\sigma_{t'}} \, P \quad (8')$$

where

PIT = personal income tax,

$\sigma_t, \sigma_{t'}$ = elasticities.

The profit tax is modelled as the product of taxable profits by apparent tax rate:

$$RTPRO = TPRO * PROT \quad (9)$$

where $RTPRO$ represents corporate profit tax payments.

Three categories of transfers are distinguished at either level:

$TR1$ = income-independent transfers (basically retirement and health benefits), which do not depend on the household's current income;

$TR2$ = income-dependent transfers (means-tested assistance transfers, and family benefits);

TRU = unemployment benefits, which depend on the employment status.

Thus,

$$TR_c = TR1_c + TR2_c + TRU_c \quad (10)$$

$$TR_r = TR1_r + TR2_r + TRU_r \quad (11)$$

Income-independent and income-dependent transfers are modelled in a very simple way:

$$TR1_c = TR1_c^o \, P^* \quad (10a)$$

$$TR1_r = TR1_r^o \, P \quad (11a)$$

$$TR2_c = TR2_c^o \, [R/P^*]^{\sigma_h} \, P^* \quad (10b)$$

$$TR2_r = TR2_r^o \, [R/P]^{\sigma_h'} \, P \quad (11b)$$

where σ_h and σ_h' = elasticities.

Unemployment benefits are modelled as a function of unemployment and the wage level:

$$TRU_c = TRU_c^o \, \delta \, w \, UN \quad (10c)$$

$$TRU_r = TRU_r^o \, \delta' \, w \, UN \quad (11c)$$

where

δ, δ' = replacement ratio (ratio of unemployment benefit to average wage),

UN = unemployment level.

Horizontal interregional transfers only exist in Germany (through the Finanzausgleich). They are not easy to model since the Finanzausgleich operates, by definition, in a non-linear way. As explained in the text, a maximalist assumption, which corresponds to the case of an already low-income region hit by an adverse shock, is to assume that the Finanzausgleich totally compensates for the shortfall in regional tax revenues. In this case,

$$TRH = -d(TAX_r) \quad (12)$$

where

TRH = horizontal transfers received from other regions (Finanzausgleich),

TAX_r = taxes and social contributions accruing to the regional government.

As an alternative, one simply considers the case:

$$TRH = 0 \quad (12')$$

which conceptually corresponds to the case of a well-off region hit by a moderate shock.

Regional (DEF_r) and central (DEF_c) government deficits are:

$$DEF_r = G_r P + TR_r + iB_r - TAX_r - GR - TRH \quad (13)$$

$$DEF_c = q^* G_c + GR + TR_c + i \, BC_c - TAX_c \quad (14)$$

[1] This may be challenged since regional tax brackets are generally also indexed on nationwide inflation. The chosen modelling implies that a rise in regional prices and incomes leads to discretionary adjustments in the tax brackets.

where

DEF_r = regional government deficit,

GR = grants from the central government,

B_T = regional government public debt outstanding.

Current account balance and regional disposable income

Equation (15) gives the current account equilibrium:

$$CA = q\,X - q^*\,M + i\,OA + GR + TR_c + TRH - TAX_c + q^*G_c \qquad (15)$$

where

CA = current account surplus,

OA = overseas assets (including assets held in other regions),

TAX_c = taxes and social security contributions accruing to the central government,

i = nominal interest rate.

It is also useful to define regional disposable income *(RDI)* as regional GDP less central taxes plus central grants, transfers and expenditure in the region, plus net interregional transfers:

$$RDI = qY + q^*G_c + GR + TR_c - TAX_c + TRH \qquad (16)$$

Behavioural equations

Behavioural equations are relatively simple. Equation (17) gives household demand as a function of real disposable income:

$$D = D^o\,[(R-PIT)/P]^{\alpha D} \qquad (17)$$

where ${}^{\alpha}D$ is an elasticity.

Equation (16) is a simplified accelerator-type investment equation:

$$I = I^o\,Y^{\alpha I} \qquad (18)$$

where k is a coefficient which is characteristic of the degree of goods market integration and ${}^{\alpha}I$ is an elasticity.

The wage equation (19) is a standard Phillips-type equation, with parameters k' and k'' giving the share of regional price and unemployment variables in the determination of wage behaviour. Therefore k' and k'' represent the degree of labour market integration among different regions within the country. It is assumed thereafter that both λ and μ are zero, i.e. wages are basically set at the national level, but other assumptions might be considered.

$$\dot{w} = \lambda\,(k'\,\dot{P} + (1-k')\dot{P}^* + \mu\,(k''U + (1-k'')U^*) \qquad (19)$$

where

U = unemployment rate = UN/N,

$\dot{P}^*$ and U^* are respectively the national price level and the national unemployment rate, and $\dot{x}$ stands for dx/x.

Equations (20) and (21) give exports and imports as functions of demand and relative prices:

$$X = X^o\,[q/q^*]^{-\Sigma_x} + u_x \qquad (20)$$

where u_x is an external demand shock.

$$M = M^o\,(D + I + G_c + G_r)^{\alpha_m}\,[q/q^*]^{\Sigma_m} \qquad (21)$$

Employment equation (22) is a standard short-term employment equation:

$$N = Y^{0.7}\,N_{(-1)}^{\;0.3} \qquad (22)$$

Finally, unemployment equation (23) is a reduced-form labour supply equation, with parameter β representing standard national dependency of labour force participation rates upon labour demand, and parameter β' representing the effect of cross-region labour mobility:

$$d(UN) = -\beta\beta'\,d(N) \qquad (23)$$

Appendix C — Calibration: Value and source of main variables and coefficients

1. Variables

Variable	Meaning	Baseline value			Source
		France	Germany	United States	
Y	GDP	100	100	100	
D	Households' demand	67,3	57,2	66	National accounts
I	Enterprises' investment	11,3	19,2	15	National accounts
G_c	Central government expenditure for goods and services	14,6	12	7,6	National accounts
G_r	Regional government expenditure for goods and services	6,6	11,6	12	National accounts
X	Exports	30 (or 75)	30 (or 75)	30 (or 75)	
M	Imports	30 (or 75)	30 (or 75)	30 (or 75)	
N	Employment	100	100	100	
UN	Unemployment level	9	6	5	Calculation
U	Unemployment rate	0,09	0,06	0,05	OECD
$PROT$	Taxable profit	15	15	15	Mimosa
PRO	Gross profit	38,5	42	48,8	Calculation
RR	Households' other revenues	9	10,3	5,4	Calculation
R	Households' taxable income	68	63	61	National accounts
TR_c	Transfers received from central government	20,7	13,3	14	National accounts
TRR	Transfers received from regional government	0,4	2	2,8	National accounts
$TR1$ ($_c$ or $_r$)	Income-independent transfers	16,2(0)	10,7(1,2)	11,9(2)	National accounts
$TR2$ ($_c$ or $_r$)	Income-dependent transfers	2,9(0,4)	1,2(0,8)	2,1(0,6)[1]	National accounts
TRU_c (or $_r$)	Unemployment benefits	1,6(0)	1,4(0)	0(0,2)	National accounts
PIT_c (or $_r$)	Personal income tax	4,2(0)	4,2(5,7)	8,7(1,9)	National accounts
DEF_c	Central government deficit	0,8	−1	−1,8	Calculation
DEF_r	Regional government deficit	−0,1	0,8	0,8	Calculation
TAX_r	Taxes and contributions (regional receipts)	4,6	11,7	11,6	National accounts
TAX_c	Taxes and contributions (central receipts)	37	27,4	23,0	National accounts
B_r	Regional government public debt outstanding	0	0	0	Calculation
CA	Current account surplus	0,8	−1	−1,8	Calculation
OTC	Other tax revenues (central government)	0,4	0,1	0,1	National accounts
OTR	Other tax revenues (regional government)	2,6	0,9	3,1	National accounts
UGC	Central government expenditure (excluding interest)	37,8	26,4	22,1	Calculation
RDI	Regional disposable income	100,8	99	98,2	Calculation
OA	Overseas assets	0	0	0	
GR	Grants from central government	2,5	1,1	1,1[1]	National accounts
TRH	Horizontal transfers	—	0,1	—	National accounts
i	Real interest rate	0,035	0,035	0,035	
q	Producer's price	1	1	1	
P	Households' demand price (VAT excluded)	1	1	1	
Pt_v	Households' demand price (VAT included)	1,1	1,1	—	
w	Wage rate	0,46	0,46	0,46	National accounts
q^*	Foreign producer price	1	1	1	
P^*t_v	Foreign demand price (VAT included)	1,1	1,1	—	

[1] The Medicare and welfare programmes are considered as income-dependent transfers, even if they appear in the 'Grants in aid to State and local governments' in US national accounts.

2. Coefficients

Coefficient	Meaning	Value			Source
		France	Germany	United States	
σ_t	Personal income tax elasticity (federal receipts)	1,4	1,3	1,2	Mimosa
σ'_t	Personal income tax elasticity (regional receipts)	—	1,3	1	
σ_b	Income-dependent transfer elasticity (federal transfers)	0,5	0,5	0,5	Metric model
σ'_t	Income-dependent transfer elasticity (regional transfers)	0,5	0,5	0,5	Metric model
α_D	Households' demand elasticity	0,9	0,9	0,9	Mimosa
α_I	Enterprises' investment elasticity	2	2	2	Mimosa
Σ_x	Exports' price — elasticity	0,7	0,7	0,7	
Σ_m	Imports' price — elasticity	0,5	0,5	0,5	
α_m	Imports' consumption — elasticity	2	2	2	
ELAS NY	GDP employment — elasticity (long-run)	1	1	1	
δ	Marginal unemployment replacement ratio (federal)	0,585	0,75	0	Calculation
δ'	Marginal unemployment replacement ratio (regional)	0	0	0,131	Calculation
k'	Domestic/foreign role in wages progression	0	0	0	
λ	Inflation/wage indexation	1	1	1	Mimosa
μ	Unemployment rate/wage indexation	0,25	0,25	0,25	Mimosa
A3	Share of VAT accruing to the regional government	0	0,35	—	National accounts
A4	Share of social contributions accruing to the regional government	0	0	0,07	National accounts
A5	Share of corporate tax accruing to the regional government	0	0,5	0,16	National accounts
A6	Share of taxes on goods and services accruing to the regional government	0,125	0,5	0,87	National accounts
SHOK W	Wage shock	1% W	1% W	1% W	
u_x	Exports shock	1% Y	1% Y	1% Y	
$\beta\beta'$	— D (UN)/DN	0,7	0,7	0,7	Mimosa simulation
t_E	Social insurance (employers' contributions)	0,2	0,16	0,2	National accounts
t_w	Social insurance (employees' contributions)	0,2	0,19	0,085	National accounts
TPRO	Profit tax rate	0,14	0,167	0,093	National accounts
t_v	VAT rate	0,1	0,09	0	National accounts
t_y	Rate of taxes on goods and services	0,04	0,046	0,06	National accounts
t_{prof}	Professional tax rate (France)	0,033	—	—	National accounts

Appendix D — Simulation results

(export shock = − 1 % GDP *ex-ante*)

Variable A	France		Germany		USA	
	baseline	dA (%)	baseline	dA (%)	baseline	dA (%)
Regional GDP	100	− 1,34	100	− 1,36	100	− 1,23
Exports	30	− 3,48	30	− 3,45	30	− 3,21
Imports	30	− 1,09	30	− 1,37	30	− 1,39
Demand	67,3	− 0,44	57,2	− 0,38	66	− 0,53
G_c	14,6	0	12	0	7,6	0
G_r	6,6	0	11,6	0	12	0
Investment	11,3	− 2,65	19,2	− 2,7	15	− 2,44
Employment	100	− 0,93	100	− 0,95	100	− 0,86
Regional price	1	0,15	1	0,14	1	0,09
Wage rate	0,46	0	0,46	0	0,46	0
RDI	100,8	− 0,7	99	− 0,76	98,2	− 0,83
Current account[1]	0,8	− 0,24	− 1	− 0,14	− 1,8	− 0,12
Regional government deficit[1]	− 0,1	0,03	0,8	0,13	0,8	0,11
Central government deficit[1]	0,8	0,44	− 1	0,4	− 1,8	0,2

[1] For these variables, the first difference is given instead of the percentage variation.

References

Commission of the European Communities (1990), 'One market, one money', *European Economy* No 44, November.

Costello, D. (1993), 'The redistributive effects of interregional transfers: A comparison of the European Community and the Federal Republic of Germany', this volume.

Eichengreen, B. (1990), 'One money for Europe? Lessons from the US currency union', *Economic Policy* 10, April, pp. 119-186.

Équipe Mimosa (1989), 'Mimosa, une modélisation de l'économie mondiale', *Observations et diagnostics économiques.*

Frenkel, J. and Goldstein, M. (1991), 'Monetary policy in an emerging European economic and monetary union', IMF Staff Papers, Vol. 38, No 2, pp. 356-373, June.

Goodhart, C. and Smith, S. (1993), 'Stabilization', this volume.

MacDougall, Sir D. (1977), 'Report of the study group on the role of public finance in European integration', Vol. II, EC Commission, April.

Sachs, X. and Sala-i-Martin, X. (1991), 'Federal fiscal policy and optimum currency areas — Evidence for Europe from the United States', NBER working paper No 3855.

Spahn, P.B. (1993), 'The design of federal fiscal constitutions in theory and practice', this volume.

Von Hagen, J. (1991), 'Fiscal arrangements in a monetary union: evidence from the US', discussion paper No 58, Indiana University, March.

Whitley, J.D. (1991), 'Comparative simulation analysis of the European multi-country models', SPES seminar, Paris, 27 and 28 June.

Wyplosz, C. (1991), 'Monetary union and fiscal policy discipline', *European Economy,* special edition No 1, pp. 165-184.

VI — Financing the Community — Revenue sources, borrowing and lending

The consequences of economic and monetary union for fiscal federal relations in the Community and the financing of the Community budget

Bernd Spahn

Institut für Öffentliche Wirtschaftsgelder, Universität Frankfurt/Main Germany

Contents

Tables

Summary

EMU will have an important impact on national fiscal systems of Member States as it will impinge on European intergovernmental fiscal relations.

Vertical imbalances in the assignment of revenue sources will continue to be corrected by a corresponding enlargement of the tax-sharing formula for VAT in favour of the EC budget. It is unlikely that any of the major existing national taxes would be transferred exclusively to the EC. There will be a tendency toward more uniformity in value-added taxation — national tax autonomy being increasingly sought in the realm of direct taxation. In the longer term, European national VAT systems are not only likely to converge to uniform taxation under the origin principle; they are also likely to be transformed into a fully-fledged EC tax-sharing scheme with horizontal perequation effects at the national level. The perequation element will be rather weak initially, however.

The likelihood of direct EC excises is generally small. It is believed that autonomy in the sphere of demerit-goods taxes on alcohol and cigarettes will remain at national levels of government according to subsidiarity. Energy taxation is more complex. Mineral-oil taxation is likely to become more uniform under EMU. Supported by arguments relating to its instrumental importance for EC energy and transport policies, the tax can be expected to become accessible to the EC budget in the longer term.

Income tax will remain the cornerstone of national tax policies. It will become the 'core' of Member States' taxing autonomy, given that indirect taxation is likely to be harmonized more strongly within the EC. It is thus unlikely that the EC will penetrate into the area of national direct taxation.

The case of corporation tax is very complex. Locational distortions induced by subregional corporate taxation seem to favour a harmonized tax. Attempts in this direction made by the Commission have so far met with resistance by Member States' governments, however.

Analysis shows that there are a number of arguments in favour of an integration of corporation taxes with national personal income taxation. This would render it difficult for the EC to penetrate that domain in the future. However, tax competition in the area of capital income taxation calls indeed for greater horizontal cooperation in the field of corporate taxes. The Commission is likely to play an important role as a coordinator in this context.

The case for a European net wealth tax seems to be extremely weak, mainly for administrative reasons. Also, the theory of fiscal federalism would not encourage the EC to engage in user charges on a larger scale.

The scope for new tax instruments for the EC budget seems to be wider in the area of eco-taxation where spillovers could form the basis for a greater use of tax instruments. In particular a carbon tax would seem to be appropriate for the EC budget. The revenue effects of such a tax are likely to entail vertical fiscal imbalances, however, calling for corrective measures via tax sharing or downward-oriented general revenue grants.

There is also the case for an origin-based corporate cash-flow tax to be levied at the EC level. Such a tax — apart from its qualities regarding tax neutrality — would skim off intramarginal rates of return in excess of the costs of financing and/or economic rents. In the international context, multilateral adoption of company taxation on a cash-flow basis would eliminate nearly all the problems of corporate income tax. Proceeds from such a tax are likely to be limited, which may render the tax attractive to public-sector minimalists. The tax would exhibit regional reallocation effects in favour of developing regions — to the detriment of more mature regions in the EC.

A further revenue potential for the EC budget would seem to be related to seigniorage appropriated by the ESCB under EMU. The case for pooling such revenue is extremely strong. Although there may be political resistance to hand over seigniorage revenue exclusively to the EC, historical evidence from other federations would indicate that such revenue will become centralized in the longer term.

Finally, there would seem to be the need for structural reforms of the EC budget under EMU. First, the Community should be given greater access to capital markets — although subject to legal and economic constraints. Second, a number of institutional changes are recommended, notably the strengthening of the role of the European Parliament, the need for an EC tax authority, the creation of a number of off-balance funds where this is warranted by differing budgetary rules, the inclusion of all other EC functions in a more comprehensive budget subject to parliamentary control, the forming of a capital budget, and the institution of joint-decision-making machinery for reconciliation and for coordinating policies in the area of fiscal equalization. And lastly, cohesion within the EC, and related recommendations for appropriate redistribution policies, should become a matter for independent policy advice.

1. Introduction

It is simply a matter of time until economic and monetary union (EMU) will be realized — notwithstanding a great number of pending political and economic obstacles to the forming of such a union, and of uncertainties regarding the historical process itself. EMU — the creation of a monetary zone with one single currency in Europe — will have a pervasive impact on many facets of political and economic decision-making within the Community, many of which have been studied by the Commission in its 'One market, one money' report (Commission of the European Communities, 1990). A single European currency will almost instantaneously rival the US dollar as the predominant international means of exchange. It will alter world financial flows, improve static and dynamic efficiency conditions both on a national and international scale, and it will stabilize price levels for most of the countries adhering to EMU.

EMU also has implications for public finances of individual member countries and for fiscal federal relations within the EC. Some of these problems have already been addressed in the Commission's report (Commission of the European Communities, 1990, Chapter 5, pp. 100-135). The present paper tries to elaborate on some of the consequences of EMU on the distribution of functions and the sharing of public revenues between central (Community) and regional (Member States') budgets within the EC. Finally, scenarios are developed which it is hoped will stimulate thinking and hence contribute to the further advancement of existing arrangements relating to the sharing of public revenues within the Community for the new conditions prevailing under EMU — taking some limiting basic political choices into account.

2. EMU, national fiscal systems, and their relationship with the EC budget

2.1. EMU and national fiscal systems

The impact of EMU on national tax systems cannot be dealt with here in any detail. Only a few aspects regarding necessary adjustments at the national level should be touched upon. They may identify potential risks both to the need to restructure national tax systems — due to the shortfall of traditional revenue — and to the need to coordinate national tax policies horizontally.

The most obvious impact of EMU is on revenue-raising through seigniorage — the right to issue national currencies. To the extent that member countries may have to refrain from accessing this revenue source, they must exploit other revenue more intensively.

EMU may also render access to loan finance more difficult for some governments. Those countries that have relied more heavily on capital markets in the past may have to look for other revenue sources or intensify the exploitation of existing tax instruments.

EMU may cause a comprehensive revision of national tax codes and tax assessment rules as a consequence of rebasing the code on a new unit of account. Not only have nominal values to be redefined; real effects may result from revising statutory interest rates (that now exhibit various levels of price expectations), or index clauses, as a consequence of resulting capital gains and losses and their tax treatment. This is likely to entail some revenue effects, although these may be considered to be of minor importance and appear to be once-and-for-all adjustments.

National tax legislation may find itself increasingly subject to constraints set by the rulings of the European Court of Justice in Luxembourg, as more and more elements of national tax codes discriminating against EC nationals are identified.[1] In the long term, this may also contribute to

[1] In the United States, the 'equal protection clause' of the Fourteenth Amendment of the Constitution forbids state tax discrimination against US citizens residing in other states. In a similar vein, the EC Court of Justice may rule that some provisions of national tax codes are contradictory to the spirit of the EC Treaties — for instance the discriminatory nature of 'begrenzte Steuerpflicht' of the German income tax applied to EC citizens.

forcing national tax legislators into a greater degree of tax coordination at the European level.

Finally, EMU may intensify national tax competition and thus impinge heavily on the revision of national tax codes in the longer term, with consistent shifts in the level and in the structure of revenue raising.

Moreover, EMU is likely to entail a change in the structure of taxation at national level. Adjustments in the revenue structure may consistently fall on direct taxes, since adjustments to indirect taxes are increasingly constrained by EC rules on horizontal tax coordination, for instance through narrower bands for tax rates. However, indirect taxation will remain a major revenue source to be exploited by the EC and national governments jointly, and in a coordinated fashion. On the other hand, direct taxation — notably the taxation of volatile portfolio capital — will become more and more constrained by horizontal tax competition. Hence the long-term structure of taxation must change under EMU. National tax autonomy will increasingly be safeguarded in the area of direct taxation. Direct taxation will itself undergo transformation processes, stressing elements of personal income taxation under the residence principle, and of corporate profit taxation under the origin principle. A strengthening of personal consumption elements in national tax legislation may also result (Spahn, 1989).

2.2. National fiscal systems and the EC budget in general

EMU may also have a direct impact on the EC budget in its intergovernmental financial relations with Member States' governments. We shall discuss this in more detail in the following subchapters. Yet a few general remarks seem to be in order.

(i) If tax coordination is indeed progressing more rapidly in the area of indirect taxation — forcing national governments into asserting tax autonomy more strongly in the area of direct taxation — it is most unlikely that the EC will penetrate the area of direct taxation in the near future. Personal income tax is likely to remain sacrosanct to a supranational authority. The case of corporation tax is more complex. Nevertheless, it is likely to remain a national tax for a number of reasons to be discussed below.

(ii) The foregoing contentions are reinforced by the fact that the EC budget is largely based on vertical VAT sharing already. The single market will lead to a reform of VAT systems,[1] and the horizontal effects of such a reform still remain to be sorted out. Yet any revision of vertical imbalances resulting from a relative expansion of the EC budget are likely to be resolved by extending the share of VAT to be allocated to the central government. Some excise taxes may also be centralized in the longer term.

(iii) The scope for new forms of taxation at the EC level is severely restricted. The most important sources of revenue are being exploited by national governments already, and often tax assignment at the national level is fixed by the Constitution, rendering it difficult for the EC to penetrate into existing areas of taxation. It seems possible, however, that the EC is more successful in establishing its own tax competences in those policy domains that are barely developed at national level — notably in the field of eco-taxation. If the Commission were successful in penetrating this field, and eco-taxes would prove to be more lucrative than anticipated, the resulting vertical imbalance could always be corrected by downward-oriented general revenue grants (or tax-reimbursement grants).

(iv) As was argued by Spahn (1992), regional integration under EMU may require the centralization of payment or funding functions in Europe, i.e. a clearing system to be operated by the Commission. Regional clearing mechanisms and 'wind-up funds' will enhance the Commission's 'churning activities', and intensify its relationship with Member State governments. This must not lead to a greater vertical transfer of resources to the central government.

(v) As a final point, it may be noted that the EC's impact on national tax legislation will grow over the years through its *de facto* coordination powers and competences in resolving horizontal conflicts of tax competition among Member States. This is indicated by a review of fiscal federal relations in Switzerland where the Confederation has taken an active role in this respect.

Not only will EMU and the single market influence national fiscal systems and their relationship with the EC budget, but they are also likely to affect the scope for responsibilities at the central level. This hinges on a number of policy decisions still to be taken. However, discussing some elements that could eventually lead to an expansion of the centre's role

[1] The main elements of this reform have been agreed upon in Luxembourg by the Economic and Financial Affairs Council of 24 June 1991.

may be appropriate before discussing the need to increase the relative share of resources to be allocated to the EC budget.

3. Scenario for expanding functions in the EC budget

3.1. General tendencies

It is impossible to predict the expansion of outlay functions at the EC level in quantitative terms as a function of the single market, EMU and political union. Nevertheless, it is possible to identify certain existing trends that may transform intergovernmental relations in the coming decade and thereafter. Despite a number of political and economic uncertainties, these trends may be characterized as follows:

3.1.1. Centralizing tendencies

The Commission will continue to expand its role in economic policy making, and new political functions will be transferred to supranational authorities by national governments, with full respect for the subsidiarity principle. The philosophy expressed in the Single European Act of 1986 and followed in the Maastricht accord of 1991 will further expand the size of the European budget, which is now rather small (about 1% of total GNP in the EC). Among those expanding functions of the centre are traditional structural policies, energy policies (common energy carriers), transport and communications, technology and research policies (and, to a minor extent, higher education), as well as foreign trade policy. The Maastricht accord has created new responsibilities for the Community in the area of consumer protection, supraregional aspects of health and education policies, and in 'trans-European' networking (telecommunications, transport and energy networks). As to social policy, all countries (except for the United Kingdom) have decided to embark on common policies regarding working conditions, information and consultation of workers, and equal rights for men and women. Furthermore, they have agreed to develop common attitudes toward job protection, social security, third-country nationals working in the Community, as well as asylum-seekers and immigrants. And 'cohesion' among Member States of different economic standing will be enhanced by asymmetrical contributions to the financing of the EC budget and by the creation of a 'Cohesion Fund' in favour of the poorer regions of the Community.

With the creation of a monetary union, foreign-exchange operations with third countries will be centralized — through a European System of Central Banks (ESCB). The same is true for seigniorage. As will be discussed later, there are strong reasons for attributing the profits from seigniorage to the European Commission as a new own resource after EMU.

At this point in time, there is enormous uncertainty on future defence policies in Europe and worldwide. It should be remembered, however, that most federations — if not all — have been formed, in the past, with the aim of combining mutual defence interests. The results of the Maastricht accord with regard to political union in Europe are less striking than those regarding EMU, yet they may prove to be far-reaching. The chapter on common foreign policies may have been watered down by the proviso that policy decisions would have to be taken unanimously and that, even after agreement, countries will be allowed to act independently in the case of 'imperative need'. But the special foreign-policy secretariat set up in Brussels may well become the nucleus of an EC foreign ministry in the longer term. Defence policies in Europe will be coordinated by the Western European Union (WEU), the defence wing of the Community, which has recently been revitalized, forming now, in the wording of the Maastricht accord, 'an integral part of the European Union'. At present, it serves as a body for the framing of a common defence strategy but it may well lead to European defence policies in the future. Foreign and defence policies will continue to be the responsibility of national governments for the foreseeable future, yet common challenges — like the Gulf War, the dismal situation in the former Yugoslavia, and potential unrest in Eastern Europe — will consistently move member governments towards closer policy coordination, which may result in a common policy in the end.

Another uncertainty concerns general welfare policies. As can be demonstrated by looking at existing federations, there seems to be a tendency for these functions to become more centralized in the longer term. This would, again, require substantial increases in the proportion of public resources to be handed over to the EC.

Olson's argument in favour of a stronger central government[1] to contain the influence of private interest groups at the regional level will also work to some extent. Yet, as stressed before, this requires greater responsibilities on the part of the Commission in the setting of a framework for national legislation; it does not necessarily entail a greater EC budget.

[1] Olson (1983b, p. 23). See also Olson (1983a), Chapter 6.

3.1.2. Decentralizing tendencies

The Maastricht accord has made it clear that the Community will achieve a full Union only in the long term. For the foreseeable future, the central government will remain relatively weak, notably in comparison with the US federal government. Not only will it be based on distinct institutional pillars (the Commission for certain domains of economic policy-making, the European System of Central Banks for monetary and exchange-rate policies, the foreign-policy secretariat and the WEU for foreign and defence policies); it will also be constrained by the subsidiarity principle as well as by a weak institutional setting (the Commission and European Parliament still being largely at the mercy of intergovernmental bodies like the Council).

Therefore, Europe will retain a decentralized political structure with strong regional governments at the national level. Centrifugal forces may even increase, leading to self-determination of subregions and devolution within nations according to the German or even the Swiss model of federalism. The quest for more cultural and economic autonomy of regions will notably hinge on the success of such claims in Eastern Europe, especially in the former Soviet Union, and national governments in Europe may also be pushed into conceding political self-rule to some of their regions.

Also, the role of local government will have to increase in most Member States of the Community. Where local government is weak, local infrastructure is usually less developed or lacking, and regional economic imbalances result.[1] The model of decentralized economic decision-making at the municipal level is likely to become more and more attractive to European governments.

It seems obvious that the structure of financing governments in Europe will also remain decentralized, despite the increasing role of supranational policies and possible shifts of new functions to the EC. However, if only some of the centralizing trends identified continue to shape future EC politics, the need for restructuring and bolstering the EC budget cannot be denied.

[1] Germany illustrates this in a particular way: while local governments in West Germany invest two thirds of total public investment — with a resulting relatively even distribution of economic potential and incomes — the East has so far neglected local government altogether, with catastrophic effects on the creation and distribution of public infrastructure.

3.2. The scope for new policies

3.2.1. Public goods

For the following discussion, it is assumed that a budget of the order of 2 to 3% of total GNP in the EC will suffice to secure the feasibility of EC policies under EMU. This is a rather restrictive assumption, excluding the realization of any major shift in responsibilities that may be on the political agenda, notably in the area of general welfare, and equalization. Although this means a doubling — or even a tripling — of the actual size of the EC budget, the revenue impact seems to be restricted. In particular, it would not warrant a transfer of one of the major national tax sources entirely to the EC budget.

Having defined the quantitative ceilings for an expanded EC budget, some important qualitative aspects of the EC federal machinery must be touched upon.

Most of the new functions have clear-cut public-goods characteristics and exhibit regional spillover effects with benefits for many — if not all — regions, for instance in technology and research. Other functions exhibit more specific — and potentially uneven — regional benefit patterns, for instance in the area of transportation, telecommunications or higher education. It seems to be inconceivable that the EC may take action in these fields without State cooperation. Responsibilities will have to be shared among governments — with some horizontal decision-making or even institutionalized joint tasks and co-financing schemes to be developed according to the German (and Swiss) approach(es).

3.2.2. Equalization

A critical area of EC competence will be equalization. As was stressed before, the EC is unlikely to embark on large-scale regional redistribution schemes, yet it has to be recognized that 'cohesion' as a policy goal requires a moderate expansion of EC activities designed to establish the equality of opportunities among regions and their respective citizens. Despite the possible creation of a Cohesion Fund, this is unlikely to be achieved through unconditional general revenue grants, as in most existing federations. The political constraints — notably the philosophy of *juste retour* — are still too strong, and central policies with widely recognized public-goods characteristics still remain to be developed (and marketed successfully).

Assessing past experiences, explicit equalization will only be acceptable to Member States for a system of specific or tied grants. The Community has adopted such an approach for most of its regional and sectoral policies where matching grants have become the rule. There are a few exceptions to this, however, for instance in the integrated Mediterranean programmes, where general revenue grants are dominant. It is most likely, however, that the specific matching grant will continue to dominate developments in the area of explicit equalization. Incomes will not be harmonized in the Community, but the potential for creating such income is through a better balancing of available public infrastructure and equal opportunities.

Equalization can also be achieved implicitly, through the tax-sharing arrangements and/or new tax instruments, such as the 'fourth levy' which is based on a statistical indicator of relative national economic well-being. The 'fourth' (and the projected 'fifth') levy(ies) could indeed become the nucleus of implicit revenue equalization schemes for the Community. Other implicit equalization effects could stem from automatisms inherent in own tax instruments of the Community, an approach that hinges on the centre getting access to national tax bases beyond existing ones that are supranational in nature (customs duties or agricultural levies), or shared taxes (VAT). A possible candidate would be a cash-flow corporation tax on a standardized (origin-oriented) tax base with a flat rate. This tax and its resulting equalization effects will be discussed later.

4. Consequences for the revenue structure of the EC budget

4.1. General remarks

4.1.1. Economic aspects

Spahn (1992) has stressed that vertical imbalances in the assignment of revenue sources can always be corrected via devices implying pure revenue redistribution within the public sector. The increase in the relative size of the EC budget could thus be matched by a corresponding enlargement of the tax-sharing formula in favour of the central government. This is the approach adopted in the past; it is likely to remain the primordial choice for politicians in the future. Yet it may not be the preferred option of the economist who would strive, for instance, to establish more visible links between taxation and EC outlays; or who would want the Commission to employ tax instruments allowing it to achieve its policy objectives more effectively. Exclusive EC taxing powers may thus be recommended for certain areas.

As mentioned before, the projected increase in the EC budget under EMU is certainly not significant enough to warrant exclusive powers on any of the major national taxes to be transferred to the EC. Yet this argument by itself is not sufficient to reject such a transfer. As discussed more fully in Spahn (1992), there may be reasons to recommend the centralization of taxing powers in spite of their leading to a vertical imbalance of resources, which could then be corrected by downward-oriented general revenue grants or revenue sharing.

For the scenario sketched above, the important benefit-pricing argument seems to be rather weak, since any transfer of the more important national taxes would exceed the increase in EC expenditure. Yet the principle would have to be reassessed if either (i) a partial transfer of a given tax is envisaged (for instance via revenue sharing or a piggy-back levy), or (ii) a more substantial increase in EC responsibilities, such as welfare, is envisaged (which is excluded from this scenario). However, we retain the argument for the more detailed analyses with regard to specific tax instruments.

As to the instrumental approach argument, it is likely to win importance in certain areas of EC competence, notably in energy and transportation policies, and in environmental control. Establishing EC tax competences in these areas may be dictated by noticeable gains in policy effectiveness pursuant to the availability of corresponding tax instruments at the central level. Contrary to the pure revenue-raising aspect, the case for central taxes based on the instrumental approach is rather strong.

The regional-arbitrariness argument may have to be scrutinized more thoroughly in connection with possible clearing mechanisms that may become necessary in order to correct the regional incidence pattern of certain forms of taxation, notably in the areas of VAT and corporate taxation.

4.1.2. Administrative aspects

The residual argument of the economist largely rests on economies of scale in collecting taxes or transaction costs. The argument is mainly related to administrative aspects. Central tax collection does not need to be equivalent to a central appropriation of the proceeds from taxes. Administrative matters are only marginal to this study. Yet a few remarks should be spelt out before entering into a more specific discussion of EC taxation.

It is almost certain that it will be difficult to dismantle national tax administrations even though this may be recommended on transaction-cost arguments. This is mainly for political reasons. Furthermore, it is questionable whether a 'Euro-tax Office' would in fact exhibit economies of scale in tax collection. National tax laws are still extremely heterogeneous, especially in the area of direct taxes; they apply different philosophies and have adopted specific legal concepts, established firm judicial rules, and they reflect national priorities that are all difficult to handle administratively at the European level — despite progress made in standardizing certain tax-related areas (for instance accounting). To this is added a severe language problem for the central administrator, which is exacerbated by the fact that the similarity of expressions may hide — rather than clarify — the variety of legal, administrative and other concepts governing the operation of national tax systems. Direct tax administration is almost certain to remain at the national level for ever.

The argument is less convincing for indirect taxes — notably for VAT — where progress has been made in harmonizing tax bases, although not on administrative procedures and on tax jurisdiction. In fact, there may be a stronger case for the EC getting involved in VAT administration (at least co-administration) under the new scheme established recently.[1]

The case for centralized VAT collection is stronger than one may think at first. It should be noted that the system implies (i) the need for a regional clearing mechanism. This clearing mechanism could be administered (ia) multilaterally or (ib) by a central agency. (ii) This agency could act (iia) on behalf of the States, or (iib) on its own.

The optimal design of the tax collection system will hinge on solving an inherent principal-agent problem: institution (ia), apart from being extremely costly due to communication costs,[2] would require each State to have full confidence in the administrative capability and honesty of all other tax administrations (since their revenue will depend on successful intergovernmental cooperation in administering VAT). Institution (ib) seems to be more effective in this regard, since confidence may be established more easily due to lower costs of monitoring and auditing the agency. Moreover, special competences to be formed centring on the clearing mechanism, and this mechanism alone, will be more effective than overburdening national collectors with yet another dimension of tax administration.[3] Institution (iia) could work effectively based on control and auditing procedures alone. Institution (iib) seems to be even more effective, though, since it is supported by the self-interest of the collecting body, the EC, as long as it participates — through VAT sharing — in the proceeds from the taxes administered.

A similar case for a clearing mechanism can be made for corporate taxes (under pressure from horizontal tax competition as discussed below). It will be argued, however, that reformed corporate taxation does not necessarily imply its sharing of revenue between the EC and Member States. The incentive to adopt solution (iib) is less acute in this case. For corporate taxation opting for solution (iia) under a joint taxation scheme — involving both national tax administrations and a central clearing office — would seem to be more appropriate.

4.1.3. Regional tax progressivity

In addition to economic and administrative aspects of EC taxation, a further distributive argument has to be discussed: regional tax progressivity. Analogously to personal-income-tax progressivity — relative tax burdens increasing with income for the individual — it is sometimes stipulated that richer regions should contribute relatively more to the financing of the EC budget than poorer ones. It is not sufficient that regions pay in accordance with per capita levels of regional production; progressivity implies differentiated contribution rates, the level of which is positively related to production.

First, it ought to be stressed that the argument is wholly normative, implying political value-judgments. Attempts to base the notion of progressivity on positive theoretical foundations — such as falling marginal utility of income — were all unsuccessful. Even assuming problems of interpersonal and interregional comparisons of individual utility being resolved, it still remains to be decided whether progressivity — or regional equality in sacrificing utility — should be defined in absolute, in relative or in marginal terms, which is intrinsically normative.

Second, personal tax progressivity may be warranted on ability-to-pay or social-justice arguments. Under the residence principle, the incentives to avoid taxes may be small (although there may be some Tiebout migration where progressivity is excessive); distortive allocation effects are therefore likely to be limited. Regional progressivity, however, would impose a heavier tax burden on economic activities in certain areas, which could eventually deter investment in that region (unless there are regional rents to be reaped). This could entail regional distortions, and it runs counter the idea of regional tax neutrality within a single European market.

1 Economic and Financial Affairs Council of 24 June 1991.

2 There are $n^* (n - 1)$ possible horizontal communication flows between national tax administrations, assumed to be centralized. For the existing Member States this would mean $12^* (12 - 1) = 132$. To this is added the significant language problem!

3 The number of communication flows would be $2^* n$ in this case, or 24.

Third, looking at existing federations, there is no example of explicit regional progressivity in regional contributions to the financing of central budgets. The exception is through the implicit effects of a uniform income tax that operates at the federal level (USA, Australia and Switzerland for the confederal income tax) or under revenue sharing (as in Germany). To the extent that such taxes exhibit personal income progressivity, the workings of this tax element are also being felt at the regional level if taxable capacities vary among provinces. Proponents of regional progressivity would therefore often propose to centralize the proceeds from income taxes or to allow for central piggy-back taxation on the proceeds of these taxes. We shall argue below that this is unlikely to be operational for the financing of the EC budget, because another requirement would have to be uniformity of tax rules, a requirement difficult to meet within Europe.

Fourth, looking at the past history of federal financial relations in the EC, it is obvious that regional progressivity has little support among politicians. Neglecting the regional incidence pattern of customs duties and agricultural levies, the incidence of VAT sharing is clearly regressive with respect to income (but essentially proportional to private consumption[1]). The introduction of the GNP-levy has mitigated this regressivity to some extent, although not fully. The political trends seem to be for proportional contributions, not for regional progressivity.[2]

Based on pure personal judgment and on a subjective interpretation of trends, it is our contention that explicit regional progressivity for financing the EC budget will not become an issue in the near future. Equalization is more likely to be effected explicitly on the expenditure side of the budget.

A final point should be made with regard to regional tax progressivity: if our proposal to implement a cash-flow corporate tax were adopted, such a tax would exhibit implicit regional tax progressivity which is not based on normative arguments, but on firm economic criteria: the skimming-off of regional windfall profits or economic rents. As will be more fully discussed below, the effective cash-flow tax rate is zero on normal profits. It is positive on excess profits, and it subsidizes regions that have yet to come to full maturity (and where short-term profits are below normal).[3] Furthermore, the effects of such a definition of regional tax progressivity would not lead to allocative distortions through capital flight, since windfall profits and regional economic rents have a clear-cut regional incidence pattern attracting capital as long as they are not taxed away fully.

4.1.4. Uniform taxation or tax coordination

A last general issue, to be discussed before embarking on specific taxes, relates to the question of tax uniformity.

Uniformity of taxation in a federation is sometimes praised for avoiding possible tax distortions, being regionally equitable and administratively cheaper than a system of concurrent taxing powers with divergent tax legislation. It is in particular the idea of regional 'fairness' or equitable treatment of all citizens in a federation that has given support to the idea of uniform taxation. Yet the case for tax harmonization and centralization of tax policies in federations may also be made on efficiency grounds, based on traditional externality arguments or game-theoretic analyses of tax competition (Gordon, 1983, 1990; Wilson, 1986). The model case for a uniform tax system operating in a federation is in fact Germany; it essentially applies to Australia as well.

Opponents to this view stress the remarkable differences between Member States, both in absolute per capita tax revenue and in tax revenue as a percentage of GDP, as reflecting varying preferences of voters and, hence, underlying policies regarding the level and, presumably, the structure of government spending. This view, based on Oates' (1972) decentralization theorem or Brennan/Buchanan's (1980) public-choice arguments, contends that regional differences in taxation are not only inevitable, they are also desirable for economic efficiency. The favourite models for these scholars are, of course, Switzerland and — to some extent — the USA.

At first glance there seems to be a basic dilemma here: if, on the one hand, it is considered to be inequitable to base the financing of the central budget on varying regional taxes (i.e. the proceeds from these taxes) because these reflect basic choices regarding the provision of regional public goods, not of centrally provided public services, and if, on the

1 It should be noted that the VAT base is usually not fully consistent with private consumption, since parts of public consumption are taxed as well. It is important, however, that parts of the product and of resulting incomes — used for investment and exports — are exempt from VAT. Thus, low producer/high consumer regions (deficit countries) tend to contribute more to the EC budget in relative terms than high producers/low consumers (surplus countries).

2 This contention is supported by the concessions made to the United Kingdom and Germany in the 1980's, touched upon in Chapter 3.4.3. Notably the German case was simply based on a 'paying-too-much' kind of argument.

3 This does not imply marginal productivity of capital to be below average in the short term. On the contrary, it would usually be higher than average in developing (investing) regions, at least in the short term.

other hand, regional tax diversity is needed for reasons of efficiency, distributive and allocative policy objectives seem to be in contradiction.

Taking a finalistic position, proponents of uniform taxation would then try to resolve the issue as follows: if financing the EC budget through a variety of rules governing regional taxation is not acceptable, these rules should be harmonized when transferring taxes to the central government.[1] This was indeed the lot of the Australian income tax; it may become the long-term lot of European VAT.

Indeed, historical evidence shows that, where 'tax jungles' — meaning a lack of uniformity or insufficient tax coordination — may be identified at lower levels of government, at least central taxes are uniform throughout the federation. This is valid whether taxes are own instruments or shared with subregional jurisdictions, because federal constitutions, as a rule, put a strict ban on regional tax discrimination. This is true even for Swiss and US federal income taxes.[2] It applies to the EC as well, where customs duties and agricultural levies are uniform, and the VAT levy — the nucleus of a tax-sharing scheme — is calculated on a standardized base.

The question is whether central taxation — or revenue sharing — would always result in uniform — or standardized — taxation. The answer is yes — since a discriminatory treatment of regions by the EC government is politically unacceptable, legally unjustifiable and counterproductive as to the idea of a single market.[3] Only if a tax — at least in its base — can be fully harmonized would this tax qualify as a source for financing the central budget. This is likely to exclude quite a number of taxes from being considered as potential future revenue sources for the EC budget.

However, the result is not at odds with the economist's predilection for tax diversity at the horizontal level. It is not warranted to stress any dilemma between efficiency and equity in this context. Although uniformity (or standardization) may be dictated by federal constitutions with regard to taxes used for financing the central government's budget, a case for harmonizing regional taxation at the horizontal level, and on a broader scale, would not follow from such a presumption. Cutting through an alleged 'tax jungle' would neither be desirable, nor acceptable for a number of economic reasons, leaving aside political constraints:

(i) Preferences with regard to taxation differ across Member States for cultural, social and political reasons. Regional differences in tax rates may better reflect individual or local — i.e. country-specific — preferences than uniform rates (see also Helm/Smith, 1989, p. 2 *et seq.*, and Cnossen, 1990, p. 3 *et seq.*).

(ii) Furthermore, existing taxes are heavily intertwined with a country's set of production functions. Hence there is a strong preference for the *status quo* in taxation, particularly if the structure of tax rates has influenced business organization or locational decisions of firms. Inertia in the productive sector entails inertia in tax legislation — through political pressure of interested groups — and this works against attempts toward harmonization.

(iii) Moreover, there may be economic arguments for choosing different rates of taxation in different EC countries even for indirect taxes. If the pattern of demand for goods and services differs across Member States, goods which appear as necessities in some parts of the Community may have the character of luxuries in other States; an optimal structure of indirect taxes following the Ramsey rules would then assign different tax rates to various goods, depending on the characteristics of demand in each Member State.[4] The argument is more fully developed in Spahn/Kaiser (1991).

(iv) Whilst a completely uniform tax system could possibly eliminate certain tax-induced distortions (such as cross-border shopping) within a single market, this conclusion is questionable from a policy point of view. As Smith has emphasized, 'the question is not how to avoid all sources of tax-induced distortion within the Community, but to identify those areas where different tax

1 The Commission is sometimes alleged to favour this view politically through its insistence on 'Euro-harmonization' and centralization for some taxes, notably corporation tax. See, for instance, Bird (1989), Cnossen (1990, p. 473 *et seq.*). It is fair to say, however, that the Commission has now firmly adopted the principle of subsidiarity. Scrivener (1990, p. 207), stressing the subsidiarity principle as the prime guideline for EC policies, concedes, for instance, that 'the Commission might have been overambitious in some of its old proposals on corporate taxation ...'.

2 See, for instance, Article 1, Section 8 of the US Constitution.

3 The conflict between legalistic and economic views on harmonizing VAT (as a potentially central tax) is discussed in Haufler (1990, 1991). Lawyers tend to stress uniformity, economists underscore diversity. A reconciliation of positions has to be sought in the harmonization of VAT bases and, as is the case, standardized tax sharing rules for financing the EC budget, with continuing diversity in national tax rates. It is our contention, however, that in the long term VAT diversity will vanish within the EC, with continuing diversity in the realm of direct taxation.

4 For recent research results for the UK, see Blundell/Pashardes/Weber (1989), for Italy, Patrizi/Rossi (1989), for France, Baccouche/Laisney (1990), and for West Germany, Kaiser/Spahn (1989), Kaiser/Wiegard/Zimmermann (1990) and Kaiser (1989).

systems and tax rates have the greatest impact, across countries, on the pattern of activity, and to seek to minimize those distortionary effects whilst causing the least disturbance to Member States' revenue-raising powers' (Smith, 1990, p. 9).

(v) And, 'tax rate alignment need not prove welfare enhancing as long as public expenditure measures and non-tariff barriers distort trade activities' (Genser, 1990, p. 5), which is the ultimate destructive counter-argument based on second-best theorizing.

We thus fully accept the case for tax diversity, although we would still have tendencies toward more tax coordination and uniformity within the EC. This is notably the case if:

(a) a totally new EC tax would be introduced for the financing of the EC budget. Such a tax would, of course, have to comply with the principle of regional non-discrimination, setting its own rules uniformly throughout the federation; and

(b) central tax coordination becomes more effective in certain area, such as VAT or excises, where *de facto* harmonization must be achieved, at least on the definition of tax bases, whilst tax rates may continue to diverge.

If this contention is acceptable, it will constitute a powerful decision rule that greatly facilitates assessing the appropriateness of various tax instruments for the financing of the EC budget. In order to discard possible sources of EC finance, it simply has to be proven that either the tax is unlikely to become an exclusive (or joint) tax for the EC budget, or that it is not conducive to tax-base harmonization.

4.2. The scope for EC intervention in areas of national tax competence

4.2.1. EC value-added taxation

4.2.1.1. The present VAT system in the European Community

Today, all Member States of the European Community operate systems of VAT as the principal indirect tax on goods and services. By zero-rating exports[1] and taxing imports at the rate applied to domestic sales, the present VAT system guarantees full tax neutrality for international trade: zero-rating of exports ensures that goods sold to another country bear no VAT of the origin country; the corresponding import tax will generally raise the price of imports to the consumer price level of the country of destination (destination principle).[2] Hence, French material sold in West Germany, for instance, bears the German (standard) VAT rate of 14%, not the French rate, which is 18,6%.

In addition, this treatment of international trade ensures, for intra-Community fiscal relations, that revenue from VAT is assigned to that Member State where goods are actually being consumed.[3] It should thus be stressed that the present regime realizes the destination principle in a double sense: (i) as regards the allocation of tax burdens, or (formal) regional tax incidence; and (ii) as regards the allocation of tax revenue among the fiscs of Member States, or regional fiscal assignment. This is important to keep in mind when discussing VAT-reform proposals.

Currently, fiscal frontiers form an integral part of VAT systems. They are necessary to ascertain that zero-rated exports have in fact left the country. And, as goods enter the country, VAT has to be paid to revenue authorities of the importing country which, again, requires fiscal controls. Without these controls, companies might use goods for untaxed sales on the domestic market, pretending to have exported them, or they may simply import goods tax-free.

The present VAT system was reformed for intra-Community trade following the completion of the single market in 1993, when internal border posts were removed. First, it seems that without border controls, the EC would have to adopt the origin principle for its intra-regional trade, for both regional tax incidence and fiscal assignment. Second, this system would seem to call for uniform tax rates throughout the EC, since differentiated rates would invite consumers to realize gains from tax arbitrage by shopping in low-tax countries, with the consumption in high-tax countries remaining free of additional charges. Third, it would also lead to a massive transfer of tax revenue to be reassigned to Member State governments horizontally.

[1] Zero-rating for VAT means that no output VAT is charged, and the VAT paid on inputs is all refunded.

[2] Zero-rating of exports only applies to goods; see, for instance, §4 No 1 of the German VAT law which reserves these concessions to 'Ausfuhrlieferungen' (according to §6 'Gegenstände'), and 'Lohnveredelungen an Gegenständen'. Services are generally taxed in the country of origin, hence the origin principle applies here.

[3] For a review of the destination principle and its counterpart, the origin principle, see Cnossen/Shoup (1987, p. 67 *et seq.*), Parsche/Seidel/Teichmann (1988, p. 26 *et seq.*) or Janeba (1990).

As Cnossen (1981, p. 223 *et seq.*; 1983, p. 242 *et seq.*; 1991) has pointed out, border controls are, however, not absolutely essential for fiscal neutrality to be achieved while retaining the destination principle. He discusses essentially two proposals in this context:

Deferred payment scheme. Under this scheme, exports are free of tax, and no import tax is levied at borders. In order to bring the value of the imported product to the domestic price level, the credit mechanism of VAT is relied upon — ensuring that the first taxable unit in the importing country implicitly pays the tax. This occurs because there is no offsetting credit for imported goods unless imports are declared. The recipient of the product — not necessarily the importer himself — reports and computes the compensatory import tax, but may take credit for that tax at the same time. Since, as a rule, the import tax is not paid until the product is resold, import taxes are deferred, hence the name of the scheme. This system has been operating in the Benelux States under the name of PAS since 1966; it had also been in use in the UK until November 1984.[1]

A few remarks regarding this system may be appropriate:

(i) The destination principle can only be realized for trading among firms liable for VAT. It cannot be applied to direct imports by consumers. Thus, for direct imports the origin principle applies, for both regional fiscal assignment and regional tax incidence.

(ii) Documentation still has to be provided at customs posts in order to confirm that tax-free exports have in fact left the country. The main advantage of the scheme seems to be that border formalities due to the levying of import-VAT are reduced.

(iii) Adopted at the Community level without border controls, the scheme seems to exhibit incentives to cheat on import-tax credits, through collusion between exporters and importers, where the tax rate of the importing country is higher than that of the exporting country.[2] In order to avoid this collusion, cumbersome administrative procedures would have to be put in place.[3]

It seems obvious that the deferred payment scheme would not be operational under the single market; however, the method had been proposed by the Commission in Article 23 of the Sixth Directive.[4]

Tax credit clearance system. Under this scheme, exporters to other EC countries would pay full VAT to their own governments, i.e. exports are no longer zero-taxed. However, the importing firm would receive a tax credit for out-of-State taxes paid from its own fisc. Border tax adjustments are simply shifted to account books of firms residing in importing Member States. The EC-wide VAT system would thus work in the same way as national VAT systems do now; the EC would form a truly single market for VAT.

Again, a few remarks regarding this system may be appropriate:

(i) Although the system would continue to secure the destination principle for regional tax incidence, it would apply the origin principle for regional fiscal assignment. Net exporting nations would levy more taxes than before, since they would no longer have to exempt exports, whilst net importing nations would lose tax revenue through the tax credit given on out-of-State taxes. In order to correct for resulting horizontal fiscal imbalances, the system would have to install a clearing mechanism by which exporter countries reimburse importer countries for tax credits accorded to their importing firms. Such a mechanism may prove to be very difficult to administer.[5]

---

[1] The system operating in the Benelux States is more fully described in van der Zanden/Terra (1987, p. 135 *et seq.*).

[2] This incentive is negligible for the Benelux countries where tax rates — at least for Belgium and the Netherlands — are reasonably close together (17 to 19% in Belgium, 18,5% in the Netherlands, but 12% in Luxembourg), and border controls continue to play a role for potential cross-checking. Nevertheless, there seem to be problems of tax fraud associated with PAS even in the Benelux States; see van der Zanden/Terra (1987, p. 136).

[3] In discussing a recent French proposal for the adoption of PAS, Smith (1990, p. 15) underlines the substantial administrative burden on both government and companies that is related to an extension of PAS to all EC Member States. It would require exports to be accompanied by multiple copies of documents. Entitlement to zero-rate intra-EC exports would require a proof of the exported product having been subject to VAT in the country of destination, which could be effected by returning one of the documents — certified by the importer's tax office — to the exporter's tax authorities. Although border controls would be eliminated under such a system, the transaction costs would be significantly higher on intra-EC transactions compared to those on purely domestic trade; this would effectively discriminate against trade in foreign goods.

[4] Cnossen (1991, p. 21). The proposal was, however, not accepted by the Council of Ministers.

[5] See Chapter 4.3.1.2 and, for a more detailed discussion of problems associated with the clearing mechanisms proposed, Chapter 4.3.3.

(ii) As under the deferred payment scheme, the destination principle can only be realized for trading among firms liable to VAT. It cannot be applied to direct imports by consumers where the origin principle would work for both regional tax incidence and regional fiscal assignment.[1]

(iii) Apart from the problem of revenue allocation among Member States, the system may create severe regional distortions if tax rates vary widely across regions: the 'mixed tax principle' would encourage consumers to arbitrage on tax differentials via direct purchases of high-value goods (such as cars, yachts, antiques, jewellery) in low-VAT countries. Cross-border shopping would thus lead to tax competition among Member States with the danger of beggar-thy-neighbour policies that may drive tax rates below efficient levels.[2]

The potential for tax competition among EC Member States based on existing VAT rates is illustrated by the diversity expressed in Table 1.[3]

It seems obvious that the tax-credit clearance system is an interesting option for post-1993 VAT systems in the Community, yet it requires supplementary rules — apart from the clearing mechanism — 'that exempt or regulate intra-Community imports by non-taxable persons such as individuals and exempt organizations and institutions, including governments' (Cnossen, 1991). Special provisions would also have to apply to mail-order firms that could otherwise exploit the potential for tax arbitrage inherent in differential tax rates. Furthermore, it requires central coordination on tax-rate policies in order to avoid horizontal tax competition induced by the effects of cross-border shopping. This could effectively be achieved by negotiating a price floor for VAT rates.

Summarizing the discussion of present VAT and its alternatives, it is obvious that both the existing system as well as the deferred payment scheme would impede the realization of a single European market. Both systems zero-rate exports, and for such systems extensive controls will have to remain in place. These controls are costly in several ways. They cause delays in transporting goods across frontiers, and national authorities have to utilize resources to maintain frontier posts. Moreover, costs are imposed on companies when complying with border formalities.[4] Even if alternative administrative procedures without border controls are applied, they will entail large transaction costs that will discourage potential trade and market integration.

The tax credit clearance system would in fact eliminate the need for fiscal border controls, yet it would either lead to the adoption of the origin principle for regional fiscal assignment, with consequential regional imbalances in tax collection, or require the setting-up of a clearing mechanism by which the actual destination principle for fiscal assignment can be preserved. Moreover, regional tax incidence is affected through cross-border direct purchases of consumers for which the origin principle applies. This entails the need for greater horizontal cooperation among Member States with tax arbitrage forcing governments to harmonize tax rates down to the price floor to be set by the Community.

Table 1

VAT rates applicable in EC Member States as of 1 April 1991

(%)

Member State	Reduced rate	Intermediate rate	Increased rate
Belgium	1/6	17/19	25/25+8
Denmark	—	22	—
Germany	7	14	—
Greece	4/8	18	36
Spain	6	12	33
France	2,1/5,5/13	18,6	22
Ireland	0/2,3/10/12,5	21	—
Italy	4/9	19	38
Luxembourg	3/6	12	—
Netherlands	6	18,5	—
Portugal	8	17	30
United Kingdom	0	17,5	—

Source: EC Commission.

4.2.1.2. The Commission's proposal for a VAT system for intra-Community trade

The Commission has made several proposals for tailoring VAT to the needs of a single market without border controls. The Economic and Financial Affairs Council reached a non-binding political agreement[5] on introducing a hybrid system

[1] Since final consumers and VAT-registered traders are subject to different tax rates, the scheme was characterized to follow a 'mixed tax principle'. See Haufler (1991).

[2] Alternatively, a strong diversity in tax rates would distort locational decisions of firms which would settle in low-tax jurisdictions where cross-border shopping is important.

[3] Commission of the European Communities, Internal Document XXI/311/90-EN.

[4] The Cecchini Report (1988, Tables 9.2 and 2.1) estimates economic costs of border controls to be in the order of ECU 8 to 9 billion.

[5] Economic and Financial Affairs Councils of 3 and 10 June 1990, and 24 June 1991.

with 'mixed tax principles' for tax incidence (emphasizing, however, the origin principle), and the destination principle for fiscal assignment (to be achieved by a macroeconomic clearing system). This system is to be introduced on 1 January 1996, subject to revision before the end of 1995.

From 1 January 1993, an intermediate system was put into operation that preserves the destination principle in both regards. With border controls removed, companies submit the amounts of intra-EC purchases and sales on their quarterly VAT returns, which puts most of the administrative burden on private firms. In order to monitor tax-exempt exports effectively, firms have to exchange their registered VAT numbers, and numbers of trading partners will have to be reported in VAT returns. This allows verification of returns through normal commercial documents (invoices). The largest firms will have to submit statistical returns which can be used for cross-checking. The transitory scheme is scheduled to end in 1995.[1]

As from 1993 on, a minimum standard VAT rate of 15% has been applied. Concessions were made to different Member States as regards reduced (or zero) rates.

4.2.1.3. *The future development of VAT, and the chances for an EC VAT*

Given that a basic agreement has been reached on a definitive EC VAT system, future trends seem to be pointing in the following direction:

Despite the special provisions made to preserve the destination principle for tax incidence on car sales, mail-order sales and long-distance sales, the origin principle will eventually dominate European VAT systems. Tax competition and/or informal tax leadership of important economies within the EC is likely to lead to the harmonization of tax rates in the longer term in line with the Swiss experience of the central government's formal leadership. There will be a tendency toward more uniformity in value-added taxation, national tax autonomy being increasingly sought in the realm of direct taxation where effective constraints on policy-making are less pronounced. The 15% line will mark a floor, but it is not necessary for tax rates to be driven down to that level by tax competition under all circumstances. Tax leadership as well as horizontal tax coordination may well allow for other rates, although not substantially higher.

[1] The Commission is required to present a report to the Council on the functioning of the transitory regime as well as on the details of the final regime itself. The Council will have to decide on the definitive scheme before 31 December 1995.

The continuing governance of the destination principle with regard to fiscal assignment (or the apportionment of VAT proceeds) will require a clearing mechanism that is likely to be based on macroeconomic indicators. The (budget-neutral) flows of funds resulting from such a scheme may be incorporated in the EC budget; they may also operate under a separate fund. According to our analysis of administrative costs, for the corresponding principal-agent problem to be resolved the more effective solution would be to centralize such clearing functions under the (interested) supervision of the EC. The EC interest in operating this scheme effectively is warranted by the EC budget's participation in the proceeds from VAT through revenue sharing.

In the longer term, European national VAT systems are not only likely to converge to uniform taxation under the origin principle (which would then allow the abolition of the special provisions made for mail-order firms, car sales, etc.); they are also likely to be transformed into a fully-fledged tax-sharing scheme with horizontal perequation effects. Two options seem to be open to the Community:

(i) decentralized tax collection with horizontal tax cooperation through the clearing mechanism — and the central government participating in the proceeds from taxes; or

(ii) centralized tax collection with vertical tax sharing — according to the German arrangements for sharing VAT among the federal government and the *Länder*, together with an apportionment formula for the regional distribution of proceeds from VAT.

It is not unlikely that the German model of VAT sharing will shape fiscal federal relations between the EC and its Member States in the longer term, especially if EC functions expand more rapidly with a greater share of VAT to be handed to the central government. It is unlikely, however, that governments will accept a per capita distribution formula — as in the German case — which would exhibit far-reaching perequation effects; if existing political intentions regarding the future macroeconomic clearing mechanism are interpreted correctly, the horizontal distribution formula is likely to be based on criteria of general economic well-being — such as GNP — or, eventually, needs.

To summarize the discussion on VAT as a possible future revenue source for the EC budget, it is absolutely certain that VAT will continue to shape EC finance in the future; it is likely that VAT sharing will become even more important for the EC budget after the completion of the single market, because the EC will be regarded to be a neutral arbiter, and still an effective — because interested — administrator of the clearing fund. Furthermore, VAT is likely to become more uniform under EMU, rendering it suitable to become an EC tax in the longer term — possibly even subject to EC legislation. VAT is, however, likely to remain a shared tax — similar to the German system — with some regional perequation embedded in the distribution formula governing horizontal fiscal relations. This may also be achieved implicitly through VAT financing of the Cohesion Fund. The perequation element will be rather weak initially; it may become stronger as regional economies move toward greater economic cohesion under EMU.

4.2.2. EC excise taxation

4.2.2.1. Excise taxation in the European Community

Most federations in the world (except North America) have transferred excise taxation to the central government. This raises the question of whether excises could also become instruments to finance the EC budget in the future. Before discussing this hypothesis, a few remarks regarding the future of excise taxation in the EC may seem to be appropriate.

4.2.2.2. The Commission's proposals on excise taxation in the EC

According to the Commission, excises contributing only little to the financing of government budgets ('bagatelle' taxes) should all be abolished. What has been shirked at national levels by a collusion of tax bureaucrats and legislative inertia is expected to be accommodated by an EC directive. Only a very restricted number of more important excises should be retained: those on tobacco, alcoholic beverages and hydrocarbon oils.

Furthermore, the destination principle should be applied at the consumption stage. Goods will be transported to the country of destination tax-free, and be taxed when taken from inventories for sale to the consumer. Since excise rates diverge widely among regions within the Community, the Commission aims for greater tax coordination through the setting of minimum and target rates; the Economic and Financial Affairs Council of June 1991 set tax floors abandoning the idea of target rates. This is intended to reduce the scope for potential tax competition among Member States through cross-border shopping.

Table 2 gives a survey of existing tax rates for some of the excises to be retained in the Community.[1]

Table 2

Excise rates applicable in EC Member States as of 2 January 1991

(ECU)

Member State	Cigarettes[1]	Spirits[2]	Petrol (unleaded)[3]
Belgium	4,67	1 504,94	293,88
Denmark	77,06	1 816,16	285,76
Germany	30,24	1 247,72	293,58
Greece	1,25	187,53	208,24
Spain	1,15	556,80	333,62
France	2,63	1 123,36	401,60
Ireland	51,53	2 614,16	361,70
Italy	2,4	401,83	556,22
Luxembourg	2,06	900,59	212,35
Netherlands	26,26	1 378,34	341,98
Portugal	2,73	274,64	523,52
United Kingdom	49,43	2 456,75	275,98
EC unweighted average	21,00	1 205,20	340,79
Commission's proposal of February 1991			
Minimum rate	15,00	1 118,50	287,00
Target rate	21,50	1 398,10	445,00
Ecofin proposal of June 1991[4]	57 % of sale price	1 118,50	287,00

[1] Specific part only; per 1 000.
[2] Per hl.
[3] Per 1 000 hl.
[4] Minimum rates; not all June 1991 proposals have been settled among Member States.
Source: EC Commission.

4.2.2.3. The likelihood of EC excise taxation

Despite the fact that excise taxation is centralized in Australia, Germany and Switzerland, the likelihood of EC excises is overstated. This is because philosophies governing the remaining excises under EMU have basically changed since the fiscal constitutions of the former federations have been drafted. Until very recently, excises have been considered to be mainly revenue instruments. However, modern theory of public finance has stressed their instrumental qualities in achieving certain allocative objectives. Two major strands may be distinguished:

Taxation of demerit goods. This applies to excises on tobacco and alcohol, the consumption of which exhibits substantial

[1] According to Internal Document II-B – 1/DC/1.10.1991, Table 1.

health risks to the population. Taxing these demerit goods is expected to curtail consumption of the respective goods thus diminishing health hazards and related costs.

Energy conservation and environmental control. This applies to excises on hydrocarbon oils, the consumption of which leads to pollution, to congestion costs through traffic jams, health hazards through accidents and nervous stress, and, last but not least, to climatic changes (global warming). Furthermore, the consumption of mineral oil has a negative effect on the balance of payments for most of the EC countries, which reinforces the general quest for energy conservation.

As far as taxation of demerit goods is concerned, the large variety of tax rates existing in the Community indicates very different attitudes among Member States with regard to the corresponding policy goals. The endeavour with which national governments have so far striven for greater taxing autonomy in the area of excises signals their severe reluctance to cede national sovereignty in these policy domains. Indeed, a strong case can be made for health care, for instance, to remain at national levels; the subsidiarity principle is likely to prevent these domains from becoming centralized, and — with them — corresponding excise taxes.

Moreover, it can be expected that cross-border sales will not necessarily lead to strong tax competition for demerit-goods taxation, forcing tax rates to be coordinated to more uniform levels. As can be seen from the US experience, tax competition will be a function of relative transaction costs, which may create problems closer to fiscal borders, but not within the EC in general. Thus Greece and Portugal may continue to tax cigarettes or alcohol lightly, without this policy affecting local consumption in high-tax Ireland, Denmark or the United Kingdom. Harmonizing tax rates through price floors does not even seem to be necessary here.

Energy taxation is more complex, however. With falling economic rents in the transport sector, as a consequence of deregulation and greater competition after the completion of the single market, and with prices for transport services becoming more responsive to cost differentials, energy costs are likely to be subject to severe regional competition in the future. Governments of high-tax Member States will then come under even greater pressure from industry to harmonize tax rates down to the tax floor set by central coordination. Floors are therefore essential in this policy area, yet — even at present — tax rates within Member States appear to be much closer together than for demerit-goods taxation. Coordination should thus prove to be easier for that matter.

Assuming that mineral-oil taxation will become more and more uniform under EMU — fulfilling an important criterion for centralizing the tax — it still remains uncertain whether this tax could — and should — be assigned to the EC budget.

In principle, control on energy taxation ought to be attributed to that level of government that is in charge of energy policies according to the instrumental approach. Without access to the basic market instrument for influencing prices in this domain, policies may not achieve their objectives. And energy policy is an EC responsibility, although shared with national governments. It can therefore be expected that the EC budget will eventually get access to this important revenue source in the longer term.

The major obstacle to centralizing energy taxes is the loss of national tax revenue — hence fiscal considerations. In order to cushion resistance against EC participation in energy taxation, the Commission is recommended to opt for a surcharge or piggy-back tax on national energy consumption (to be collected by national tax administrations). This is technically feasible because tax bases may easily be standardized. And it should be acceptable to national governments as long as tax revenue is earmarked for financing specific functions in corresponding policy domains — for instance research relating to alternative energies or energy conservation, or intra-Community public-transportation projects.[1] Surcharge financing on national energy taxes is also prone to establish the tax/benefit link that is expected to enhance efficiency for EC policies as well as, hopefully, creating solidarity and cohesion across nation States within the Community.

4.2.3. EC personal income taxation

Personal income taxes constitute a main revenue source for national and subnational governments in all industrialized countries. These taxes are usually assigned to lower levels of government or administered jointly in existing federations, with the notable exception of the US, where state (and local) income taxes play only a secondary role, and Canada where the provinces (except Quebec) levy subfederal personal income taxes as fixed percentages of the federal income tax. The EC budget has no access to national income tax bases so far.

Income taxes — although now widely based on a uniform Schanz-Haig-Simons definition of comprehensive income —

[1] The proposal seems to contradict the legalistic budget rule of universality. There are exceptions to this rule for the EC budget already, yet it should be stressed that this rule is the bane of the economist who would earmark tax revenue in order to enhance the efficiency of budgetary performance.

exhibit a very large variety as to their detail. Generally, they are levied 'on the income of individuals and of unincorporated enterprises (e.g. the self-employed, small businesses, farmers and the liberal professions), as well as income taxes earmarked for social security expenditures and, when integrated with the income tax, capital gains taxes' (OECD, 1986, p. 8).

This definition points to a number of problems relating to the delineation of income taxes:

(i) they are intertwined with the corporation tax (since income of unincorporated enterprises is assessed under the income tax);

(ii) the borderline between social security contributions and income taxes is not clearly drawn;

(iii) income tax policy may be affected by structural policies relating to specific sectors of the economy that are often subsidized indirectly through income tax (or even excluded from taxation, e.g. owner-occupied housing, agriculture);

(iv) the tax base is affected by the variety of national rules governing the assessment of capital gains for taxation.

Apart from problems relating to the borderline between 'taxable income' and non-taxable revenue or revenue taxed under separate schemes, there are large differences in the definition of the tax base itself. Since income is a net concept, there are problems as to the delineation of costs attributable to income-generation, from private expenditures to be borne out of taxed income — notably various forms of income-in-kind, so-called 'fringe benefits'. Similar problems may arise when drawing a borderline between interest paid on income-generating assets and interest on private assets. And, finally, there are problems associated with income as to its periodicity, where large-scale differences exist for depreciation allowances, for the attribution of multiperiod income, for the treatment of old-age pension schemes.

But income tax legislation varies not only as to the definition of the tax base and administrative rules governing the delineation of taxable and non-taxable income, but is also subject to normative judgments that vary widely among Member States' governments. As a rule, income taxation is overburdened with (sometimes contradictory) legal provisions relating to non-fiscal objectives of other policy domains.[1]

[1] For a more comprehensive account of personal income tax reforms in OECD countries and the variety of solutions adopted in recent years, see Cnossen/Messere (1990).

It is obvious, given the wide variety of tax rules governing personal income taxes in EC Member States, that there is also a wide dispersion of effective tax rates in these countries. This is depicted in Table 3:

Table 3

Taxes on personal income in the EC, USA and Japan[1]

(% of GDP)

Member State	1965	1975	1987
Belgium	6,3	13,1	15,1
Denmark	12,4	23,1	25,6
Germany	8,2	10,8	10,9
Greece	1,5	2,3	4,6
Spain	2,1	2,8	7,0
France	3,7	4,5	5,7
Ireland	4,3	7,9	13,8
Italy	2,8	4,0	9,5
Luxembourg	7,6	10,9	11,1
Netherlands	9,2	11,8	9,5
United Kingdom	9,1	13,5	10,0
EC average	6,1	9,5	11,2
Standard deviation	3,3	5,9	5,5
USA	7,9	9,5	10,9
Japan	4,0	5,0	7,3

[1] *Source:* OECD, 1989, Table 10: own calculations.

Although effective tax contributions of personal income tax have been converging in recent years, and tax reform policies have been coordinated by the *de facto* leadership of the 1986 Tax Reform Act in the United States — remaining discrepancies are large within EC Member States. There is a clear-cut North-South bias: southern European countries have traditionally shied away from direct taxation, exploiting indirect taxes more intensively. Among the bigger countries, France remains a low-income-tax country — exempting about half of its population, yet taxing the other half all the more progressively.

As has been discussed before, personal income tax is likely to become more internationalized as the need for greater intra-Community tax coordination increases, especially in the field of taxing capital incomes. Yet income tax will undoubtedly remain the cornerstone of national tax policies. It will become the 'core' of Member States' taxing autonomy, given that indirect taxation is likely to be harmonized more strongly within the EC.

This renders personal income tax most inappropriate as an own resource for the EC budget — both by direct access to national tax bases, and via tax sharing. Differential treatment of taxing authorities at national levels, which may be warranted on the grounds of well-defined policy objectives, would become regionally 'unfair' if applied uniformly at the EC level. Since tax bases are most unlikely to become standardized in the near future, any attempt of the EC to tap these bases is inherently inequitable, favouring those nations that rely more heavily on indirect taxation. It is thus most unlikely that the EC will penetrate into the area of personal direct taxation in the near future.

4.2.4. EC corporate taxation

4.2.4.1. Basic forms of corporate taxation

There are two basic philosophies concerning the taxing of corporations: (i) corporations may be regarded as separate and independent (legal) subjects with an own taxable capacity; (ii) corporations may be regarded as being owned by taxable (natural) subjects, the personal taxable capacity of whom should ultimately determine tax liabilities. In the first case, the corporation tax is imposed in addition to the personal income tax, leading to the double taxation of corporate income (classical system); in the second, the corporation tax is levied as a source tax on corporate income that should ideally be fully credited against the personal income tax of the owners (integrated systems).

Model (i) is implemented in the United States, Switzerland, Luxembourg and the Netherlands. Model (ii) is not consistently applied anywhere, since all variants would disallow credits for taxes paid on retained earnings. As to the variants themselves, there is full tax crediting on dividends in Germany and in Italy; tax crediting on distributed profits is only partial in Belgium, Denmark, France and the UK.

The corporation tax base is usually determined by rules similar (and to a large extent identical) to those governing personal income tax, especially for integrated systems; the tax rate is usually proportional, although differentiated as regards retained earnings and dividends paid.[1]

The degree of subfederal fiscal autonomy for corporate income taxes seems to be somewhat lower empirically than for personal income tax (Genser, 1990). Corporate taxes are either centralized or shared. Only in the United States, Switzerland and Canada are corporation taxes being levied at subnational levels.[2] It remains to be seen whether this is an indication for centralizing taxing powers for corporation taxes within the EC.

4.2.4.2. Locational non-neutrality of the corporation tax and tax competition

In a sense, corporation tax is less complex than personal income tax, since there are no adjustments to be made relating to the personal situation of taxpayers; in another sense, however, it is even more complicated since all problems relating to the international taxation of capital income have a prominent bearing on this tax. In a federal setting where regional capital mobility is high — which would be the case under EMU — independent taxing of capital income at the regional level is likely to induce horizontal regional differences in the marginal productivity of capital. This causes inefficiencies in national investment. Regional differences in consumers' marginal rates of time preference may cause inefficiencies in national savings. Such horizontal differences in marginal tax rates would lead to international capital flight and to resulting tax competition among Member States. Hence, small open economies would not choose to tax income generated by the physical capital located within the country (Diamond/Mirrlees 1971) nor to tax national savings (Razin/Sadka, 1989).

A first approach toward assessing the potential of tax competition for international capital is expressed in the differences between statutory marginal rates for taxing capital income. Denmark, Germany, Luxembourg and the Netherlands do not apply source taxes on interest income (although this income would have to be declared under personal income tax). Some governments even discriminate against foreign interest income (France, Greece and Italy). As to the taxing of dividends, there is a source tax for foreigners in all countries except for Ireland and the United Kingdom. Yet one should be aware of the fact that these rates may not necessarily be decisive for international capital flows. The issue of tax competition is more complex for the following reasons:

(i) there is a potential for a source-based capital income tax where there are excess profits tied to a geographical location; we argue, however, that a source-based corporation tax should be avoided; if there is scope for skimming-off local pure profits, this should rather be achieved via a cash-flow corporate tax to be administered at the European level (see below);

[1] There are, however, also progressive tax rates, especially for countries applying the classical system.

[2] In Germany there is a local tax on businesses (the 'Gewerbesteuer') which is different in structure from a corporation tax, however.

(ii) corporation taxes may be equivalent to services derived from regional public goods accruing to factors of production of the corporation; yet it would then be more appropriate to tax the immobile factors of production rather than income derived from it;

(iii) statutory rates are not decisive where legal provisions allow a reduction of the tax base — leading to a reduction of effective marginal tax rates for capital income; as King and Fullerton (1984) have shown, these hinge on a number of factors that are influenced by investors (such as the structure of assets and liabilities, specific tax benefits for investments, etc.);[1]

(iv) international double-taxation treaties may mitigate the impact of corporate taxation at source by according (partial or full) credit for taxes paid abroad;

(v) the EC has recently decided to abolish withholding taxes for certain forms of dividends distributed.[2]

The issue is indeed complicated by existing rules governing the international treatment of corporate profits for tax purposes. These rules form the nucleus of an effective coordination of capital income taxation at the international level. They are designed to strike a balance between a source country's interest in taxing capital income generated by its resident firms, whether appropriated by foreigners or not, and the individual taxpayer's residence country to tax income of its citizens comprehensively. Double-taxation conventions together with national tax legislation have created a hybrid system of capital taxation where both criteria, the residence and the source principles, coexist.

It is obvious that tax coordination on corporation tax will have to progress under EMU, but in which direction seems to be far from clear at present. In order to evaluate the possibility for the EC to obtain access to national corporation taxes, it may be useful to sketch possible developments, although a full discussion of the tax competition and coordination issue cannot be given here.

4.2.4.3. Tax coordination and harmonization

4.2.4.3.1. Efficiency arguments

Under an integrated system, where full tax credit is given to individual taxpayers and is accorded to foreigners by their respective governments, capital will not be discriminated against as a function of locational investment decisions within the Community. Wherever an individual places his capital in the world, the same personal tax rate of his home country will apply. Under such a rule — the residence principle — there is no tax competition although tax rates may vary among Member States.[3] This is analogous to the destination principle for VAT.

If, however, capital income is taxed only in the country where it is produced, applying the source principle to income taxation, differences in tax rates may become a matter of concern. In this case, capital will seek the location of the lowest tax rate where the net-of-tax return is highest *ceteris paribus*. This will impose a constraint on all other countries which will be inclined to compete for international capital by reducing tax rates competitively. In this case, lowering tax rates may become a beggar-thy-neighbour policy, and the equilibrium outcome of the Nash-game is undertaxation of capital (Giovannini, 1989). But as long as gross rates of return are the same in all regions, tax competition does not entail efficiency losses beyond that effect. Investors would locate their capital in the lowest tax region, other regions would forgo tax yields, yet production efficiency would be unaffected by this reallocation. The pure residence principle seems to be superior to the source principle since it tends to avoid tax competition and the resulting underprovision of public goods; thus, the basic choice of European countries in this regard seems to be justified.

However, the argument is not as straightforward as that. With respect to economic efficiency for the EC as a whole, both systems may be distorting locational decisions of direct investors. This is true whenever differing economic rents are observed (Devereux/Pearson, 1989).

EC countries generally adhere to the philosophy of comprehensive income taxation which implies the residence principle.[4] But important qualifications have to be made: concerning the income-receiving countries, tax administrators will have difficulties assessing total world income of its taxpayers as long as there is no provision for controlling income flows on a worldwide basis. Even though European tax administrations may in fact continue to develop new forms of international cooperation, there will always be smaller jurisdictions, within or outside the EC, that are

1 Devereux/Pearson (1989) have applied the methodology on transnational investment within the EC, Japan and the United States.

2 Council Directive on the common system of taxation applicable in the case of parent companies and subsidiaries of different Member States, *Official Journal of the European Communities* L 225, 20.8.1990.

3 Differences in the tax rates among Member States are supposed to reflect differences in the provision of public goods, hence the benefit principle applies, preventing the taxpayer from moving his residence.

4 Countries that do not strictly apply the residence principle are France and the Netherlands.

tempted to exploit the benefits of non-cooperative games, hence forming tax havens for European investors.

On the other hand, income-producing countries are inclined to tax foreigners on the grounds of interjurisdictional equity or fairness: if there are local rents that can be exploited by foreigners, why should local governments not participate in the proceeds from regional activities? This argument is supported by allocative considerations, since those tax yields may in fact be used to provide government services from which investors benefit. However, source countries are aware of the fact that source taxation is limited by the size of local rents, and that they risk deterring foreign investment when taxes are too high.

4.2.4.3.2. Coordination strategies

One way out of this dilemma is in fact tax coordination. There seem to be several options here (Vanheukelen, 1990, p. 348):

Pure residence principle with intra-Community tax coordination. Since all countries may be both income-receiving and income-producing,[1] there is room for a compromise that allows withholding taxes at source in combination with credits given to foreigners for taxes paid to source countries. Withholding taxes allow source countries to have a fair share of the cake that is produced in their jurisdiction; and the tax credit mitigates tax competition since, in principle, residence taxation is still applied.[2] If all source countries imposed a proportional tax on capital income, with full credit against personal income of foreigners, tax competition could be avoided (and the comprehensive income tax eventually saved). Yet, ideally, the proportional source tax rate should be equivalent to the highest marginal tax rate in the Community, since otherwise some investors would still pay lower taxes under such a regime by not declaring parts of their income earned abroad. Residence countries with low tax rates would thus subsidize the rest of the Community, and this is politically unacceptable.

European unitary taxation. Another solution would be corporate tax harmonization at the EC level. If all countries applied the same corporate tax rules (or, alternatively, all corporate income in the EC were lumped together in single units for tax purposes), all forms of tax competition within the Community would immediately vanish. Groups of companies would then be taxed on their Europe-wide profits. Withholding taxes could be abolished. There would be no problem of transfer pricing and thin capitalization within the Community, nor of start-up losses — as long as they occurred within the EC — which could be offset against profits, and, hence, a major tax obstacle to mergers and acquisitions would disappear. Corporation taxes could be fully credited to shareholders in an imputation system, and thus most distorting elements would be removed within the EC.[3]

The European corporation tax. Lastly, there could be a uniform European corporation tax to be levied on the same definition of taxable income and with the same tax rates. This would eliminate intra-EC tax competition instantaneously, since intra-regional 'loopholes' that could be used for the derouting and cross-hauling of capital in order to reduce the tax burden would no longer exist.

4.2.4.3.3. Political and administrative constraints

The latter two options are variants of a unitary approach — one decentralized, the other centralized. It was argued above that the appropriateness of various tax instruments for the financing of the EC budget can be tested against the uniformity criterion: since the tax should not be discriminatory at the supraregional level, it must be conducive to tax-base harmonization.

Despite several proposals of the Commission to harmonize direct taxes dating back as early as 1967 — and, for the corporation tax, 1975[4] — little has been achieved in this matter. Important decisions have been made recently regarding the fiscal treatment of companies operating in more than one Member State,[5] yet the verdict remains valid that the 'national general corporate tax regime is not subject to any constraints as the various harmonizing proposals put forward by the Commission in the last 20 years always failed to obtain the necessary unanimous approval of the Member States' (Vanheukelen 1991, p. 344).

The question is why there is so little progress in harmonizing corporation tax within the EC.

1 Interests are less balanced between OECD countries as a whole and LDCs, the latter being typically income-producing and the former income-receiving.

2 For a proposal along such lines, see Steuerle (1990).

3 Alternatively, there could be no personal tax credit, if the corporation tax should be on cash flow and, thus, on excess profits only; see Chapter 4.3.5.2 below.

4 Commission of the European Communities (1967, 1975).

5 Council Decision of 23 July 1990 relating to the fiscal treatment of mergers, the imposition of withholding taxes at the repatriation of foreign subsidiaries' profits, and problems of double taxation. See Vanheukelen (1991, p. 345 *et seq.*).

First, there are still differing basic philosophies as to the degree of integration of corporation tax with national income tax. In the longer term, however, tax competition is likely to reduce the scope for taxing corporate profits on top of personal income taxes. If there are regional pure profits, these could be better skimmed off by a corporate cash-flow tax (see below). This would force national governments to integrate corporate and personal income taxes more and more, adopting in the end the full imputation of taxes paid on dividends. Corporation tax would thus become an income tax levied at source and credited against the residence-based personal income tax.

Second, corporation taxes are likely to continue being used as instruments for achieving national policy objectives in the realm of income taxation (see Chapter 4.2.3). Since these taxes will become even more fully integrated with personal income tax, national rules governing national income tax bases are unlikely to be harmonized. Most countries will be loath to give up their national discretion regarding the design of an important element of their direct tax structure.

Third, even if the tax could be harmonized, there is likely to be further political resistance to unitary taxation — either centralized or decentralized — because it would lead to a redistribution of fiscal means among Member States. Tax credits to be given to shareholders within EC Member States would reduce the proceeds from national personal income taxes. In order to restore the regional fiscal impact, parts of the corporation tax — that on dividends paid to EC citizens — would have to be reimbursed to national governments. This is not impossible; yet it would require another clearing mechanism within the EC. Only the proceeds of the corporation tax on retained earnings — to the extent that they are not credited — and the tax on dividends paid to non-EC residents would remain as 'central' revenue or 'joint' revenue to be apportioned by a regional distribution formula. If the EC were accorded discretion for the setting of tax rates, it would be in a position to tap national personal income taxes through the tax credit — unless this were neutralized via vertical clearing.

Fourth, even with some clearing mechanism for redistributing tax proceeds within the Community, the problem of foreigners being taxed on their source income at higher rates than the domestic taxpayer in low tax jurisdictions would remain, since even the low tax source country would have to apply the uniform and maximum tax rate prevailing in the whole Community. This, again, does not seem to be feasible, given large psychological barriers against the supposed discrimination of foreigners, apart from the resistance to redistributing tax proceeds through a clearing house.

And last, the application of a uniform tax rate on source income with a full tax credit in combination with a clearing house is subject to a further constraint: although the proceeds from portfolio investment are caught within the EC, the EC *in toto* will have to compete with the rest of the world. Portfolio investors may still find tax havens outside the Community, and, unless member governments want to go for a 'fortress Europe' installing capital controls with third countries, arbitrage will still force portfolio capital out of the Community. The administrative response would be to create a worldwide network of source taxation with full crediting, which seems to imply a world tax office. This does not seem to be a feasible solution.

These arguments are mainly in favour of continuing national control on corporation taxes. However, national corporate taxation is equally under severe pressure from tax competition. The question is whether horizontal tax coordination, perhaps involving the Community as an arbiter, will be sufficient to solve these problems or whether capital income taxes, and hence the corporation tax, will end up being used by small open economies.

This question largely remains unresolved. It is interesting to note, however, that capital taxes have survived in the past, despite existing pressures from tax competition. This may be attributable to various influences: the existence of capital controls or of a leading capital exporter not directly vulnerable to individual portfolio flows; more recent research on tax coordination seems to indicate, however, that there are means to preserve taxes on capital, and, hence, corporate income through policy coordination (Gordon, 1990; Genser, 1990). This may be achieved more effectively under existing double-taxation agreements with the elimination of double taxation 'at arm's length' through the rulings of an intra-European 'arbitration panel', called an 'advisory commission' (Vanheukelen, 1991). It may also be more successful if the EC were to undertake its efforts negotiating on capital income taxation on a world scale, within a largely tripolar system, and imposing constraints on potential joiners, such as Austria and Switzerland. Even this may, however, prove to be insufficient in view of a truly single European market where regional profit shifting and arbitrage on the corporation tax should be avoided.

This is not the place to discuss corporate tax coordination within the EC in full (Devereux/Pearson, 1989; Vanheukelen, 1991). It is likely to lead to substantial reforms in the area of national capital income taxation. The reformed corporate tax does not necessarily imply revenue sharing of these taxes between the EC and its Member States, however. Despite increasing need for international coordination, the tax itself may well remain a national revenue source.

Whatever the final outcome of this process, there is a potential risk of a regional redistribution of tax proceeds from these taxes even under a coordinated approach. Under existing rules, horizontal inter-State tax credits are relatively limited. If corporation tax were indeed moving in the direction of a source-based company tax to be credited fully against the residence-based individual income tax, this may, again, entail the need for a horizontal clearing mechanism, if tax relativities were to be maintained. As was argued before, involving both national tax administrations and a central clearing office seems to be appropriate in this case.

4.2.5. EC wealth taxation

A direct tax on personal net wealth is sometimes considered to enhance the equity and the efficiency of the tax system, even though it would not raise a great deal of tax revenue. In the EC, the tax is presently used in Denmark, Germany, Luxembourg and the Netherlands, and in some potential participants like Norway, Sweden and Switzerland. It is not used in Anglo-Saxon countries, notably the United Kingdom, where there are specific property taxes (such as the land tax or the local rate); Germany uses both a (State) net worth tax and a (municipal) tax on real property. Their contributions to national tax revenue is usually small: below 5% (with the exception of the United States where the property tax is more important).

Net worth taxes are usually discussed in conjunction with personal income taxes: their function is to supplement the charge on capital income on the grounds that the taxable capacity of an individual with a given income is greater for income derived from property compared to income from personal exertion, since property income is obtained with less effort and is usually permanent. Furthermore, with imperfect capital markets, property serves as a reserve of spending power for emergencies, and it provides security for old age; it gives more ready access to credit, and it confers social status. All this would warrant a separate net wealth tax which would also strike at income that is not being taxed under the national income tax (services of consumer durables, jewellery, works of art, and unrealized capital gains). Furthermore, a net wealth tax is sometimes seen to prevent an undue concentration of individual wealth. Finally, wealth taxes are said to foster economic growth by creating incentives for individuals to discard taxed assets with low or no returns on capital, entailing a switch in favour of higher-yielding portfolios.

It may be questionable whether some of the alleged advantages of a net wealth tax would stand the test in view of the changing conditions in capital markets, notably the high volatility of portfolio capital. An EC-wide wealth tax is likely to create severe locational distortions for capital investors of the world, notwithstanding remaining excess profits that could eventually be taxed without distortions. Moreover, a net wealth tax penalizes saving, net additions to capital, as it charges the proceeds from accumulated savings. It is likely to have an unfavourable effect on private capital formation, and the overall effects on economic growth would thus seem to be ambiguous, if not negative.

Applied at the EC level, such a tax would have insurmountable administrative difficulties: (i) net wealth would have to be assessed in monetary terms for all assets (and liabilities), irrespective of the existence of a market for the assets; (ii) net wealth would have to be assessed across regions allowing for corresponding adjustments in costs and 'regional preferences'; (iii) application of assessment criteria would have to be administered uniformly in order to avoid regional inequities and locational distortions within the EC.

All requirements are difficult — if not impossible — to meet.

Assessing net wealth in monetary terms for all assets typically involves large problems. In Germany, for instance, net wealth assessed for specific assets such as agricultural land and forestry is only a small percentage (sometimes even less than 1%) of monetary assets such as bonds and shares (Andel, 1990, p. 350; Wissenschaftlicher Beirat, 1989). Moreover, the administrative burden for assessing net wealth is rather cumbersome, and — for certain assets such as land — values are updated only at long intervals (of about 30 years). Recently, there are strong political trends in Germany to abolish the net wealth tax, at least for business firms where it leads to double taxation (net wealth of share-owning individuals being subject to the tax a second time). Administrative costs do not encourage the introduction of the wealth tax in East Germany, where assessment would have to be made from scratch and on a comprehensive scale, with many assets (and liabilities) remaining non-marketable.

The regional dimension of the problem is even trickier: would it be equitable to consider — for tax purposes — a person owning a small appartment in Paris, Frankfurt or London to be 'richer' than someone owning a prestigious villa in Portugal, simply because the price of the metropolitan shelter is higher? Net wealth assessed for tax purposes is likely to exhibit severe regional inequities even if market values could be established for each asset. It would thus seem to be unwise for the EC to embark on net wealth taxes both on equity and efficiency grounds. If inequities become too severe, the European government is likely to lose the solidarity of its citizens.

Lastly, there is a strong case for subregional tax administration of wealth tax, since administrators are closer to the objects assessed. Yet regional administrators can also be expected to be poor performers as agents of an eventual EC taxing authority, since the principal-agent problem to be resolved would indicate potential for collusion between taxpayers and local tax officers, at least in some parts of southern Europe.

4.2.6. EC user charges

User charges — as a recompense for specific government services — are usually discussed in the context of quasi-market transactions of certain public goods. They are implemented for realizing the *quid pro quo* principle in the provision of public services. Government services warranting user charges rather than unspecific taxes are usually distributed at lower levels, notably at the municipal level of government. According to the layer-cake model, the supra-national government would have to engage in activities exhibiting the largest possible regional impact of government services. It is hard to see what user charges could contribute to enhance efficiency at that level. Therefore, it is our contention that user charges would be an inappropriate means of financing the EC budget. They will not be considered any further here.

4.3. Clearing functions for the EC budget

It has been noted on several occasions that the future EC budget is likely to perform certain clearing functions within horizontal (or vertically asymmetrical) fiscal federal relations among Member States. These clearing functions could be incorporated into the normal EC budget; they are likely to be run more effectively off-budget, however.

It seems appropriate to summarize these functions which — for the more important schemes — are more fully discussed in the respective chapters:

VAT clearing. It has been noted that the future EC VAT system would require a clearing mechanism in order to preserve existing relativities in the horizontal distribution of revenues according to the destination principle for fiscal assignment, which is not up for review at present. VAT clearing is more fully discussed in Chapter 4.2.1 of this paper.

Corporate tax clearing. If Member State governments opt to coordinate tax policies in the area of corporate taxation, the tax is likely to become a more standardized source-based tax on specific forms of capital income to be credited against residence-based national income taxes. This could lead to a horizontal redirection of tax proceeds within the EC with some need for clearing in the longer term.

EFTS clearing. In order to compensate regional governments for the loss of exchange-rate flexibility under EMU, a budget-neutral system of horizontal specific assistance grants has been proposed for combating regional structural unemployment. Although the author remains sceptical as to the need for such a scheme, a proposal is made in Chapter 4.5.2.5 to operate such a fund in conjunction with a corporate cash-flow tax that exhibits full regional neutrality in fostering regional developments and economic growth within the EC. EFTS clearing could assist such a tax not simply as a social-policy device (which may risk eternalizing regional structural unemployment), but as an instrument to enhance regional mobility and vocational training.

EC Cohesion Fund. The Maastricht accord has also laid the basis for a Cohesion Fund in order to secure a fair dealing with the poorer nations in the Community. The details of such a fund still have to be sorted out, yet it seems clear that this is likely to become an important function for the Community.

EC pension fund. Old-age pension rights still remain a source of substantial regional immobility of the labour force despite the early attempts of the Commission to resolve some of the related problems. It appears that the incentives inherent in coordinated national pension schemes work in an asymmetrical fashion, encouraging mainly South-North migration, and they are selective as to specific groups within the work-force. Hence, low-skilled labour under private contract seems to be more mobile than high-skilled labour, especially if working for public employers. In the long term, an institutionalized 'EC Pension Scheme' (EPS) would therefore be desirable, funded by national pension schemes for those of their members that opt for the EPS. In order to guarantee uniformity in defining EC pension entitlements, some regional perequation is likely to become necessary, which would involve Community assistance.

EC CAP fund. Similar to an eventual EC pension fund operating off-budget under its own rules, the workings of the CAP could be enhanced — and control enforced more effectively — by segmenting the price-guarantee section out of the EC budget, heaping it onto a separate fund. Agricultural levies would form an important part of own finance for this fund according to the instrumental approach. Additional revenue may be warranted, however, in order to maintain the existing level of benefits. This could be achieved via general revenue grants to be given to the fund. Not only would the amount of budget subsidies become more visible under such arrangements, stressing the tax/benefit link; the European Parliament would also be put in a position to exert effective budgetary control through the closed-ending of this expenditure category. Other outlay functions of the EC budget would be safeguarded against automatic increases in 'compulsory' expenditures which warrant priority over 'non-compulsory' functions, and the CAP fund would be forced to develop its own rules for effective budgetary control.

EMU wind-up funds. EMU and the founding of the ESCB (European System of Central Banks) is likely to entail wind-up funds for existing national government debt. Given that rules for accessing soft finance through money creation and through capital markets vary widely between Member States, resulting in large regional imbalances in the distribution of government debt, it is most unlikely that existing commitments will simply be pooled when forming an EMU. It is likely that existing government liabilities *vis-à-vis* national central banks will be transferred to the consolidated balance sheet of the ESCB in well-determined proportions. Remaining liabilities will have to be swapped for marketable debt. This marketable debt of national governments, together with existing public debt, may effectively be transferred to national (or EC) wind-up funds to be amortized in accordance with longer-term financial planning, once a set of harmonized rules governing budgetary deficits has been put in place. It is most likely that the responsibility for debt redemption — and eventually even the administration of these funds — will remain at the national level. However, at least the administration of these funds could become an EC responsibility, in order to preserve the political independence of the ESCB with, possibly, EC aid toward debt redemption to be given through ESCB seigniorage revenue.

4.4. The scope for EC surcharges on national taxes

Some federations employ surcharges or piggy-back taxes on taxes levied at other levels of government in order to restore vertical fiscal balance. In Canada, for instance, all provinces and territories (except Quebec) levy a subfederal income tax in the form of a fixed-percentage surcharge on the federal income tax. Helvetian communes levy communal income tax in much the same way, by piggy-backing onto cantonal taxes. In Germany, the churches are to allow levy surcharges on federal income tax.

In all cases, lower tiers piggy-back on tax instruments employed by higher tiers of government. It would thus seem that an EC surcharge on national tax bases is ruled out from the outset, if historical evidence of existing federations is relied upon. This argument is, however, not convincing. The fact that surcharges are regularly applied by lower tiers of government relates to the very fact that a standard tax base is needed for vertical readjustments of fiscal needs under all circumstances. Such a standard base is usually formed by taxes levied at higher levels of government, which are being controlled — for the supra-regional jurisdiction — in accordance with uniform rules.

On the other hand, piggy-backing on differing tax bases at lower levels of government would entail existing horizontal inequities to be reflected in varying contributions toward the financing of the central government's budget. Moreover, regional governments would be encouraged to reduce their revenue-raising effort for taxes subject to central surcharges to the detriment of other regions, entailing regional tax competition within the federation. This is not acceptable politically and it would be rejected as discriminatory by EC jurisdiction. If, however, such a standard tax base could be defined at subregional levels across jurisdictions, a central government would not be inhibited to levy a surcharge on this base. This is true for the proposal for an EC piggy-back tax on national energy consumption made in Section 4.2.2.3 of this paper.

Recently, Biehl (1985, 1990a, b) proposed a new EC revenue source in the form of a progressive surcharge on national (personal and/or corporate) income taxes. After what has been said with regard to the large regional variety in direct taxation, likely to become even greater under EMU, the proposal may seem to be impractical on the grounds of regional inequities — and federal tax competition — which would be accentuated by this approach. Yet Biehl's proposal is more subtle than a straightforward surcharge on national direct taxes. He would proceed in two steps: (i) Member States would be 'assessed' on the basis of their GDP and GDP per capita; this way the amount to be paid by each State would be fixed 'according to the principle of fair burden sharing' (Biehl, 1990b, p. 98); (ii) Member States would then transform this share into a progressive surcharge to be applied to each taxpayer, either individual, or individual and corporate. The main objective of this proposal seems to be to 'directly confront European decision-makers and their electorate' (Biehl, 1990b, p. 98); hence, the famous tax/outlay-link argument re-emerges.

Stage (i) of Biehl's proposal does not seem to pose any problem. It is essentially equivalent to the existing GDP-based additional resource ('fourth resource') introduced by the Delors package in 1988. Economically speaking it is a general revenue grant accorded by Member States on the basis of a statistical indicator. Whether Biehl wants to incorporate further perequation effects when stressing the importance of per capita GNP and 'the principle of fair burden sharing' — whether in fact he wants the levy to become regionally 'progressive' — seems to be unclear. However, doubts have already been expressed regarding politicians' willingness to accept greater progressivity in horizontal fiscal federal relations within the EC (Chapter 4.1.3).

Greater problems loom large when considering stage (ii) of Biehl's proposal.

First, it seems to contradict the subsidiarity principle for vertical fiscal relations. National governments must reject strings attached to general revenue grants to be given to the EC budget. They may decide to render the contribution rate visible in the form of a surcharge on any tax; they may opt for proportional (rather than progressive) surcharges, or they may decide to transfer the grant from general budgetary means without any earmarking according to the principle of universality. This should in fact be left to the discretion of national governments.

Even though governments may agree jointly to impose such progressive surcharges, they may be constrained in doing so at national levels, since the large variety in the area of direct taxation may prevent them from implementing the proposal. For instance, Germany has a much broader individual income-tax base than France, where family allowances are much more important. Also, the relative share of individuals subject to income tax is much higher in Germany than it is in France, a country that relies more heavily on (proportional) payroll taxes. If a similar proportion of GNP per capita had to be transformed into a progressive surcharge on income taxes in both countries, it would be likely to be twice as high in France as in Germany. This would be highly inequitable, and it would not enhance EC budget efficiency through the tax/outlay link. It would simply alienate French taxpayers *vis-à-vis* the Community.

A third criticism is related to the progressive nature of the surcharge. Individual tax progressivity varies widely according to national tax codes. Progressivity is not only a question of the tax schedule (or rates), it also hinges on indirect progressivity introduced by exemptions and deductions, the treatment of capital gains, inflation accounting and other specificities of national tax laws. How could anyone hope to implement a progressive EC surcharge on national income taxes in an equitable and regionally just (i.e. standardized) fashion according to 'the principle of fair burden sharing'?

And, finally, given the present weakness of parliamentary influence at the EC level, and the decisions of the Council remaining subject to national control, it is difficult to see what should be gained from 'confront(ing) European decision-makers and their electorate' through such a surcharge.

Summarizing the discussion of this chapter, it would seem that there is scope for EC surcharges on national tax bases. But these tax bases must be uniformly defined (like the consumption of mineral oil in hectolitres) if regional inequities in financing the EC budget as well as regional tax competition are to be avoided. Furthermore, these surcharges are likely to be proportional (and not progressive). Any surcharge on direct national taxation seems to be ruled out for decades to come as long as national direct tax systems continue to exhibit wide variances in policy and legislation.

4.5. The scope for new tax instruments for the EC budget

This chapter looks more fully into the possibilities (and eventual necessities) of creating new forms of taxation at the EC level that could contribute to the financing of the EC budget. This may seem to be extremely pretentious given the vast number of existing proposals to introduce new taxes, and to reform or discard old ones. Some of these proposals are being intensively discussed in academic circles (e.g. Kaldor's 1955 personal expenditure tax and its modern derivatives proposed by Meade, 1978, Bradford, 1986 or Kay/King, 1986) without even being noticed by tax politicians; others, like Tobin's capital transaction tax or Friedman's once popular negative income tax, have come to life more quietly these days.

Although some of the proposals deal explicitly with problems of international tax coordination, it would be vain to try discussing them systematically with regard to EC budget financing. The following sections must therefore be considered to represent a very limited and subjective selection of tax instruments where the emphasis is placed essentially on two proposals: (i) eco-taxation (especially the use of a carbon tax); and (ii) cash-flow taxation for the corporate sector.[1]

4.5.1. Eco-taxes

4.5.1.1. General characteristics of eco-taxes and alternative instruments

Although eco-taxes form a relatively new area of public policy, their theoretical foundations date back to the 1920s, with Pigou's early recommendations to use specific taxes as

[1] This does not mean that other proposals should be discarded from the EC's agenda on tax policies. It simply reflects the author's intellectual limitations (and unwillingness) to discuss — in any detail — further topical proposals that may be on the drawing board.

a corrective for externalities in the production and consumption of private goods. If an economic activity entails social costs, pollution for instance, that are not incorporated in private costs (and pricing rules), it leads to an inefficient overactivity in the respective domain, and the social costs incurred continue to impose excessive damage to the environment. One means of correcting such inefficiencies would be Pigovian taxation with the total tax amount corresponding to the cost of removing the damage caused. Social costs would thus be internalized, and the activity would be reduced to efficient levels — where the damage done to the environment corresponds to society's willingness to pay for it. Government intervention is warranted in this case because externalities, such as public goods, tend to encourage free-rider behaviour of economic agents if left to the market.

This is not the place to go into a full discussion of eco-taxes (see, for instance, Pearson/Smith, 1990; Poterba, 1990). One should also note that eco-taxes and levies are not the only instruments for environmental control. Often their effects would be considered to be too uncertain since they depend on market reactions to price changes that are largely unknown. More direct measures for environmental control seem to be recommended in the following cases:

(i) To the extent that economic activities produce harmful mass risks (e.g. health hazards through toxic substances), taxation is not appropriate to correct such processes through the market. Since it is impossible to price mass health risks, there is a strong case for outright bans on producing certain products (such as DDT and CFCs), or for other forms of legal intervention and policing, like specific ceilings set on certain emissions with corresponding penalties for violations. Such bans should be universal and policies on these matters should be attributed to the central government or coordinated on a large (if not worldwide) scale.

(ii) To the extent that economic activities produce harmful individual risks (like alcohol consumption), risk reduction would in principle be possible through market processes, by requiring individuals or firms to pay a levy/user charge or a corresponding insurance premium. Yet this poses severe ethical questions, which are sometimes responded to by reference to the market via pricing (alcohol and tobacco consumption, traffic accidents), sometimes by reference to social demerit-goods concepts via legal interdiction and sanctions (drug consumption). Policy on these matters are value-laden and should be left to national choice.

(iii) To the extent that environmental control would want to impose firm quantitative limitations on emissions, pollution rights (certificates) may be issued for a fixed amount that are negotiable among the agents concerned (emissions trading). This would not reduce pollution, yet it could contribute to enhancing production for a given level of pollution by a market-transfer of such rights to producers polluting less. Again this is an area for national environmental policy.

(iv) To the extent that the problem consists in removing existing damage to the environment, eco-taxes and levies are, again, inappropriate, since nothing can be achieved *ex post* by relying on the substitution effect. For this kind of policy, private liabilities or, eventually, national (or regional) tax moneys are required in order to finance the removal of damage.

4.5.1.2. Eco-taxation in a federal structure

Eco-taxation in a federation would have to be based on the 'layer cake' concept where larger constituencies supersede smaller regions forming higher layers of government responsibility whenever this is warranted by regional spillovers of external effects (Spahn, 1992). Efficiency considerations require lower governments to take care of externalities produced within their own jurisdictions as long as spillover effects are negligible. Thus certain traditional environmental services, such as garbage collection and disposal, or sewerage, are best provided at the local and subregional levels. Uniform standards and rules set at higher levels of government responsibility would entail Pareto-inefficiencies in these cases. For most of these services the *quid pro quo* principle can be applied; environmental instruments are thus preferably levies and user charges.

A further argument for assigning environmental levies to the local or regional level is experimentation. Since eco-taxes and levies are relatively new policy instruments, the effects of which are still unclear and have to be monitored closely, a great deal of experimentation at the subnational level is still needed in order to establish knowledge on the effective use of such policy levers. This is best achieved by encouraging diverse policy approaches at lower levels of government. Tax competition will then select the most promising instruments.

Where regional spillover effects on externalities are considerable, there are essentially two options:

(i) Horizontal cooperation: This is recommended where neighbouring regions are affected by externalities produced in other regions. Cooperation among governments and/or financial compensation for regional spillovers can then be based on mutual benefits. Pollution control of a river, for instance, may thus become an issue to be negotiated among the States directly concerned. If some regions are being affected unilaterally, however, and log-rolling potentials are low, bargaining processes between regions may become 'unfair'. In this case, the central government may have to play a role as an impartial arbiter. In order to forestall ruinous regional tax competition where environmental damages can be 'exported' to other regions, there is a strong case for the setting of minimum standards by the EC. These may always be considered too low by environmentalists, and national standards may often be set at higher levels; yet it should be clear that harmonizing EC standards to the highest national level is likely to entail inefficiencies.

(ii) Centralization: This is recommended where environmental damage is global in that it affects the whole federation, the EC, or even the world. The benefits of environmental control are then consumed jointly as a public good provided at the supranational level. Strengthening the central government in this case is also appropriate with regard to the bargaining position of the EC as a whole when negotiating environmental issues on a world scale. Policies to combat global warming or reduce the damage to the ozone layer would thus appear to be typical responsibilities for the EC.

If this is accepted, the EC should also be equipped with the instruments needed to achieve its policy goals in the corresponding areas.

There seems to be a very broad range for eco-taxation: taxes are being discussed — or have been introduced — on sulphur emissions, sulphur dioxide and NO_x, chlorofluorocarbons (CFCs), heavy metals, organic fertilizers, pesticides and herbicides, phosphates, methane, and, apart from the 'classical' taxes already levied on these, on mineral oil, natural gas and coal. There are proposals to use taxes on specific forms of industrial and agricultural waste, on rubbish produced by the construction industry, on tropical wood, plastic bags and aluminium foils, cans, on the consumption of water and on batteries and light bulbs, sometimes combined with proposals for obligatory consumer deposits in order to foster the recycling of these materials. Most of these proposals would seem to qualify as environmental instruments at the national and subnational levels, however.[1]

Apart from energy taxation, which has been addressed in Chapter 4.2.2.3, there is a strong case for one specific European eco-tax: a tax on carbon emissions.[2]

4.5.1.3. The case for an EC carbon tax

Carbon taxes seem to be *en vogue*. Finland, Sweden, Norway and the Netherlands have introduced small carbon taxes already. Even Germany, usually sceptical *vis-à-vis* eco-taxation, is considering such taxes.

Carbon emission is indeed a severe problem for the whole world. Climatic models blame these emissions to be responsible for a global warming ('greenhouse') effect by which temperatures on earth are expected to increase by 0,2 to 0,5 °C per decade.[3] Most — if not all — of it results from the combustion of fossil fuels: coal, gas and oil, the consumption of which continues at high and increasing levels (about 6 billion tonnes per year; Hoeller/Wallin, 1991, p. 8).

This substantiates the need for a noticeable reduction of carbon emissions during the next decade. Most OECD governments have expressed their willingness to reduce CO_2 emissions, where the reductions announced are in the range of the targets set by the 1988 World Climate Change Conference in Toronto: by 2005, carbon emissions are scheduled to be lowered by 20% of the 1988 level, with a reduction of 50% in the longer term. Most of the governments have not yet started to legislate the means for reducing emissions, however.

Some data concerning carbon emissions in EC Member States, the United States and Japan are given in Table 4.

Quantitative rationing does not seem to be the appropriate answer to this challenge. Although emissions trading may be used in some instances, a comprehensive policy approach would imply limiting the consumption of energy at the micro level (households and industrial plants) which could exhibit inefficiencies (where across-the-board cuts are applied), and entail large administrative costs in policing consumers' compliance. It may also contradict the basic philosophies of Western democracies underscoring the importance of individual freedom of choice.

[1] There is a great danger inherent in eco-taxation that governments may overstress the instruments. Too much intervention is likely to create a 'tax jungle', with uncertain effects on costs and risks, hence inefficiencies may result.

[2] Both an energy tax and a carbon tax could be levied conjointly. Both would reduce energy consumption; yet the carbon tax would additionally lead to energy substitution fostering low-emission types of energy consumption.

[3] Intergovernmental Panel on Climate Change (1990).

Table 4

Carbon dioxide emissions in the EC, USA and Japan

Member State	% of world emissions	Emissions per unit of GDP	Price per tonne of emissions
Belgium	0,5	0,19	319
Denmark	0,3	0,15	391
Germany	3,4	0,16	351
Greece	0,3	0,34	n.a.
Spain	0,9	0,16	373
France	1,8	0,11	556
Ireland	0,1	0,24	446
Italy	1,8	0,13	506
Luxembourg	0,1	0,39	n.a.
Netherlands	0,7	0,18	359
Portugal	0,2	0,23	441
United Kingdom	2,8	0,19	399
EC total	12,9	0,17	418
USA	24,6	0,29	208
Japan	4,6	0,09	431

Source: IEA 1991 (according to Hoeller/Wallin, 1991): own calculations.

A glance at the table left indicates that the relative emission of carbon is inversely related to the price of it. With prices twice as high in Europe and Japan compared to the USA, carbon emissions per unit of GDP is approximately half that of US emissions in Europe and a third in Japan. A regression of emission intensities on prices per tonne of emission implies a price elasticity of − 1,04 (Hoeller/Wallin, 1991, p. 9). A carbon tax would automatically make energy consumption more expensive, rendering consumers and producers more aware of the global externalities associated with the setting free of carbon emissions related to their activities. It is thus likely to entail substantial substitution effects in the longer term through a change in demand patterns and technology toward energy saving, and a change in the mix of fuels by encouraging a switch from high-emission fuels (such as coal) to lower-emission gas, or from fossil to non-fossil fuels.

Such a tax would have all qualities necessary to be levied at the supranational level: (i) externalities are global, requiring policy instruments that operate at the general level; the effect the unilateral use of carbon taxes by a single country would have on global warming would be negligible; (ii) the benefits of taxation accrue to all regions jointly (supra-national public-good characteristics); (iii) there is a case for uniform

Table 5

Implicit carbon taxes in 1988 in the EC, USA and Japan

(USD per tonne of carbon)

Member State	Implicit carbon tax			Implicit subsidies for the coal industry		Exchange rate (USD)
	Oil	Gas	Coal	Subsidy	Price support	
Belgium	162	35	0	24	—	36,8
Denmark	297	110	0	—	—	6,7
Germany	212	23	0	28	49	1,8
Spain	176	19	0	25	5	116,5
France	351	38	0	25	—	6,0
Ireland	277	4	0	—	—	0,7
Italy	317	80	0	—	—	1 302
Netherlands	221	27	0	—	—	2,0
Portugal	205	131	0	—	—	143,9
United Kingdom	297	0	0	10	36	0,6
USA	65	0	0	—	—	1,0
Japan	130	2	0	2	15	128,0

Source: Hoeller/Wallin (1991, Table 4).

taxation, since regional tax differences would lead to inefficient cross-border shopping and tax competition among Member States and, hence, entail suboptimal levels of taxation; uniform taxes would 'give each energy user the same incentive to abate, and leave the least-cost abatement decision to the individual' (Hoeller/Wallin, 1991, p. 8); (iv) there is even a case for EC involvement in administering the tax through the setting of common rules concerning the definition and measurement of tax bases within the EC. This would guarantee equal opportunities for producers with regard to potential cost differentials among regions resulting from varying national standards; (v) it would enhance the EC's bargaining power *vis-à-vis* other industrialized nations — and some LDCs — for achieving global policy goals.

Table 6

Tax revenue of a USD 100 tax per tonne of carbon at 1988 emission levels (EC, USA and Japan)

Member State	Revenue raised by a USD 100 per tonne carbon tax (billion USD)	Carbon tax revenue as a % of 1988	
		GDP	Total taxes
Belgium	2,9	1,9	4,2
Denmark	1,7	1,5	3,0
Germany	19,6	1,6	4,4
Spain	5,4	1,6	4,8
France	10,1	1,1	2,4
Ireland	0,8	2,4	5,9
Italy	10,5	1,3	3,4
Netherlands	1,2	1,8	3,8
Portugal	1,0	2,3	6,7
United Kingdom	16,1	1,9	5,3
EC total	74,3	1,6	3,7
USA	141,8	2,9	10,1
Japan	26,8	0,9	3,0

Source: OECD, *Revenue statistics of OECD member countries*, cited in Hoeller/Wallin (1991, Table 4); own calculations.

4.5.1.4. Revenue effects and potential vertical imbalances

At first, the EC would have to introduce such a European-wide carbon tax very cautiously and tentatively, since it competes with national energy taxes and the quantitative reactions are relatively unclear. Implicit carbon taxes through the taxing of oil, gas and coal (the latter sometimes being subsidized) are relatively high already, and would have to be brought into line at the EC level. Response to tax-rate changes would have to be monitored in a trial-and-error process. Since price elasticities of energy consumption are relatively low in the short term, however, the EC may have to increase tax rates more considerably if the initial response is unsatisfactory. This may render the carbon tax a potentially strong revenue source in the medium term through higher tax rates combined with initially inelastic demand responses. In the longer term, however, the proceeds from this tax can be expected to become less buoyant.

Calculations made by the OECD demonstrate that carbon taxes could raise substantial revenue in the future. If a 20% cut is to be achieved by 2010 — with stabilization of emissions thereafter — a tax rate of USD 200 per tonne of carbon is required on average for Europe. This implies tax revenues of approximately 4% of GDP at factor cost (Hoeller/Wallin, 1991, pp. 12 and 13).

Applied at the EC level and with revenues assigned to the Commission's budget, the carbon tax would thus lead to substantial vertical fiscal imbalances, favouring the budget of the Commission over those of Member States. This immediately calls for compensatory provisions in order to rebalance budgets within the EC.

One proposal could be a per capita eco-bonus in the form of a downward-oriented general revenue grant to be given to the financing of Member States' budgets by the EC. According to the subsidiarity principle, national governments would be free to decide how to adjust their own taxing policies: by handing down the grant as a (neutral) lump-sum payment to individuals, by reducing other individual taxes (such as income tax), by using the grant for additional spending, or by a combination of such options. Alternatively, a lump-sum per capita eco-bonus to be paid directly to EC citizens by the Commission could be considered. This is likely to be experienced as a personal reward by those individuals whose energy consumption is below average, and it would create an encouragement to lower energy consumption individually (although not collectively). Furthermore, it is likely to enhance citizens' solidarity with EC environmental policies in general.

4.5.2. An origin-based corporate cash-flow tax

4.5.2.1. General characteristics of the corporate cash-flow tax

As was discussed earlier, it is most unlikely for personal income tax to be handed over to the EC government in the immediate future. The fact that corporate taxes based on the residence principle are often intertwined with personal income taxation through tax credits renders it difficult to split those taxes from comprehensive income taxation. Traditional corporate taxes do not form independent tax instruments that could easily be transferred to the Commission.

On the other hand, the corporation tax has often been considered to be a potential EC tax, and although the Commission seems to have abandoned the idea of harmonizing and centralizing this tax in the near future, it continues to keep an eye on it, as proven by a recent statement by Christiane Scrivener according to which 'the idea of a single European corporation tax is the expression of a European will, ... which is necessary to build a strong Community'.[1]

The arguments put forward in support of decentralized corporate taxation and tax coordination do not have to be reiterated here. It is our firm belief that they will indeed prevent the EC budget from obtaining access to this tax for the foreseeable future. Yet, as said before, there is one strong economic argument in favour of the EC participating in the gains from corporate activities in Europe: to the extent that European corporate law and EC policy measures lead to extra benefits for the business sector,[2] regional fairness would recommend assigning a corresponding tax base to the central government; and, to the extent that these profits are 'pure', i.e. above world-market profits, taxation may not even entail regional distortions, neither within Europe nor with regard to extra-European investment opportunities.

If traditional corporate taxes based on the Schanz/Haig/Simons comprehensive definition of income are not accessible to the EC, a possible candidate for EC taxation could be a cash-flow corporation tax with a standardized tax base and a flat rate. Such a tax has been proposed in the literature in conjunction with a personal expenditure or consumption tax (for instance, Meade, 1978; Sinn, 1987; and Kay/King, 1986). There is no space to go into the details of personal consumption taxation here (see, for instance, Bradford, 1980a, 1980b, 1986; and Spahn 1990). As far as capital income is concerned, one should note, however, that the marginal effective tax rate applied to income from capital is zero under a consumption tax (McLure/Mutti/Thuronyi/Zodrow, 1988). This would exclude the proceeds of portfolio investment from the tax base — except for unexpected *ex post* profits in excess of normal rates that can always be taxed without distorting investment decisions; and it would include the proceeds of direct investment to the extent there are inframarginal rates of return in excess of the cost of financing, and/or economic rents.[3] This guarantees full neutrality of the tax with regard to the problem of international tax competition for mobile capital resources.

One model of taxing 'consumption' of companies on a cash-flow basis accords full exemptions for investment[4] but disallows the deductibility of interest payments and dividends.[5] Such a tax has a number of advantages: first, it would be neutral as to the sources of finance; it would avoid the discrimination of investment/savings inherent in the comprehensive income tax; it will render complex write-off procedures for capital amortization superfluous; there would be neither problems of inflation-accounting nor of tax avoidance via unrealized capital gains; with a personal consumption tax[6] the system would even become more equitable.[7]

1 Quoted in Genser (1990, p. 25).

2 A distinction must be made between the business and the corporate sectors. The following argument is made for the corporate sector alone, yet a similar reasoning could apply to the business sector *in toto*. Since the tax proposed offers a number of advantages for firms, notably for newly established enterprises with high investment propensities, it is expected that there would be an incentive for firms to incorporate in order to reap these benefits from taxation. Once incorporated, however, they should not be allowed to deregister unless tax benefits received are redeemed. The author is aware of the fact that this entails complexities for mergers and acquisitions of firms where, for tax purposes, internal accounts showing relative 'participation' of the fisc must be kept. Administrative aspects of the tax cannot be fully discussed here. It should be noted, however, that incorporation is likely to become the rule under such a tax, comprising most of the business sector.

3 In the latter case, the marginal tax rate on capital income is positive.

4 All forms of assets bought during a period are considered to be investment.

5 It may help to consider that model as being equivalent to the government partly taking a share in the company, the government's 'investment' being taxes forgone on the company's own investment. By disallowing the deductibility of interest, the government recoups a 'normal' interest rate on this 'tax investment' in the form of taxes on interest payments of the firm. If the company is operating at the margin in the sense that it cannot concede higher dividends to its shareholders than interest to its debtors, the government will not be able to recoup higher returns on dividends either; the government's return would then not exceed that of any other portfolio investment. If, however, the company has inframarginal profits that are higher than the normal interest rate and/or a rent — which could even be a windfall profit or a capital gain — the government participates like any other shareholder.
The government participates in both distributed and undistributed profits whereas the shareholder is often seen to benefit from dividends alone. This view ignores the fact, however, that, with perfect capital markets, the value of existing stocks must increase as a function of retained earnings, hence shareholders are in the same position as the taxing government.

6 The proceeds from a cash-flow tax would, of course, not be credited against a personal consumption tax.

7 See Spahn (1990) and Spahn/Kassella (1990). This is true because concessions to be made to the idea of comprehensive income taxation have undermined horizontal and vertical equity in many respects, which is unlikely to occur if the tax base firmly rests on a cash-flow concept, where manipulations are more difficult.

In the international context, multilateral adoption of company taxation on a cash-flow basis would eliminate nearly all the problems of corporate income tax. This is true even though tax rates may differ between countries: as a source-oriented tax on excess profits the cash-flow corporate tax is non-discriminatory as to locational decisions, because normal profits would go untaxed. The latter applies in particular to portfolio investments. Nothing would thus be gained from routing capital through tax havens, swapping capital through 'cross-hauling', since there is no high-tax residence country to circumvent, and many tax loopholes would effectively be closed instantaneously.

Adopted at the level of the Community — as an own source tax — it should not be credited against national personal income tax liabilities, since it is windfall profits or rents that may warrant separate tax treatment. This avoids vertical tax competition between national governments and the EC. Furthermore, no country employs such a cash-flow corporation tax at present. This may be regarded as representing an additional advantage, since it avoids possible conflicts with national tax legislation on existing tax bases, and vertical tax competition between the Commission and Member States. Tax bases of the cash-flow corporate tax and corporate income taxes are economically distinct and intrinsically non-competing, a message that could even be conveyed to constitutional lawyers.

The cash-flow-tax solution is particularly interesting for the EC to the extent that potential capital flight in the future is viewed as a problem. The ambitious project of the single market, as well as the reconstruction of East Germany within a newly enlarged EC, all will require enormous amounts of capital. On the other hand, world savings rates outside Europe — especially in the USA — have tended to decline. One big world capital supplier, Germany, will drop out, having to reorient direct investment to the new German states. States in Eastern Europe with typically low savings rates and high capital requirements may join the EC. An income tax that discriminates against savings and induces highly distorting effects on the flow of capital worldwide, not to mention the accentuation of inequities among jurisdictions and taxpayers, does not seem to be the appropriate answer for dealing with these challenges.

4.5.2.2. Revenue effects of the corporate cash-flow tax

As also pointed out earlier, tax proceeds from such a tax are most likely to be limited, since the effective marginal rate on profits is zero. Positive revenues collected in more mature regions (with a positive cash flow) are counterbalanced by negative revenues[1] in developing regions (with high private investment and hence negative cash flow). Net tax receipts follow the realization of excess (or windfall) profits within the EC. It therefore reflects the competitive position of the EC economy as a whole *vis-à-vis* the rest of the world. It would therefore not shift international capital away from the Community.

The fact that net receipts from the cash-flow tax are automatically constrained to the existence of infra-marginal and excess profits, and hence limited, may render this tax attractive to public-sector minimalists, who worry about a Leviathan government at the centre. This may reduce, again, political resistance to the assigning of such a new tax to the Community budget.

4.5.2.3. Administering the corporate cash-flow tax

As to its administration the cash-flow corporation tax could easily be levied at the national level starting from existing assessment procedures for corporate income (which is taxed in all EC countries). Traditional corporate income would have to be corrected, for instance, for depreciation allowances (to be added in) and investment expenses (to be deducted). Similarly, interest payments, which are usually deductible, would have to be included in the tax base. These corrections are relatively easy on the basis of existing information and they would automatically do away with all differences in national tax legislation concerning the differential treatment of various sources of finance, capital allowances, inflation accounting and the taxation of capital gains. Cash-flow is, indeed, a much more homogeneous concept than comprehensive corporate income with its variety of national valuation rules and effective tax rates. Corporate cash-flow taxation could operate under existing administrative procedures for corporate income taxes, which secure diversity at the national level, and still produce a standard tax base for EC taxation. Administering the new tax appears to be rather cheap. All it requires is some coordinated tax administration at national and EC levels.

4.5.2.4. Implicit regional reallocation effects of the corporate cash-flow tax

A further advantage of the corporate cash-flow tax seems to lie in its impact on regional policies at the EC level. It

[1] Instead of 'negative revenues' one could also talk of 'investment subsidies'. This term should, however, be avoided in the context of a cash-flow corporate tax. Investment subsidies are usually public revenue forgone, entailing inefficiencies within the concept of comprehensive income taxation. Tax expenditures within the cash-flow tax have to be considered as temporary advances to the business sector; they are intrinsically related to future positive cash flows generated through these investements that are taxed. This does not entail inefficiencies, on the contrary: it is neutral as to private investment decisions.

would act as an implicit regional reallocation scheme, since relatively strong private investment in developing regions entails low or even negative tax bases, whereas more mature economic regions, where rents can be skimmed off, would generate larger tax revenue. The tax would thus automatically induce implicit regional redistribution effects through the EC budget that hinge on the intensity of private investment activities. Without having to make discretionary decisions on the usefulness of private investment proposals to be subsidized and without interfering in price relativities, the Community would automatically foster projects of private capital formation that are initiated and sustained by market processes. And the tax would, again, be neutral as to investment decisions, and to financing, and it would be non-discriminatory against portfolio investment while skimming off any extra profits that may accrue to international direct investors.

Public investment activities cannot, however, be treated like private investment under this tax since they do not generate taxable cash flow. In order to foster an even development of public infrastructure within the EC, the central government's budget would therefore still have to have recourse to specific purpose (matching) grants. These grants, together with the corporate cash-flow tax, would form an appropriate arsenal of policy instruments allowing the objective of 'cohesion' through stimulating both public and private investment activities within the EC to be pursued.

4.5.2.5. Asymmetrical shocks, regional stabilization policies, and the need for regional redistribution

The cash-flow tax may worry those concerned about asymmetrical shocks within a system of regional economies operating under a monetary union with less than perfect mobility of factors of production. It is true that EMU, together with low labour mobility, tends to lead to regional under- or over-employment whenever there are asymmetrical shifts of regional demand in the confederation disfavouring (or favouring) regional production. The same may result from supply-side effects leading to a relative increase (or decrease) in unit-labour cost for regional economies (Kenen, 1987; van der Ploeg, 1989).

In order to compensate for such asymmetrical country-specific shocks, the establishment of a European Federal Transfer Scheme (EFTS) has been proposed in the literature (van der Ploeg, 1991, p. 143 *et seq.*). The loss in exchange-rate flexibility under EMU is made up through this scheme which operates 'by transferring income from individuals of one nation to individuals of another nation' (van der Ploeg, 1991, p. 144). A budget-neutral EC-wide tax is proposed which works as an automatic stabilizer in this sense, skimming off resources in high-employment areas and shifting them to depressed areas, 'replac(ing), to a certain extent, the national unemployment compensation schemes' (van der Ploeg, 1991, p. 144). It seems to resemble a horizontal grants system according to the model of the German 'Finanzausgleich', yet the rationale would be different: whereas 'Finanzausgleich' is used to equalize regional income in Germany, EFTS would act as a compensatory device for regional cyclical employment effects.

The EFTS seems to counteract the regional distribution effects of the corporate cash-flow tax. The latter would foster developing (investing) regions, and it would draw resources from regions where investment is sluggish. Thus, an argument against corporate cash-flow tax seems to emerge from its implicit pro-cyclical effects. This superficial impression does not stand the test of a more thorough analysis, however.

First, regional production cycles must not fully conform with regional investment. Investment in region A may support jobs in region B, e.g. if A produces consumer goods, and B produces investment goods.

Second, regional production cycles are more generally determined by export demand, not by local fixed capital formation which may follow in order to expand capacities correspondingly.

Third, asymmetrical country-specific shocks, notably those related to the supply-side, may be desirable on the grounds of a more balanced growth in a confederation. In other words: the common supply shock as an alleged 'neutral' reference point is only acceptable as long as economic welfare is distributed evenly within the federation. If not, developing (backward) regions should be encouraged to grow faster than the more advanced regions.

Fourth, strongly investing regions in the EC may in fact be those where existing capital stocks are comparatively low and, hence, marginal returns to capital relatively high, once country-specific risks relating to the exchange rate have been removed under EMU. The corporate cash-flow tax would foster such developments, whereas EFTS seems to retard it.

Fifth, the EFTS may contribute to eternalizing high regional unemployment, especially if regional unemployment rates differ in the introductory phase of EFTS, because it would counteract the effects sketched in the foregoing point by which developing regions with, possibly, high unemployment attempt to grow out of the poverty trap. EFTS would constitute a disincentive for such policies, since it leads to a loss of financial support, whereas the corporate cash-flow tax supports it. To this may be added that 'an EFTS signals to the bargaining process that real wages can be kept high, provides an invitation for free riding on European funds, and gives a fiscal incentive for government failure' (van der Ploeg, 1991, p. 144).

This criticism is more in favour of corporate cash-flow taxation than of a competing redistributive scheme in accordance with EFTS. The regional effects of the cash-flow tax would favour developing regions like Spain or Portugal, as they would favour a subregion like East Germany, provided these regions succeed in reaping the benefits of potentially high marginal rates of return on capital under EMU, which is more a question of administrative red tape and potential regional policy risks that are unrelated to EC policies.

Despite this criticism, concern about country-specific shocks leading to unemployment (overemployment) under EMU is founded. It is difficult to imagine, though, that politicians would embark on regional compensation schemes for cyclical unemployment where this unemployment is likely to become structural under EMU, due to imperfect market reactions (low regional and job mobility, lack of qualification and training, etc.). EFTS may not only become very costly and lead to inefficiencies; it may also lead to consistent deficits within the scheme, failing to equate horizontal financial flows.

It is our feeling that policies aimed at combating structural unemployment should be left to regional governments, not to the EC. The former are not only 'closer to the problem', they also control the instruments needed to achieve desired employment targets, from sectoral or industrial policies to housing, education and retraining. The EC government may still want to support Member States in these policies under EMU. Yet such policies are likely to resemble a horizontal income-redistribution scheme. They do not act as a compensatory device for regional cyclical unemployment.

If, contrary to our expectations, national politicians want to engage in horizontal income redistribution, the setting-up of an EFTS-like scheme is not in conflict with the regional effects of the corporate cash-flow tax. It could be established in conjunction with this tax. One should realize that a centrally administered corporate cash-flow tax alleviates the burden of Member States' budgets in expanding (investing) areas. There, the tax has not only a positive liquidity effect; it may also generate regional tax revenue and reduce the need for government intervention on the expenditure side. If a centrally run EFTS is desired, regional governments could be required to supplement any tax rebates given to firms in the region by matching contributions, the collateral of which would be assigned to the EFTS; vice versa, governments of those regions that pay positive corporate cash-flow taxes would benefit from a transfer of the fund. The net surplus of the fund[1] could then be used to combat structural unemployment within Europe as the EC thinks fit.

This is not to stipulate that such a fund should be put into operation; it is just an illustration of both schemes working together without policy conflict. The corporate cash-flow tax would secure allocative neutrality and stimulate growth, the EFTS would perform a redistributive role, correcting for regional imbalances in the distribution of incomes, and thus securing cohesion within the EC.

4.5.2.6. Corporate cash-flow taxation and international tax coordination

A final point may be made with regard to corporate cash-flow taxation and international tax coordination, notably via double-taxation treaties.

As said before, the corporate cash-flow tax does not concede any tax credit to domestic corporations, since the tax base is 'pure' (or 'windfall') profits that are considered to form a separate source of taxation. The EC's right to tap that source was regarded to stem from its provision of public services to corporations operating in the EC under EMU: public goods, institutional framework legislation (European corporate law, European legislation relating to financial operations such as banking and insurance, etc.) and, not least, EMU with its effects of lowering transaction costs and exchange-rate risks.

It is obvious that foreign investors would also forgo any tax credit on the corporate cash-flow tax. As said before, the tax would not deter foreign capital since foreign direct investment in the EC is likely to exhibit excess profits that can be taxed without entailing regional distortions. If profits are below normal they are even supported by the scheme, leading to negative tax 'burdens'.

Finally, corporate cash-flow taxation is not in conflict with existing double-taxation agreements mainly for two reasons: (i) legally and economically the tax is not on income (which could then be subject to taxation in the foreign investor's home country); and (ii) if cash flow were considered to be equivalent to income in the foreign investor's home country, it could always be declared tax-exempt under existing agreements. If a capital-exporting country tried to double-tax cash flow generated within the EC, which is therefore

[1] As long as pure profits can be reaped in the whole federation, the net result of the horizontal flows is always positive for the EFTS.

subject to EC corporate cash-flow taxation, it would not only risk violating the rules of the GATT; it would also hinder its capital exporters from investing in a region where returns are highest, and hence diminish its own welfare.

4.6. The EC budget and monetary policy under EMU

National monetary policies will essentially disappear under EMU. Even if the draft statutes for a future 'Eurofed' foresee a largely decentralized system of central banking (ESCB) — with assets remaining initially at the national level — monetary policies will have to be strongly coordinated by the board of governors, i.e. independent national monetary policies are no longer feasible. This is likely to have repercussions on fiscal federal relations since all national governments so far rely — to varying extents — on central banks' 'profits' resulting from seigniorage. This poses the general question to which extent the EC should obtain direct access to capital markets for the financing of its budget under new rules to be set for the budget operating under altered conditions.

4.6.1. Financial benefits from seigniorage

4.6.1.1. The scope for seigniorage revenue

Seigniorage revenue stems from a central bank's monopoly power to issue money. Traditionally, paper money (bank notes) was issued in exchange for gold, and to the extent people were willing to hold these notes, the issuer could use the corresponding revenue for purchases of goods and services (and, eventually, go bankrupt on the paper certificates distributed). Under these circumstances, seigniorage could be identified as the gold equivalent to the nominal amount of certificates placed with the public in any one year. In a more modern interpretation, it would correspond to the change in base money issued by the central bank.

This is an unsatisfactory definition, however. Once an initial desire to hold notes has been satisfied, seigniorage would then be possible only in a growing economy, or, more precisely, with increasing demand for fiat money. And it neglects the benefits drawn on base money issued in previous periods: to the extent that the government is in a position to avoid redeeming existing debentures, it shirks opportunity costs on the stock of debt at the going market interest rate. A comprehensive measure of total annual benefits from seigniorage would therefore correspond to the stock of base money at the beginning of the period multiplied by a 'representative' market rate of interest, plus newly issued base money — which could be negative.

This approach has a number of drawbacks, however. First, it is unclear what the 'representative' rate would be. Second, not all liabilities of a central bank constitute 'base money', and the delineation is often unclear, notably if there is substantial international demand for the currency concerned. Third, seigniorage according to this definition may be reduced by other central bank operations — equally relating to its monopoly power for monetary policies — notably by real losses in exchange money through a necessary devaluation of foreign reserves to be kept on the balance sheet.[1]

The following discussion takes a holistic view of central bank operations under State monopoly, although some may want to separate out 'commercial' operations (or even privatize central banks *in toto*).[2] We shall adopt a broader view on seigniorage including all profits of a central bank relating to its monopoly power. Since it is impossible to distinguish 'commercial' operations of a central bank from its operations relating to monetary policy we simply refer to the 'profits' of a central bank (excluding the normal return on capital for its shareholders) as corresponding to seigniorage revenue.

A central banking system has a number of privileges and obligations. Its privilege is to issue non- or low-interest-bearing debt — banknotes and compulsory minimum-reserve requirements of commercial banks — by acquiring interest-bearing assets in order to satisfy the demand for money of the economy. Some of these assets may be compulsory and non-interest-bearing as well — foreign reserves,[3] for instance. Others are interest-bearing but with rates below

1 This was, of course, typical of the situation of the Deutsche Bundesbank under the Bretton Woods system.

2 It may in fact be a policy for the ESCB to separate a (monopoly) issue department from a (competitive) banking department. It could well be that central banks, losing some of their monopoly rents under greater competition as well as to developments in transaction technologies (Giovannini, 1991, p. 95), will be forced to alter their policies *vis-à-vis* the banking industry. For instance, the cash-clearing functions could be separated from policy-oriented central bank operations. The former could then form the centre-piece of a commercial operation to be 'sold' to banks at 'quasi-competitive' rates (assuming that such quasi-competition could be installed, e.g. by comparison with the banks' own clearing operations). Although such policies may be imaginable, our argument is based on the assumption that monopoly power of central banking will not be questioned in the near future and that regulatory and commercial functions remain inseparable.

3 Official reserves — except for gold — may also be held in the form of interest-bearing assets, however.

market prices (certain forms of loans to commercial banks). Furthermore, there are losses and gains due to a revaluation of assets (and, eventually, of liabilities).

The amount of seigniorage depends — apart from valuation effects — on a number of economic variables, notably the demand for money, portfolio decisions regarding the share in cash holdings of individuals and firms, the minimum-reserve requirements for commercial banks (and, possibly, the rate of interest to be paid on these reserves), and the interest-rate spread for central bank assets with regard to comparable market instruments. Many of these factors hinge on monetary policy decisions, notably the level of minimum reserves required; the higher these are, the higher is the compulsory demand for base money and, hence, seigniorage. Furthermore, there seems to be a strong positive correlation between the inflation rate, influencing the demand for transaction money — and the share of seigniorage income. Countries where both inflation rates and reserve requirements are high, like Portugal, Greece, Spain[1] and Italy, seem to have generated higher shares of government revenue from seigniorage; the UK, which was a high-inflation country during the 1980s, did not benefit much from seigniorage, probably due to lower reserve requirements. If 1990 seigniorage is regressed on reserve requirements and average inflation rates for the EC countries, the impact of these factors can be statistically validated.

The relationship between the level of reserve requirements, inflation rates and seigniorage revenues as a share of GDP is illustrated in Table 7.[2] Apart from the data, the table includes the regression results as well as seigniorage estimated on the basis of independent variables as predictors.

It is obvious that an independent ESCB will generate price stability for above-average-inflation countries under the EMS and, later, EMU. This will not only reduce seigniorage income for these countries in the longer term; it will also bring the shares much closer together, as can be seen from the model calculation in Table 7.

Table 7

Reserve requirements as a percentage of demand deposits, average inflation rates, and the evolution of seigniorage income measured implicitly, as a percentage of GDP (1990 estimates in parentheses)

Member State	Reserve requirements mid-1988	Inflation rate in % 1980-90	Seigniorage 1990		Steady-state seigniorage 1997 and after
Belgium	0	4,5	0,75	(0,30)	0,46
Denmark	0	5,8	0,46	(0,50)	0,22
Germany	6,6 to 12,1	2,9	0,86	(0,40)	0,39
Greece	7,5	18,5	2,33	(2,69)	0,67
Spain	18,5	9,6	1,88	(1,75)	0,54
France	5	6,3	0,55	(0,76)	0,28
Ireland	10	7,8	0,58	(1,17)	0,34
Italy	25	8,7	1,29	(1,84)	0,36
Luxembourg	0	4,8	0,11	(0,35)	0,16
Netherlands	15	2,0	0,79	(0,48)	0,46
Portugal	15	18,4	3,57	(2,95)	0,50
United Kingdom	0,5	6,2	0,34	(0,58)	0,23

Regression results	Intercept	Reserve requirements	Average inflation rate
Coefficients	−0,358	0,0365	0,1460
Standard deviation	(0,450)	(0,017)	(0,027)
$R^2 = 0{,}83$			

Source: See footnote [2].

Although the variation-reducing effect of greater monetary coordination on seigniorage seems to be beyond doubt, it should be noted that the level of seigniorage revenue shown in the table above hinges on a number of assumptions that may indeed be questioned.

Seigniorage revenue may be further reduced under EMU — apart from more price stability — if the following conditions hold: (i) The relative share of transaction demand for money declines with regard to nominal GNP. This follows from standard theory on the demand for money assuming optimizing behaviour of transactors.[3] (ii) Transaction technologies

[1] In 1990 Spain legislated a progressive reduction in the required reserve ratio from 17 to 5%; Commission of the European Communities (1990, p. 121, fn. 58).

[2] Estimates for seigniorage are taken from an internal EC document written by M. Vanheukelen (16.4.1991). An implicit measure was calculated. The steady-state values for 1997 and thereafter were arrived at with the following technical assumptions: (i) cash holdings relative to GNP are constant; (ii) interest rates decline linearly to a common 5% in 1997; (iii) commercial bank reserves converge to 2% of a broad money aggregate; (iv) remuneration of reserves is zero by 1997; (v) nominal GDP growth rates converge to 5% by 1997; (vi) the ratio for representative broad aggregate to GDP remains constant.
Average inflation rates were derived from OECD Economic Outlook, July 1991, and reserve requirements for commercial banks (as a percentage of demand deposits) were taken from Grilli (1989), as quoted in Giovannini (1991, p. 97). The regression results are own calculations.

[3] Apart from this straightforward level effect, demand for EC currencies may also considerably be reduced under EMU due to structural effects. Nowadays, demand for exchange is often derouted through third-party currencies (like the US dollar or the German mark) because markets for direct exchange are too small with little liquidity (Danish krona for Portuguese escudos). Not only will EMU end the necessity of holding foreign currencies directly, which are now only imperfect substitutes for national money; it will also end the need for costly deviations through cross-transactions of EC currencies.

may lead to a continuing erosion of relative cash holdings and, hence, of central bank monopoly power (Giovannini, 1991, p. 95). (iii) Revenue may also suffer from the need to reduce reserve requirements under competition. If Europe-wide reserve ratios are being reduced to 1,5%, for instance, the shrinkage in the stock of high-powered money may range from 22% in France to 62% in Italy (Giovannini, 1991, p. 98), with corresponding effects on the level of seigniorage.

Seigniorage revenue may also be increased by a number of factors that may become relevant under EMU: (i) The need to hold idle foreign exchange in the ESCB may be considerably lower than the amount corresponding to the sum of foreign reserves actually held by national central banks. (ii) There is likely to be an important portfolio effect on the holdings of international reserves by non-EC central banks and the non-EC private sector. This may lead to a further reduction in holdings of US dollars to the benefit of the European currency. (iii) As open-market policies become more important on a European scale, the relative share of lower-interest-bearing assets, such as papers accepted at the discount window, may decline. And (iv) international competition on reserve requirements for commercial banks may become less acute under EMU than many economists may think based on impressions of existing competitive forces.[1] This could then increase the scope for seigniorage revenue at an international scale.

Seigniorage is also subject to the consolidated budget constraint of the ESCB. It is most likely that this budget will not be arrived at by simply adding assets and liabilities of national central banks under EMU. The initial structure will quite likely have to be adjusted by splitting off a number of wind-up funds (to be run separately from EC monetary policies). Moreover, assets and liabilities of the ESCB will have to be aligned to policy needs in a coordinated fashion.

For instance, if the relative share of foreign exchange assets is to be reduced, this must lead to a corresponding reduction in liabilities. This could be achieved, for instance, by simultaneously lowering reserve requirements for commercial banks, with possibly neutral effects on seigniorage revenue. If, however, international demand for ecus increases, this could eventually be satisfied by the ESCB accepting interest-bearing assets at its open-market window (and the EC accepting trade deficits *vis-à-vis* the rest of the world). Both effects would increase seigniorage revenue. Yet such a policy could also be resisted by monetary authorities leading — as was true for the dollar in the initial phase of the Bretton Woods system — to a shortage of ecus on international markets, with corresponding effects on interest rates and exchange-rate developments.

Given these perspectives and inherent uncertainties, it is impossible to predict the quantitative role of seigniorage under EMU. Assessing the arguments subjectively, however, it seems to be reasonable that seigniorage revenues will indeed become less important under a system of monetary cooperation. If the model calculations presented in the table above are taken as a proxy, the revenue at stake (to be eventually assigned to the EC budget) is in the order of 0,4% of GDP, which seems to be an acceptable volume with regard to the assumed development of EC outlay functions.

4.6.1.2. Seigniorage revenue as an EC resource

There are strong economic and political arguments for ESCB seigniorage to be 'pooled' rather than administered at national levels. Whether this is a sufficient reason for handing it over to the Community as an own resource is yet another question. The following factors seem to be important in this regard:

(i) With the entry into Stage 3 of EMU, the Community's monetary basis will have become an indissoluble whole. Monitoring the intra-EC distribution of ESCB liabilities will have no economic meaning, and it will not be technically feasible, especially with regard to cash holdings. Since reserve requirements for commercial banks will have to be standardized under EMU (in order to avoid regional intra-EC arbitrage), the regional distribution of base money would essentially be determined by the incidence of private deposits with commercial banks — and by cash holdings. The locational pattern of intra-EC deposits is, however, totally arbitrary, since a common currency has no regional 'strings' attached, as under the present system, as long as currencies are only imperfect substitutes.

(ii) Although the ESCB is a rather decentralized system, with national central banks continuing to operate, it is no longer possible to split central banking operations into 'national' parts. It is, again, essentially arbitrary on which money market monetary interventions would be carried out, for instance, and what forms of assets national central banks would acquire or sell in doing so. Therefore, 'profits' of national central banks would cease to reflect the pattern of national monopoly rents existing under present conditions.

[1] After all, EMU will form part of a tripolar worldwide monetary system, with the US dollar and the yen forming the other pillars. Coordination of monetary policies within such a system seems to be much easier than at present, since it involves only three dominant (and equally strong) players. If minimum requirements were, once again, to become fashionable as a policy instrument, its chances are much better under EMU than under the present system.

(iii) In particular, revaluations of ESCB assets — for instance as a consequence of changes in the ecu exchange rate — will affect Member States conjointly, although these reserves may continue to be held by regional central banks. To the extent that resulting losses and gains will have to be included in a broader definition of seigniorage, the regional pattern of seigniorage revenue is, again, arbitrary.

As in the case of customs duties, where the locational pattern of exports and imports may be totally unrelated to local production ('Rotterdam phenomenon'), the regional-arbitrariness criterion should also apply to seigniorage revenue. Customs duties have in fact been centralized within the EC; it is our conviction that this will become the long-term sort of seigniorage as well.

Yet, although the reasons to 'pool' seigniorage revenue of the ESCB are strong, it may still be questioned whether this revenue should in fact be attributed to the financing of the EC budget. National governments may be tempted to distribute seigniorage among themselves, using some straightforward horizontal apportionment formula. Sharing global public revenue in such a manner is, of course, always possible; yet it is questionable as to its basic philosophy, since seigniorage (because of its global revenue characteristics) will have to become a Community resource in the longer term.

Moreover, any attempt to redistribute seigniorage revenue to national budgets must encounter the following problems:

(i) Distribution on the basis of existing relativities of seigniorage revenue is not acceptable. It would favour countries with historically high inflation rates, and it would reflect policy-induced factors, like high reserve requirements, to name just one. Furthermore, these relativities will change under EMU, especially in Stage 3, when regional inflation rates will converge.

(ii) Distribution on an *ad hoc* basis is also unsatisfactory because seigniorage, in our definition as central bank 'profits', is likely to remain a rather volatile revenue source. This would render all implicit redistribution effects inherently unstable.

(iii) If, for instance, seigniorage is redistributed on a per capita basis, it would entail strong regional equalization effects in periods of high ESCB seigniorage, and negative effects in periods of monetary contraction or, more likely, losses due to a devaluation of foreign exchange.

(iv) If seigniorage is redistributed on the basis of GNP, it is equivalent to handing it over to the EC whilst reducing the GNP-oriented 'fourth resource' correspondingly, which would then become the more appropriate budget-neutral solution.

The final outcome on eventual horizontal cum vertical redistribution of ESCB seigniorage will largely depend on political bargaining processes. The position of the EC in this political game seems to be rather strong, though. It will hinge on (i) the agreed-upon expansion of EC outlay functions; (ii) the relative proportion of seigniorage revenue to additional EC expenditures; and (iii) the EC's readiness to compromise on eventual corrections in the sharing formula for VAT or on the GNP levy, in order to mitigate potential vertical imbalances through revenue reassignments.

The order of magnitude of ESCB seigniorage revenue would suit well the Community's prospective public finance needs. If this resource indeed settled at 0,4% of Community GNP, it would still fall short of the revenue needs corresponding to the projected expansion of EC responsibilities under EMU. In qualitative terms, the EC's position could even be enhanced by the earmarking of parts (or all) of seigniorage revenue to certain EMU-related functions. For instance, the EC could offer to contribute a substantial part of this revenue to the serving of national governments' debt swapped to so-called 'wind-up funds' (see Chapter 4.3). In doing so, the Commission would serve a double purpose: (i) it would temporarily ease regional inequities stemming from monetary regimes prior to EMU; and (ii) it would obtain the full control on seigniorage revenue in the longer term.

As a last resort, there could always be a compromise on the vertical sharing formula for other main Community resources like VAT. This exhibits long-term risks for the Community budget, however. Whereas VAT seems to be a relatively stable and secure revenue source, seigniorage may be volatile in the short term, and it is likely to lose importance in quantitative terms in the longer term. It is therefore preferable to look for a compromise that combines the transfer of seigniorage revenue to the Commission with temporary central functions to be exerted during or shortly after transition to EMU.

4.6.2. Access to capital markets and deficit financing

Access to capital markets for financing the Community budget is severely limited. Balanced-budget requirements are indeed a strong institutional and legal constraint for securing 'sound financing' and fiscal responsibility. Whether it makes sense in economic terms is another question.

First, a balanced-budget requirement seems absurd where more than half of the expenditures are not even subject to parliamentary control and are being partly determined by external market response — compulsory expenditures;

Second, government responsibilities would normally include longer-term-oriented public investment programmes, which are only feasible by borrowing against the necessary fixed capital formation.

As discussed more fully above, the problem of compulsory expenditures should be resolved by abolishing this category entirely. It remains the problem of EC capital formation and its financing.

It is obvious that allowing the EC budget access to capital markets may be resisted by national governments fearing opening up avenues to fiscal irresponsibility. This contention may be all the more warranted as EC member countries exhibit very different attitudes toward loan finance, which renders it difficult to achieve a consensus on 'sound financing' procedures — such as may exist in Switzerland, and in the US before President Reagan. On the other hand, investment functions for the EC budget cannot be denied. This poses the question of an institutional reform in order to secure fiscal responsibility through limiting EC access to capital markets while allowing it to perform its investment functions efficiently.

As can be seen from existing federations, there are indeed possibilities for achieving this policy goal. Both the US model (where no constitutional constraints exist, and budget limitations are negotiable between the President and Congress, with very little success) and the Australian model (with its centristic approach through a Loan Council) seem to be inappropriate for the EC. But the German and the Swiss models deserve more attention in this context.

Both European federations limit government loan finance via a cap, the amount of which is defined by investment outlays. Although there may have been attempts to mingle investment outlays with other expenditure categories at the margin, these institutional limits have been binding government decisions effectively for most of the time.[1]

Such a rule could also serve the purpose of the EC budget under EMU. It would legally restrict the scope for loan finance to the level of EC investment, which would be comparatively small initially. Yet economists must be sceptical as to the validity of legal rules where market forces may become stronger, forcing government to break such rules. The legal constraint should thus be supplemented by economic constraints, limiting EC loan finance for an investment project to the regular cash flows earmarked for the servicing of the debt. For instance, the regular cash flow derived from the piggy-back tax on national energy consumption (discussed in Chapter 4.2.2.3) could be attributed to the financing of an EC investment programme in the realm of transport policies. Or, a regular grant flow accorded by national governments could form the basis for financing an EC investment programme in the area of environmental control. This would immediately establish an efficiency-enhancing benefit/tax link that is more transparent to the taxpayer than such links recommended for the whole of Community functions. It would encourage 'sound financing' procedures, and it would limit EC access to capital markets by potential taxpayers (and governments), similar to the Swiss model of federalism.

The earmarking of special revenue sources may be objected to by lawyers on the grounds of an abstract universality rule for the budget. Yet this approach to restricting loan finance must not necessarily be in conflict with such a rule. All it seems to require is the establishment of an own, but integrated, capital budget within the EC budget. Such a capital budget, which would record the servicing of debt for investment programmes as well as attributed resources, would enhance the clarity of the budget, and allow longer-term planning of EC investment programmes at the same time.

4.7. Some aspects of structural reform for the EC budget

The need for structural reform of the EC budget was stressed on several occasions. It seems to be appropriate to summarize some of the main suggestions here:

(i) A first — and very substantial — point relates to the necessity to strengthen the role of the European Parliament within budgetary processes. It does not encourage fiscal responsibility of politicians if a large share of the budget is not even subject to parliamentary control. Furthermore, full responsibility of politicians for the EC budget would force them to assess the pros and cons of EC tax and expenditure policies more thoroughly, including the effects this may have on voters in their respective constituencies. This is likely to limit the size of the EC budget and to enhance the efficiency of budgetary performance.

[1] If Germany is now successful in circumventing such rules by creating off-balance funds, this should not be taken as a counter-example. It is attributable to the historical challenge of German unification, and it seems to be based on a broad political consensus comprising opposition parties as well.

(ii) A taxing authority should be accorded to the Commission with limited access to national tax bases and own responsibilities for EC tax policies, to be controlled by Parliament. There seems to be scope for EC taxation in the areas of energy taxes, eco-taxes and corporate cash-flow taxes. Taxes should be administered jointly with national tax administrations, however.

(iii) There seems to be the need for creating a number of off-balance funds, as discussed more fully in Chapter 4.3. In particular, a separate fund for the CAP (price guarantees) is advisable, since it would permit the abolition of the distinction between compulsory and non-compulsory expenditure, it would strengthen the role of the European Parliament, and it would allow the establishment of binding constraints on agricultural expenditures, while protecting other concurrent EC outlay functions. Alternatively, as was stressed by Biehl (1990b, p. 98), 'no single group of national spending ministers should be allowed in future to decide on EC expenditure, they will always have to sit in a full Council meeting together with all their other spending colleagues and with, above all, the ministers for finance'.

(iv) As to the structure of the budget itself, there seems to be the need for a capital budget if Community policies were to embark on longer-term investment programmes. Also, a more comprehensive EC budget should be formed with regard to functions that now reside outside the normal budget — e.g. development funds. This is not at odds with our contention that some operations should be run off-balance according to their own rules, where such rules differ from normal budgetary procedures. All other operations should be subject to budgetary control exerted comprehensively by the European Parliament.

(v) A joint decision-making process for EC taxation should be installed among Member States (the Council) and the EC (Parliament and Commission). There is no space to go into the details of such machinery. The objective of such an institutionalized decision process would seem to be the reconciliation of potentially conflicting interests between Member States and the EC, which has grown-up to become an own public entity, with its own independent and supranational policy goals. It would not only relate to matters of EC taxation, tax sharing and grant policies, it would also have a bearing on horizontal fiscal equalization and specific purpose payments to regions.

(vi) Cohesion within the EC, and related recommendations for appropriate redistribution policies, should become a matter for independent policy advice by an institution similar to the Australian Grants Commission. It would have to discuss and establish criteria for such policies jointly with the EC and Member States' governments.

5. Concluding remarks

EMU will have an important impact on national fiscal systems of Member States as it will impinge on European intergovernmental fiscal relations.

Although the structure of financing governments in Europe will essentially remain decentralized, the scope for EC policies will widen. Quantitative limits will still be narrow (in the order of 2 to 3% of GNP), yet the qualitative impact will become very important through the provision of public goods and equalization measures designed to foster economic and social cohesion in the Community.

Vertical imbalances in the assignment of revenue sources will continue to be corrected by a corresponding enlargement of the tax-sharing formula for VAT in favour of the EC budget. It is unlikely that any of the major existing national taxes would be transferred exclusively to the EC. There will be a tendency toward more uniformity in value-added taxation, national tax autonomy being increasingly sought in the realm of direct taxation. The apportionment of VAT proceeds will require a clearing mechanism with the flows of funds resulting from this scheme likely to become incorporated in the EC budget. In the longer term, European national VAT systems are not only likely to converge to uniform taxation under the origin principle; they are also likely to be transformed into a fully-fledged EC tax-sharing scheme with horizontal perequation effects at the national level. The perequation element will be rather weak initially; it may become stronger, however, as regional economies move toward greater economic cohesion under EMU.

Despite the fact that excise taxation is centralized in many federations, the likelihood of EC excises are generally small. For the demerit-goods taxes on alcohol and cigarettes, taxing autonomy should remain at national levels of government according to subsidiarity. Energy taxation is more complex. Mineral-oil taxation is likely to become more uniform under EMU. Supported by arguments relating to its instrumental importance for EC energy and transport policies, the tax can be expected to become accessible to the EC budget in the longer term, either directly or in the form of an EC piggy-back tax on national energy consumption. Energy tax revenue may have to be earmarked in certain EC policies, however.

The income tax will remain the cornerstone of national tax policies. It will become the 'core' of Member States' taxing autonomy, given that indirect taxation is likely to be harmonized more strongly within the EC. The income tax fulfils an important role for national policies in the area of redistribution, allocation, stabilization and specific policy domains, such as social policy, housing, education, and policies targeted toward the family. It is thus unlikely that the EC will penetrate into the area of national direct taxation.

The case of corporation tax is very complex. Locational distortions induced by subregional corporate taxation seem to favour a uniform tax, whether levied at regional levels conjointly, or administered at the central level. The Commission has in fact made a number of proposals to harmonize corporation tax, and it has indicated its interest in appropriating at least parts of the funds. Harmonizing corporation tax has so far met resistance from Member States' governments, though.

The analysis shows that there are indeed a number of arguments in favour of an even stronger integration of corporation taxes with national personal income taxation. This would render it difficult for the EC to penetrate that domain in the future. However, tax competition in the area of capital income taxation calls for greater horizontal cooperation in the field of corporate taxes, and even for some clearing mechanism to be established if existing fiscal relativities should be preserved. The Commission is likely to play an important role as a coordinator in this context.

The case of a European net wealth tax seems to be extremely weak, both on equity and efficiency considerations, as well as for administrative reasons. Also, the theory of fiscal federalism would not encourage the EC to engage in user charges on a larger scale.

The scope for new tax instruments for the EC budget seems to be wider in the area of eco-taxation where spillovers could form the basis for a greater use of tax instruments. In particular a carbon tax, targeted toward reducing the consumption of energy and related carbon emissions, would seem to be recommended for attribution to the EC budget. The revenue effects of such a tax are likely to entail vertical fiscal imbalances, however, calling for corrective measures via tax sharing or downward-oriented general revenue grants.

There is also the case for an origin-based corporate cash-flow tax to be levied at the EC level. Such a tax, apart from its qualities regarding tax neutrality, would skim off inframarginal rates of return in excess of the costs of financing, and/or economic rents. In the international context, multilateral adoption of company taxation on a cash-flow basis would eliminate nearly all the problems of the corporate income tax. Proceeds from such a tax are most likely to be limited, which may render the tax attractive to public-sector minimalists. The tax would exhibit regional reallocation effects in favour of developing regions, to the detriment of more mature regions in the EC. Also, corporate cash-flow taxation is not in conflict with existing double-taxation agreements.

A further revenue potential for the EC budget would seem to be related to seigniorage appropriated by the ESCB under EMU. The case for pooling such revenue is extremely strong; yet the eventual horizontal cum vertical redistribution of ESCB seigniorage will largely depend on political bargaining processes. Although there may be political resistance in the beginning to hand over seigniorage revenue exclusively to the EC, historical evidence from other federations would indicate that such revenue will become centralized in the longer term. The case for EC seigniorage is further strengthened if the Commission compromises by earmarking, initially, all or parts of seigniorage to EMU-related policy objectives, like the servicing of debt in national 'wind-up' funds. It is likely, however, that seigniorage revenues will diminish in importance under a system of monetary cooperation in the future.

At last, there would seem to be the need for structural reforms of the EC budget under EMU. First, the Community should be given greater access to capital markets, although subject to legal and economic constraints. Second, a number of institutional changes are recommended, notably the strengthening of the role of the European Parliament, the need for an EC taxing authority, the creation of a number of off-budget funds where this is warranted by differing budgetary rules, the inclusion of all other EC functions in a more comprehensive budget subject to parliamentary control, the formation of a capital budget, and the institution of joint-decision machinery for reconciliation and for coordinating policies in the area of fiscal equalization. Finally, cohesion within the EC, and related recommendations for appropriate redistribution policies, should become a matter for independent policy advice.

References

Andel, N. (1990). *Finanzwissenschaft,* 2nd ed., Tübingen (J. C. B. Mohr).

Baccouche, R. and Laisney, F. (1990). 'The simulation of VAT reforms for France using cross-section data', in: *Microeconometrics — Surveys and applications,* edited by J.-P. Florens, M. Ivaldi, J.-J. Laffont and F. Laisney, Oxford, Tito.

Biehl, D. (1985). 'A federalist budgetary policy strategy for European Union', Policy studies, *The Journal of the Policy Studies Institute,* Vol. 6, Part 2, October, pp. 66-76.

Biehl, D. (1990a). 'Financing the EEC budget', in: *Public finance with several levels of government,* edited by R. Prud'homme, Foundation Journal Public Finance, The Hague/Koenigstein, pp. 137-152.

Biehl, D. (1990b). 'Deficiencies and reform possibilities of the EC fiscal constitution', in: *The politics of 1992 — Beyond the single European market,* edited by C. Crouch and D. Marquand, Oxford, pp. 85-99.

Bird, R. (1989). 'Tax harmonization in federations and common markets', in: *Public finance and performance of enterprises,* edited by M. Neumann and K. Roskamp, Detroit, Wayne State University Press, pp. 139-151.

Blundell, R., Pashardes, P. and Weber, G. (1989). 'What do we learn about consumer demand patterns from microdata?', Institute for Fiscal Studies and London Business School, Micro to Macro Papers No 3, London.

Bradford, D. F. (1980a). 'The case for a personal consumption tax', in: *What should be taxed: Income or expenditure?,* edited by J. Pechman, Washington DC, Brookings, pp. 75-125.

Bradford, D. F. (1980b). 'The economics of tax policy toward saving', in: *The government and capital formation,* edited by G. von Furstenberg, Cambridge, MA, pp. 11-71.

Bradford, D. F. (1986). *Untangling the income tax,* Cambridge, MA, Harvard University Press.

Brennan, G. and Buchanan, J. (1983). 'Normative tax theory for a federal policy: Some public choice preliminaries', in: *Tax assignment in federal countries,* edited by C. E. McLure, Jr, Canberra, Australian National University, Centre for Research on Federal Financial Relations, pp. 52-65.

Cecchini, P. (1988). 1992: *The European challenge: The benefits of a single market,* 2nd ed., Aldershot, Wildwood House.

Cnossen, S. (1981). 'Dutch experience with the value-added tax', *Finanzarchiv,* Vol. 39, pp. 223-254.

Cnossen, S. (1983). 'Harmonization of indirect taxes in the EEC', *British tax review,* Vol. 4, pp. 232-253.

Cnossen, S. (1990). 'The case for tax diversity in the European Community', *European Economic Review,* Vol. 34, pp. 471-479.

Cnossen, S. (1991). 'Coordination of sales taxes in federal countries and common markets', in: *Financing federal and State governments,* edited by the OECD, Centre for Cooperation with European Economies in Transition, Committee on Fiscal Affairs, Paris (forthcoming).

Cnossen, S. and Shoup, C. S. (1987). 'Coordination of value-added taxes', in: *Tax coordination in the European Community,* edited by S. Cnossen, Deventer, Kluwer, p. 59 *et seq.*

Cnossen, S. and Messere, K. (1990). 'Income tax reforms in OECD member countries', in: *The income tax — Phoenix from the ashes,* edited by S. Cnossen and R. Bird, Amsterdam, North-Holland, pp. 17-60.

Commission of the European Communities (1967). 'Programme for the harmonization of direct taxes', *Bulletin of the European Communities,* Supplement 8, Brussels.

Commission of the European Communities (1975). 'Proposal for a directive concerning the harmonization of systems of company taxation and of withholding taxes on dividends', *Bulletin of the European Communities,* Supplement 10, Brussels.

Commission of the European Communities (1990). 'One market, one money — An evaluation of the potential benefits and costs of forming an economic and monetary union', *European Economy,* No 44, October.

Devereux, M. and Pearson, M. (1989). 'Corporate tax harmonization and economic efficiency', Institute for Fiscal Studies, Report Series No 35, London.

Diamond, P. and Mirrlees, J. (1971). 'Optimal taxation and public production, I — Production efficiency', *American Economic Review,* Vol. 61, pp. 8-27.

Genser, B. (1990). 'Tax competition and harmonization in federal economies', in: *European integration in the world economy — Proceedings of the second Konstanz symposium on international economics and institutions,* edited by H.-J. Vosgerau, Berlin, Springer (forthcoming).

Giovannini, A. (1989). 'National tax systems versus the European capital market', *Economic Policy,* No 9, October, pp. 364-384.

Giovannini, A. (1991). 'Money demand and monetary control in an integrated European economy', in: *European Economy,* Special edition No 1 — 'The economics of EMU', Brussels, Luxembourg, pp. 93-106.

Gordon, R. H. (1983). 'An optimal taxation approach to fiscal federalism', *Quarterly Journal of Economics,* Vol. 97, pp. 567-586.

Gordon, R. H. (1990). 'Can capital income taxes survive in open economies?', Working Paper No 3416, National Bureau of Economic Research, Inc., Cambridge, MA.

Grilli, V. (1989). 'Europe 1992: Issues and prospects for the financial markets', *Economic Policy,* No 9, October, pp. 387-422.

Haufler, A. (1990). 'Die Abschaffung der Steuergrenzen im gemeinsamen Markt: EG-Vorschläge 1989 und alternative Lösungen', *Umsatzsteuer- und Verkehrsteuer-Recht,* No 5, pp. 131-139.

Haufler, A. (1991), 'Indirect tax policy in the European Community: An economic analysis', in: *European integration in the world economy — Proceedings of the second Konstanz symposium on international economics and institutions,* edited by H.-J. Vosgerau, Heidelberg, Springer (forthcoming).

Helm, D. and Smith, S. (1989). 'The assessment: Economic integration and the role of the European Community', *Oxford Review of Economic Policy,* Vol. 5, pp. 1-13.

Hoeller, P. and Wallin, M. (1991). 'Energy prices, taxes and carbon dioxide emissions', OECD, Economics and Statistics Department Working Papers No 106, Paris.

Intergovernmental Panel on Climate Change (1990). *Policymakers' summary of the scientific assessment of climate change,* WMO and UNEP, New York.

Janeba, E. (1988). 'Ökonomische Probleme der Umsatzsteuerharmonisierung bei der Vollendung des EG-Binnenmarktes, Europäisches Parlament', Sammlung Wissenschaft und Dokumentation, Reihe Wirtschaftsfragen Nr. 15, Strasbourg.

Kaiser, H. (1989). 'On labour supply, commodity demands, and taxation of households, Sfb 3-Working Paper No 300, Frankfurt/Main (forthcoming in *Empirical Economics*).

Kaiser, H. and Spahn, P. B. (1989). 'On the efficiency and distributive justice of consumption taxes', *Zeitschrift für Nationalökonomie /Journal of Economics,* Vol. 49, No 2, pp. 199-218.

Kaiser, H., Wiegard, W. and Zimmermann, H. (1990). 'Testing the reliability of optimal tax calculations', *Finanzarchiv,* Vol. 48, Heft 1, pp. 77-96.

Kaldor, N. (1955). *An expenditure tax,* London.

Kay, J. and King, M. (1986). *The British tax system,* 4th ed., Oxford, Oxford University Press.

Kenen, P. (1987). 'Global policy optimization and the exchange-rate regime', *Journal of Policy Modelling,* Vol. 9 (1), pp. 19-63.

King, M. and Fullerton, D. (1984). *The taxation of income from capital: a comparative study of the United States, the United Kingdom, Sweden and West Germany,* Chicago,The University of Chicago Press.

McLure, C. E., Mutti, J., Thuronyi, V. and Zodrow, G. R. (1988). *The taxation of income from business and capital in Colombia,* Bogotà.

Meade, J. (1978), ed. *The structure and reform of direct taxation,* London, The Institute for Fiscal Studies.

Oates, W. E. (1972). *Fiscal federalism,* New York, Harcourt-Brace-Jovanovich.

OECD (1986). 'Personal income tax systems under changing economic conditions', Report by the Committee on Fiscal Affaris, Paris.

OECD (1989). *Tax revenue statistics of OECD member countries 1965 – 1987,* Paris.

Olson, M. (1983a). *The rise and decline of nations,* New Haven.

Olson, M. (1983b). 'The political economy of comparative growth rates', in: *The political economy of growth*, edited by D. C. Mueller, New Haven, Yale University Press, pp. 7-52.

Patrizi, V., and Rossi, N. (1989). 'The European internal market and the welfare of Italian consumers', University of Venice, Working Paper No 89/06, Venice.

Parsche, R., Seidel, B. and Teichmann, D. (1988). *Die Beseitigung der Steuergrenzen in der Europäischen Gemeinschaft*, DIW Sonderheft No 145, Berlin, Duncker & Humblot.

Pearson, M. and Smith, S. (1990). 'Taxation and environmental policy', IFS Commentary No 19, London, The Institute for Fiscal Studies.

Ploeg, F. van der (1989). 'Monetary interdependence under alternative exchange-rate regimes: A European perspective', Discussion Paper No 358, Centre for Economic Policy Research, London.

Poterba, J. M. (1990). *Designing a carbon tax*, Massachusetts Institute of Technology, mimeo.

Razin, A. and Sadka, E. (1989). 'International tax competition and gains from tax harmonization', NBER Working Paper No 3152, October.

Scrivener, C. (1990), 'Corporate taxation in Europe and the single market', *Intertax*, pp. 207-208.

Sinn, H.-W. (1987), *Capital income taxation and resource allocation*, Amsterdam, North-Holland.

Smith, S. (1990). 'The European Community's priorities in tax policy', Institute for Fiscal Studies, Working Paper Series No W90/2, London.

Spahn, P. B. (1989). 'Agenda für eine Reform der Haushaltsbesteuerung um die Jahrtausendwende', Sonderforschungsbereich 3, Working Paper No 279, Frankfurt, Mannheim.

Spahn, P. B. (1990). 'L'impôt direct sur la consommation: Une utopie pour toujours?', *Revue française de finances publiques*, No 29, pp. 85-101.

Spahn, P. B. (1992). 'The design of federal fiscal constitution in theory and practice' (in this volume).

Spahn, P. B. and Kaiser, H. (1991). 'Tax harmonization or tax competition as a means to integrate Western Europe', *Konjunkturpolitik*, 37. Jg., Heft 1/2, pp. 1-44.

Spahn, P. B. and Kassella, T. (1990), 'Ius summum saepe summa malitia: Über die Ungerechtigkeit der Einkommensteuer', Sonderforschungsbereich 3, Working Paper No 319, Frankfurt, Mannheim.

Steuerle, E. (1990), 'Capital income and the future of the income tax', in: *The income tax — Phoenix from the ashes*, edited by S. Cnossen and R. Bird, Amsterdam, North-Holland, pp. 211-233.

Vanheukelen, M. (1991). 'Corporate tax harmonization in the European Community', in: *Public finance with several levels of government*, edited by R. Prud'homme, Foundation Journal Public Finance, The Hague/Koenigstein, pp. 343-357.

Wilson, J. (1986). 'A theory of interregional tax competition', *Journal of Urban Economics*, Vol. 19, pp. 296-315.

Wissenschaftlicher Beirat beim Bundesministerum der Finanzen (1989). 'Die Einheitsbewertung in der Bundesrepublik Deutschland — Mängel und Alternativen', Schriftenreihe Heft 41, Bonn, Bundesminister der Finanzen.

Zanden, J. B. van der, and Terra, B. J. M. (1987), 'The removal of tax barriers: The White Paper from the Commission to the European Council', *Intertax*, No 6, pp. 130-142.

Community loan and loan-related instruments

Joost M. J. Kuhlmann

Directorate-General for Economic and Financial Affairs
Commission of the European Communities

Contents

Summary

This paper assesses the role of Community loans and loan-related instruments such as interest subsidies and guarantees. It is limited to those instruments that are used for essentially microeconomic purposes; loans in the context of macroeconomic stabilization and in the context of Community external policy will not be discussed. To this end a number of theoretical considerations are presented in section 2. This analysis shows that a role for public loan (-related) instruments in the allocational field might exist in case: (i) a periodicity problem exists, and (ii) the government identifies reasons, on the basis of the public (social) welfare function, to intervene in the functioning of the market so as to improve resource allocation. However, this is a necessary rather than a sufficient condition. The proposed intervention needs to be screened on effectiveness, efficiency and equity implications before one can pronounce on the question of whether it is actually warranted. In this light interest subsidies would in general appear to be preferable to guarantees and loans. As to the pertinence of loan (-related) instruments in the context of distribution policies, it is concluded that a possible role could only exist in the context of a 'second-best' policy environment.

The Community context will then be discussed in order to assess what role loan (-related) instruments could play and how economic and monetary union (EMU) would impinge on this. The instruments to be deployed need then to be assessed in the context of the objectives derived from a Community public welfare function. As to allocation, this means that externalities, etc. need to display Community dimensions. As EMU would reinforce integration, the extent to which some projects give rise to Community externalities may increase. However, it appears that certain criteria would need to be decided upon so as to limit the implication of loan (-related) instruments to situations in which important Community interests are at stake. As to distribution, the conclusion that, from an economic point of view, these are not the first instruments that spring to mind remains true. However, as the Community is far from being a 'first-best' policy environment, some scope, depending on essentially political decisions, might exist.

Section 3 reviews the existing loan (-related) instruments at Community level followed by a brief appraisal in terms of allocation/distribution. This review demonstrates that the different instruments originated in specific historic settings, resulting in a rather fragmented structure in which overlaps do sometimes exist. It also highlights that, from an economic point of view, the reasons for the different instruments were not always obvious. It would therefore make sense to 'rethink' the existing set of instruments. This rethinking should take place against the background of the theoretical analysis developed in this paper and take account of the changing Community responsibilities resulting from the Treaty on European Union agreed upon in Maastricht. It should thus review the basic economic rationale, effectiveness, efficiency and impact on the intergenerational equity of each instrument. Some broad directions are indicated in which one could go, in an effort to rationalize the existing instruments. One of the proposed directions is to entrust the European Investment Bank with all the operational tasks related to loan instruments. However, this presupposes that modalities can be found to permit the European Commission and the Council of the European Union to retain sufficient influence over the instruments as they should assure that Community policy objectives are fully attained.

1. Introduction

With the development of Community policies in different areas, instruments have evolved to attain the changing policy objectives. This contribution appraises the role of loan, and loan-related, instruments such as interest subsidies and guarantees at Community level. At present a number of loan (-related) instruments exist. They have been created to attain the objectives of the European Coal and Steel Community (ECSC), the European Atomic Energy Community (EAEC or Euratom) and the European Economic Community (EEC). Within the realms of each treaty a number of different policies developed. The extent to which loan (-related) instruments are used in a specific area would depend on their suitability as compared to possible alternatives.

In practice, political and other considerations interfere with considerations relating, amongst others, to effectiveness and efficiency. It appears that specific loan (-related) instruments often developed against the background of a specific set of historical conditions. This has led to a situation characterized by quite a number of instruments sometimes entailing overlaps. In view of this and the changing Community responsibilities entailed by the completion of economic and monetary union (including completion of the internal market) and European political union, it would seem to make sense to stand back and 'rethink' the role of the loan (-related) instruments. Some rationalization may be called for.

The purpose of this paper is to develop the economic analysis relevant for these instruments. This will produce some insights as to the type of objectives and situations in which they may play a useful role. As such it is an economic contribution to this rethinking process. The question of whether, and/or to what extent, loan (-related) instruments might be used in any particular policy area cannot be answered as some particular instruments rather than a specific policy are considered. This depends on the objectives (ambitions) the Community has in the specific policy areas, alternative instruments available, etc.

Typically, governments intervene in market economies to promote: (i) an efficient allocation of resources when the market fails to obtain these objectives fully; (ii) an equitable income distribution; and (iii) overall stability in the economy. In practice, policy measures motivated by one of these objectives are bound to have implications for the other objectives as well (for example, policies aimed at an equitable income distribution might well have implications for resource allocation and vice versa). Nevertheless, the distinction is conceptually important as it throws some light on the primary objective to be attained by the policy instruments.

For a discussion of the use of loan (-related) instruments in the context of the third traditional government role, namely that of macroeconomic stabilization, the reader is referred to another contribution elsewhere in this volume.[1] Likewise, the issues concerning the use of loans as a foreign policy instrument fall outside the scope of this paper.[2] The paper confines itself to assessing the scope for loan instruments in the fields of allocation and (re)distribution.

The paper starts by developing the main theoretical analysis relevant to loan (-related) instruments (section 2). First, the scope for loan instruments in the context of public intervention is examined. Next, the design of policy instruments in view of their effectiveness, efficiency and equity is considered. Finally, the role of loan (-related) instruments at Community level is appraised against the background of the developed analysis. In this context it is also considered whether economic and monetary union (EMU) affects the need for, and usefulness of, loan instruments. Subsequently (section 3), the present existing instruments are presented, followed by a brief appraisal. Finally, some pointers are given as to how these instruments could (should) be reorganized. Section 4 summarizes the main points.

2. Theoretical analysis

This section first reviews the basic economic rationale for governments to intervene in market economies. Section 2.1 considers, in this light, the possible role of loan (-related) instruments. Section 2.2 draws attention to the effectiveness, efficiency and intergenerational equity aspects of loans, guarantees and interest subsidies. In the final section the analysis is applied to Community level.

1 See Papaspyrou (this volume).
2 See Lelakis (this volume) and Teutemann (this volume).

2.1. Public intervention and the scope for loan (-related) instruments

First, one needs to concentrate on the circumstances in which loan and loan-related instruments are warranted in the pursuit of public policies. Loan (-related) instruments have a natural role in the case where there is a divergence in time (periodicity problem) between outlay and revenue. An example would be an important investment project in which high initial fixed costs are incurred, but the returns are spread out over a number of years ahead. The expected future returns should cover the debt-service incurred by the loan finance. Commercial banks would, normally, be willing to provide loans given a clear expectation that the principal and the interests will be serviced regularly. A clear identifiable return will strengthen their conviction that the borrower will be able to do so. Thus, in principle, the market would provide for the required loan finance.

What would then be the reason for public authorities to intervene in this process? The basic reason would be that the market only takes account of the expected financial returns on the project and fails to take account of other 'wider' or 'external' returns which have an impact on the extent to which social (or public) welfare is attained.[3] The market, if left to itself, will therefore produce an outcome that is either too small (in the case of external benefits) or too big (in the case of external costs) from the point of view of society as a whole. In these circumstances, government may consider intervening. If these wider or external returns cannot properly be accounted for in the market because it is not clear to whom they belong (i.e. property rights do not exist), governments could endeavour to repair the market failure by introducing property rights. If this works, the government's intervention could stop here.

In some cases, however, it might be problematic to do so. Public goods, involving external consumption effects on more than one individual (defence, lighthouses, etc.), are the example *par excellence*; property rights cannot be introduced for technical reasons.

3 Public authorities are supposed to be aware of public preferences and the public (social) welfare function according to which they shape their policies. The public welfare function derives from political, moral or ethical considerations pertaining to society as a whole.

In other cases external consumption may, in principle, be excluded on technical grounds. However, it may, from a political viewpoint, not be acceptable because people risk being denied consumption on financial grounds. This would be the case for basic infrastructure such as roads and health care. Property rights cannot fully be introduced for political reasons or are considered to belong, at least in part, to society as a whole, leading to political decisions rather than market decisions. If this is true, one speaks of semi-public or club goods.[1]

In yet other circumstances, property rights can only partially be introduced due to technical reasons or their introduction, although technically feasible, may be very difficult. It may, for example, be very difficult to totally prevent others from using knowledge resulting from research, or the setting-up of an auction for pollution permits to industries may be too complicated. In the first case, one fails to account fully for externalities entailing benefits (external economies), whereas in the second case this is true for external costs (external diseconomies). In all these cases, governments may interfere with investment decisions for allocational reasons.

Another case for intervention may arise when the market fails to provide loans in the required form (for example, loans with a maturity of 50 years). If this were the case, the financial market could be said to be incomplete. Finally, governments intervene sometimes, even though markets work 'perfectly', in individual consumption and sometimes in investment decisions, as they consider that otherwise the consumer might harm his/her own interests ('merit' goods).[2]

In summary, whenever externalities are involved and/or financial markets are incomplete, public intervention may be warranted to internalize associated externalities to a project and/or to complete the market. Governments may also interfere because of merit goods.

Public intervention aimed at guiding investment may take different forms.[3] Broadly speaking, the instruments divide into two categories. In a first category would fall those instruments that do not primarily operate via the price mechanism, such as regulation and moral persuasion. In a second category would fall the instruments that aim specifically to alter relative prices to the (potential) investor such as public intervention aimed at reducing the (marginal) costs facing the investor in case of positive externalities by transferring resources directly by budgetary expenditure or more indirectly through tax expenditure.[4] A full discussion of these, and possibly other, alternatives falls, however, beyond the scope of this paper which is confined to the discussion of loan and loan-related instruments such as guarantees and interest subsidies. The paper will now concentrate on the latter.

In order to induce the investor to increase his investment so that positive externalities materialize, public authorities might lower the effective costs of loans to the investor by:

(i) reducing the effective interest payments for the borrower by paying part of them directly to the lender or the borrower (interest subsidy);

(ii) guaranteeing (in part) the repayment of the loan plus interest payments to the lender (the government's credit rating is assumed to be higher than that of the borrower);[5]

(iii) combining both (i) and (ii);

(iv) related to (iii), replacing the banker by borrowing on the market themselves (taking advantage of their credit rating), and passing on the funds with a mark-up to the borrower. Depending on the extent to which they differentiate between different borrowers, they pass on the advantage of their superior credit rating to them. Depending on the mark-up applied, it provides an implicit interest subsidy.

In some cases the market might fail to spontaneously provide finance at all, or might fail to do so in the required form (i.e. an incomplete financial market). If the project is considered to entail positive returns, public intervention may seek to make loans available by:

(i) (partly) guaranteeing the repayment of principal and interest to a lender who would, on those terms, be willing to provide the loan;

(ii) as in (iv) above, making loans available on its own account.

[1] Whether it is politically feasible to exclude people on financial grounds depends on the public welfare function. It may be considered 'fair' that minimum levels of basic infrastructure be accessible to everyone, regardless of income. The first-best solution, however, would be to introduce a properly working redistribution system.

[2] In some countries interest payments on mortgage loans are tax deductible; this amounts to an implicit interest subsidy.

[3] An extreme form of guiding investment arises in the case where a government acts as a producer itself (typical for public goods).

[4] In the Netherlands, for example, there used to be a scheme granting tax breaks for investment in specific regions ('Wet op de Investeringsrekening').

[5] To the extent that the government might charge a fee for this guarantee the implicit subsidy to the borrower might be lowered.

The foregoing analysis relates to the possible use of loan (-related) instruments in government policies to allocate resources in a welfare-maximizing manner.[1]

A second traditional field of government intervention relates to (re)distribution. The reason governments intervene here is that the income distribution resulting from the operation of market forces is inappropriate from a social welfare point of view.[2] It may, for example, be considered necessary or equitable to provide (minimum) protection to people not able to earn sufficient income. Equally, it might make sense to enable people to invest in the country's future by improving their qualifications or taking care of the production of future generations instead of performing work that generates an immediate income. Economic theory suggests that a 'first-best' solution to this problem would be interpersonal redistribution by way of general purchasing power transfers, which would normally operate through the tax system and grants. However, in practice the degree of solidarity required for this may be difficult to organize in some cases. A 'second-best' solution could then be to organize solidarity for equal opportunities rather than results. This would then, again, ideally take the form of general purchasing power transfers. However, as the beneficiaries' preferences might diverge from those held by the public authorities, there may be strong arguments in favour of attaching strings to the transfers to ensure that the transfer has an optimal impact from an allocative point of view and would remedy the causes of the observed inequity (a 'third-best' solution).[3] Going one step further, it might not even be feasible 'politically' to give money away. In this context, loan (-related) instruments can be conceived as being a 'fourth-best' instrument as they are in effect a very specific disguised conditional transfer. As discussed later, they should, if inspired by redistribution considerations, be financed predominantly out of taxes rather than borrowings for reasons of intergenerational equity.

[1] For an extensive account of the economic rationale for public intervention in market economies, with particular reference to resource allocation, the reader is referred to the contribution of Costello (this volume, 1993b).

[2] Basically, redistribution in a community of self-interested individuals might be explained by: (i) a mechanism in which politicians can win votes by promising the poorest 51% of voters redistribution of income to them from the richest 49% of voters, (ii) redistribution as an insurance model, and (iii) the interdependent utility model where altruism and benevolence on the part of rich people towards the poor is built into individual utilities (Millward, 1983).

[3] Costello (this volume, 1993a) mentions in this context the possibility of investment grants in order to remove the structural constraints which at least partly account for the observed inequity. By the same token, it would seem that more specific forms of conditional grants which are often involved in loan-related instruments might enter the game.

In conclusion, public loan (-related) instruments are, regarding their rationale, potentially valid in the context of allocation policies, although one should keep in mind that other instruments exist which may, depending on the situation, constitute superior alternatives. Regarding (re)distribution, one can say that loans, guarantees and interest subsidies are, at best, imperfect instruments whose use can only be justified as a fourth-best solution.

Thus far, we did not take account explicitly of the possibility of multilevel government. In reality, however, many different levels of government exist already within a country. In the Community context another level of government exists on top of that.[4] It thus becomes important to consider the level at which the rationale for government intervention exists. Externalities may only be confined to a certain group and/or geographical unit (for example, a lighthouse in Athens is a local public good rather than a European public good). In general, the greater the units, i.e. the higher the level of government involved, the less likely it is that government intervention is warranted. This holds *a fortiori* for the specific instruments that are the subject of this analysis. Clearly, in the context of multilevel government, the issue of the level at which problems should be dealt with becomes important (the principle of subsidiarity).

2.2. Effectiveness, efficiency and equity aspects of public loan (-related) instruments

The conclusion, based on a theoretical analysis, that public intervention (by loans, guarantees and interest subsidies) might improve overall welfare is a necessary, but not sufficient, condition for this intervention to be justified. The next condition is that the design of the intervention is such that it can be expected to be effective, efficient and equitable.

A first issue relating to effectiveness bears on the quality of the information available to public authorities. They should have sufficient information regarding the society's welfare function.[5] Failing this, their judgement to intervene is likely to be misguided, and the likelihood that public welfare increases is questionable. Another important consideration, especially pertinent in the case of (implicit) transfers of

[4] Walsh (this volume) discusses the problems resulting from the different levels of government.

[5] In a second-best situation lower levels of government can be assumed to have better information over voters' preferences and are therefore in a better position to know the public welfare function and to act accordingly.

resources, is whether the beneficiary has scope and/or is likely to reduce its own effort, i.e. whether the additional character of the loan is ensured. To the degree that the additional character cannot be ensured, cases might arise in which the effectiveness is reduced.[1]

Interest subsidies and guarantees are by their very nature conditional upon an effort by the beneficiary who has to take on the loan finance himself. In the case of the government extending a loan itself, it could limit its contribution to X% of the total costs involved. So, on the project level, it should be possible to ensure the additional character of the loan. However, it might be more difficult to do so on a higher level as the scope for shifting resources increases.

From the point of view of efficiency one would require that the objective be attained against the lowest possible costs. The immediate financial implications relate to the resources which need to be found to finance the intervention, leading to taxes, etc. to be paid by citizens. Secondary costs arise from the administrative costs involved. Further costs are involved with the normally distortionary side-effects of intervention (confer competition effects, rent-seeking).

To reduce the immediate budgetary costs, the instruments employed should be as targeted as possible. This means, in the context of loan (-related) instruments, that they should (ideally) primarily act upon the marginal costs faced by the investor rather than upon the average costs. However, loan (-related) instruments typically reduce the average cost of finance. Therefore, it would seem that the idea of lowering marginal costs can only be approached by carefully targeting the instruments on the additional investment entailing the expected externalities, which means that the instruments apply only to part of the financial package. A further question that is important here is whether the required finance is paid for by higher taxes or is contracted on the capital market. This issue, which involves equity considerations, will be returned to shortly. The administrative costs involved relate notably to the salaries of the people involved in administering the instruments. In this context it is important to take account not only of present but also of future costs, which might result from inertia.[2] These costs should, ideally, also be accounted for whenever one makes a decision based upon a cost-benefit analysis. In practice, however, this is often not the case. Finally, the government's interference with the market system might entail costs for operators in the market such as those involved with unfair competition. How do loan (-related) instruments compare in this respect?

It has already been noted that it might be difficult to target loans, interest subsidies and guarantees to marginal costs. Apart from this consideration the immediate budgetary costs involved in all these instruments are primarily a function of the way in which the budget accounts for them. Interest subsidies necessarily lead to budgetary outlays that can be identified precisely. The immediate costs involved with guarantees depend on the extent to which provisions against the risk are made (this gives rise to immediate costs in the form of budgetary appropriations). In the long term the actual costs involved with guarantees ultimately depend on the extent to which they are effectively called upon and to the extent to which a fee is charged for this guarantee. For loans the costs depend on whether they are financed by budgetary resources or by borrowings. If loans are financed by borrowings, they will lead to budgetary outlays in the future in so far as repaid principal and interest payments fail to cover the cost faced by the borrower, i.e. the one who extends the loan.

The administrative costs are likely to be lowest in the case of guarantees. If they are linked to a fee system, administrative costs might increase. Interest subsidies entail higher costs as they have to be paid out. In this respect it would seem that these costs can be lowered by paying them out in capitalized form (i.e. on an actualized basis). Clearly, if a government extends loans itself, administrative costs are quite important especially when the loans are to be financed by the proceeds of borrowing operations. The argument evoked above that, due to inertia, administrative costs may, in the long run, turn out to be considerable becomes all the more important if the instruments employed become more complex, leading to the creation of special departments and/or (autonomous) bodies. Furthermore, unclear procedures increase the risk of inefficient rent-seeking activities.

As to the distortion costs resulting from interference with the market, it is clear that the way in which the instrument is administered is important. Interest subsidies, provided that appropriate conditions are attached to them, need not distort competition either between borrowers or between lenders. Guarantees to loans might distort competition between lenders in so far as no competitive bidding (giving rise to fees) between potential lenders exists. A guarantee benefits a bank as it can expand its loan portfolio without incurring the same degree of risk as to other loans. The degree of this

[1] The issue of additionality becomes important if the beneficiary's preferences (for example, lower levels of government) differ from those of the public authorities undertaking the intervention.

[2] In practice, departments set up to administer specific instruments often continue to do so even though the need for these instruments has fallen away. In this specific context (loan instruments) one should guard against any development which might lead public banks to develop a live-to-lend culture and so to compete with commercial banks (unfair competition), rather than concentrating on their specific original tasks. This is clearly an area where principal-agent problems exist and where agency theories could produce some useful insights (see Millward, 1983, Chapter 5).

benefit differs in line with the risk coverage which could lie anywhere between 0 and 100%. To eliminate distortion between lenders one should therefore auction this guarantee between banks; this would give rise to fees if the risk coverage is so high that more than one bank is interested. If the government itself (or related institutions) enters the market to extend loans it does not distort competition in so far as banks do not offer comparable (as to maturity, grace period, etc.) loans (incomplete markets). Where it offers comparable loans it distorts competition if it does not subject its own loans to the same criteria set out above in relation to subsidies and guarantees.[1] The litmus test could be that as soon as one bank, if it enjoyed the same conditions as the government lending authority, is willing to extend the loan, competition could be taken to be distorted. The problem is that there is practically no way of knowing this. In summary, even if the government extends loans for reasons other than to mend incomplete financial markets, theoretically it need not distort competition provided it subjects its activities to precise restrictions. In practice, however, it might be very difficult to ensure that it respects these restrictions. Distortion costs are, therefore, likely to be more important than if it limits itself to extending interest subsidies and/or guarantees.

And so to the question of the importance of the way in which the government finances its interventions. Broadly speaking, the government can raise taxes and levies to finance its outlays or it can borrow the funds it needs. The issue is important because it touches upon intergenerational equity. Taxes and levies place the burden on present taxpayers, but borrowing places the burden on future ones. Depending on the degree of intergenerational solidarity felt by present taxpayers, they might attempt to shift actual and potential burdens to future generations. Politicians might be instrumental in doing this (this will be discussed). They might bank on the taxpayers' feelings in order to escape the budget constraint. From the point of view of intergenerational equity, a minimum condition would seem to be that future taxpayers should only contribute in line with expected future benefits.

The line of conduct following from this is that public authorities should ideally engage in borrowing for capital spending in such a way that the loans thus contracted should be paid off over their life span so that the proportion of the total interest and repayment costs due in any one year equals the proportion of the project's total benefits in that year.[2] Interest subsidies (implicit and explicit) should ideally also be paid in line with expected benefits. Guarantees constitute a problem in this regard because they can not be spread out. However, in a second-best situation other arguments relating to budget management (discipline), and political and institutional relations could also be involved here. Whilst space precludes further exploration of these issues, they are important to keep in mind. Where there are no clear future benefits to be expected (this might be the case when the instruments are used in the context of (re)distribution policies) the corollary from this argument is that any loans and interest subsidies should be paid out of (present) tax revenue. Provisions for effective calls upon guarantees need also to be made.

In practice, one might well find situations in which, following from the analysis developed above, the creation and/or the continued existence of loan (-related) instruments might be difficult to justify in the light of economic rationale, effectiveness, efficiency, etc. Public choice theory, which lays emphasis on how decisions are taken in the real world, may provide some important insights. Politicians may, in practice, have an interest in being seen to deploy great efforts to further specific causes. This may contribute to their stature in the eyes of voters who ultimately reward them in the form of re-election and/or more responsibilities. These efforts often take the form of transferring money for the benefit of this or that cause because it has the advantage of being highly visible and easy to understand for the voters. The same politician does not, however, want to be seen as the cause of rising taxes. In this case, loan (-related) instruments come in handy as they often do not, or only to a limited extent, give rise to immediate budgetary outlays. Loans may often be financed out of borrowings under existing accounting systems that do not discriminate between loans that generate future benefits to society or loans which are merely disguised transfers (see the discussion above about intergenerational equity). So, in effect, the politician can offer his/her voters a 'free lunch' which may be hard for them to decline. For this mechanism to work, voters should be under a double illusion. First, on the expenditure side, they should perceive loans as being more or less the same as grants, rather than accounting for the actual implicit subsidy element (see Box 1). Failing this, the politician does not fully attain his/her aim. Second, on the revenue side, voters should not think of loans as increasing future tax liabilities lest they may oppose them. However, as indicated above, the scope for introducing hidden subsidies is rather large in loan instruments, ensuring that in practice the average voter will hardly notice. Once such loan instruments have been created to suit a particular political objective, special departments/entities are set up with the task of administering the instruments (earlier referred to in relation to

[1] If the government extends a loan, it offers in fact a full guarantee to itself. In order not to distort competition, it should pay itself a fee such that it does not overcompensate itself for the risk taken. Likewise, in order not to distort competition its lending rates should fully reflect the externalities involved (if not, it confers an (implicit) interest rate upon itself, i.e. interest rates are too high).

[2] See on this argument King (1984, Chapter 8) and Millward (1983, Chapter 2).

administrative inertia). As their very *raison d'être* is linked to these instruments, they will have an interest in developing them, as this will give them higher status and so forth. They will typically continue to administer these instruments and, if necessary, develop ingenious justifications, even though the original reasons are no longer valid.

To recap, it can be said that even when public intervention might be justified on economic grounds, it should be made clear that it is reasonable to assume that the instruments, the management structure envisaged as well as the administration level involved (subsidiarity) do indeed deliver the required results against the lowest possible cost whereas at the same time respecting intergenerational equity.

The loan (-related) instruments have been judged on effectiveness and efficiency characteristics. As to effectiveness, it was concluded that all these instruments can be tailored so as to ensure additionality at project level. As to efficiency, problems might arise relating to targeting, and administrative and distortion costs. The budgetary costs of interest subsidies can be identified easier than those associated with guarantees and loans. The interest subsidy and guarantee instrument score best in respect of administrative and distortion costs. As to intergenerational equity, government guarantees can constitute problems. The interest subsidy instrument can therefore be considered the most optimal or the lesser evil on all accounts.

Box 1: Calculating the subsidy element in loans

Loan of ECU 1 000 million (grace period of five years)

Year	Principal	Interest payments	
		10%	9%
t = 0	− 1 000		
t = 1		100	90
t = 2		100	90
t = 3		100	90
t = 4		100	90
t = 5		100	90
t = 6	+ 100	100	90
t = 7	+ 100	90	81
t = 8	+ 100	80	72
t = 9	+ 100	70	63
t = 10	+ 100	60	54
t = 11	+ 100	50	45
t = 12	+ 100	40	36
t = 13	+ 100	30	27
t = 14	+ 100	20	18
t = 15	+ 100	10	9
	0	1 050	945

At t = 0 a loan of ECU 1 billion is disbursed. The loan has a maturity of 15 years and a grace period of five years. Total interest payments have been calculated under the hypothesis of repayments in equal amounts (other formulas exist) for an interest rate of 10% and 9%. The 10% reflects market conditions and would therefore be the rate without government intervention. Now, suppose the government intervenes by extending an explicit interest subsidy of 1% or by extending a guarantee (implicit interest subsidy) to the lender in such a way that the actual interest rate facing the borrower is brought down to 9%. The difference in interest payments is 1 050 − 945 = ECU 105 million and this therefore is the effective subsidy element in this loan. In general, the subsidy depends on the maturity, the grace period and the repayment structure of the loan. Note that from a borrower's point of view it is of no interest how this reduced rate comes about (via explicit subsidies, via a guarantee or via the government extending the loan itself).

This example serves to draw attention to the fact that only a fraction of the nominal amount of a loan can actually be considered as a subsidy. This is important to keep in mind when judging the loan instrument in the context of (re)distribution policies.

Finally, a proper decision on intervention and the instruments to be used requires a clear insight into all the aspects (effectiveness, efficiency, equity) discussed above. That this cannot be taken for granted is shown by the public choice theory that draws our attention to real life mechanisms that may try to obscure the process of decision-making.

2.3. What is the role for loan (-related) instruments at Community level?

This section applies the analysis developed to the Community context. In so doing the extra level of government involved must be accounted for. Although a number of issues would arise equally with the introduction of a supplementary layer of government within a State, one has to allow for some specificities resulting from the very character of the Community as it stands — a still heterogeneous group of countries and peoples marked by different cultures, languages, etc. The question as to what the 'European Community public welfare function' looks like, according to which the Community shapes its policies, becomes fundamental.

In considering the role for loan instruments at EC level, one can apply the general analysis developed in the preceding paragraphs. The first conclusion was that, at a theoretical level, the case for loan and loan-related instruments arises when there is a periodicity problem. Secondly, for governments to intervene, there have to be good reasons related to market failures (externalities, incomplete financial markets). This second condition, applied at EC level, means that the reasons for intervention should be derived from an (implicit) European public welfare function. This means that externalities should display truly European dimensions.

So, the possible economic justification for the Community to interfere with resource allocation would be the existence of cross-border and Community-wide externalities.[1] The discriminatory value of this criterion might in practice appear to be too low as many projects can be said to exhibit to some extent Community externalities, if it were only for the environmental impact of nearly every activity. Therefore, in practice, a political decision, taking account of effectiveness and efficiency considerations as to the importance of the required externality, is required. The Community contribution would ideally vary in line with the expected externality. If the Community were to limit itself to important externalities, the scope for loan instruments at Community level on allocational grounds would appear to be rather limited. The greatest role may lie in the provision of specific types of pan-Community infrastructure (for example, trans-European networks). One could think of projects like the Channel tunnel. Other candidates could be projects aimed at securing the Community's energy supply (for example, gas pipelines to the Community from Algeria, the former Soviet Union, Norway). Indeed, these are typically the type of projects which EIB financing has contributed to. A number of other cases might be identified in, for example, the environmental and research and development (R&D) areas.[2] As to the argument centring around incomplete financial markets, it would seem that at European level this argument is also less important than at national level.

It may now be interesting to review what the likely impact of EMU (including the completion of the internal market) will be on the possible reasons for the Community to intervene. Both will have the effect of reinforcing economic interdependence which means that in general the Community content of externalities increases.[3] This would, where actual criteria are not changed, tend to increase the number of cases for which intervention could be called upon. However, other developments might reduce the case for intervention. Nominal interest rates on assets of the same maturity and risk can be expected to equalize.[4] The equalization will result because: (i) exchange-risk premiums fall away, and (ii) capital and financial market integration will increase as a result of reducing present existing inefficiencies which may account for higher than average interest rates in some markets. Financial markets will, of course, continue to discriminate among borrowers according to their perceived credit-

1 Most of the expenditure at regional level cannot be considered to produce the externalities required. Walsh (this volume) argues in this context: 'Where public goods provide more localized or regionalized benefits, the standard presumption is that they are more appropriately provided at local or regional level (usually at least in part on grounds that preferences will be better revealed when decisions are made closer to people). This remains true even where benefits may, to an extent, spill out to other jurisdictions as, for example, would be the case for the provision of regional roads that would be used by members of other jurisdictions, etc.'. The issue of public and semi-public goods will not be specifically addressed as these can be considered to be special cases in which externalities are involved. As to 'merit' goods, no obvious candidates exist at EC level.

2 Costello (this volume, 1993b) reviews all the areas (R&D, environment, infrastructure, energy, education) in which significant externalities might arise. His conclusion is that there does not appear to be an overwhelming case for other than modest increases in EC spending. This conclusion would seem to hold *a fortiori* for Community loan (-related) instruments.

3 An implication of EMU might be that the overall economic performance of the Community relative to the outside world (which feeds through the common exchange rate) becomes more important to all Community citizens.

4 An extensive account on how EMU might impinge on interest rates is given in Commission of the European Communities (1990c, Chapter 5, paragraph 5.2.2).

worthiness. Assuming that the Eurofed broadly maintains the same stance as the most stability-oriented central banks of the Community, there is a real chance that average market (nominal) interest rates in the Community would come down to the baseline level in the previous anchor country as inflation-risk premiums diminish.[1] If so, there will be an equalization at the lowest level. In short, the costs of capital can be expected to come down especially to the benefit of those regions where the balance between supply and demand is less favourable now.[2] This means that the size of investments will increase because the marginal profitability increases as, *ceteris paribus*, finance costs come down. The conclusion of the foregoing analysis is that to the extent that (Community) loan operations, until now intended to make finance available at more favourable terms on allocational grounds, were considered necessary, on balance the need for such action can be expected to lessen. We are thus confronted with two opposing forces which work in different directions. We cannot therefore say whether *a priori* the case for intervention via loan (-related) instruments at Community level will increase or decrease.

As regards the incomplete financial market argument, it would seem that this will become less valid, thus reducing the scope for Community intervention.

A potentially wider scope for Community loan (-related) instruments arises from distribution considerations. As demonstrated in the general analysis regarding redistribution, the extent to which the Community might want to redistribute income and from whom to whom depends on the European Community public welfare function.[3] Depending on what is feasible, loan (-related) instruments enter the picture as suboptimal solutions from the point of view of redistribution policies. The scope for them will be higher if, in the background, allocation objectives play a role in the context of which they can constitute one means of conditional income 'transfers' aimed at contributing to strengthening the economic structure of the benefiting regions.

The question of how EMU will reduce or increase disparities between Member States or regions is a very sensitive one. Santos (in this volume) identifies the main issues involved here. It would seem that there are no *a priori* reasons to expect peripheral regions to suffer from EMU in the long term. As politicians have specific interests to defend, they may adopt a point of view, based on political rather than analytical considerations, as to the expected results to justify demands for more (re)distribution (cohesion) or, the other way round, to oppose them.

3. Theory and practice

In passing from theory to practice, one should not be surprised that actual decisions may sometimes be hard to defend from a first-best theoretical point of view. Typically, one would have to allow for second-best considerations: lack of information, information asymmetries, political interests, personal ambitions. This would seem to be particularly relevant in the Community context where the complexity of the decision-making process and the sometimes widely diverging interests between the actors concerned (principally Member States) may obscure some of the issues at stake and lead to decisions that are sometimes difficult to understand. Insights from public choice theory can help to explain the decisions taken. This analysis will now turn to the Community and identify the main loan (-related) instruments that were developed in this context. The instruments will be globally appraised against the background of the theoretical framework. A specific appraisal of each instrument cannot be given as it would require an in-depth analysis of the specific policy area, the Community ambitions in that area and possible alternatives available. After reviewing the existing instruments, some possible directions are given as to how they could be reorganized in the future so as to overcome the present fragmentation.

3.1. The existing instruments and their appraisal

Over the years, different Community loan (-related) instruments have developed for investment-guiding purposes.

The ECSC Treaty (1951) contains the possibility of loans aimed at restructuring and reconversion (Articles 49, 54 and 56). As a counterpart to this, the ECSC Treaty also foresaw the possibility to borrow funds on the capital markets (Article 51).

The EAEC (Euratom) Treaty (1958) also contains the possibility of lending and borrowing operations (Article 172).

Finally, the EEC Treaty (1958) refers to the creation of a European Investment Bank (EIB) (Article 129), with the

1 This assumption was already made in *European Economy* No 44.

2 Depending on assumptions about the working of the economy (trickle-down versus centre-periphery effects), one can also allege that scarcity of capital might increase in specific regions. A full account of the issues involved here is given by Santos' contribution on the spatial implications of EMU in this volume.

3 One of the important factors here is the sense of common citizenship felt by Europeans. This will determine their feelings of solidarity towards each other.

task of providing finance to investment projects beneficial to the Community (Article 130).[1] The EEC Treaty does not contain an explicit capability to lend and/or borrow funds. However, Articles 108 and 235 of the EEC Treaty have been invoked as the legal bases for Council decisions enabling the Community to borrow funds on the capital markets for onlending. In the case of Article 108 EEC, it was for Community loans to Member States experiencing balance of payments crises. Article 235 was the legal basis for the different decisions relating to the so-called New Community Instrument (NCI).

These different instruments will be examined in more detail below.

(i) ECSC loans, guarantees and interest subsidies

Articles 49, 51, 54 and 56 of the ECSC Treaty govern the borrowing and lending operations in which the Commission can engage to attain the Treaty objectives. Under these provisions the Commission can contract borrowings which can be used exclusively to extend loans (Article 51(1)). A second guiding principle is that the Commission shall not itself engage in the banking operations which its financial tasks entail (thus the Commission cannot extend loans itself). Finally, the Commission can guarantee loans extended directly to enterprises by third parties (banks).

Loans and guarantees can be extended to:[2]

(a) contribute to investment in the coal and steel industry (Article 54(1)); for example, investments to modernize equipment and thus productivity;

(b) contribute to improving market outlets (Article 54(2)); for example, to help finance investment upstream and downstream of the actual plants, such as port facilities for unloading raw materials for use in the iron and steel industry. Projects that give rise to steel consumption (for example, railways, TGV) can benefit from loans;

(c) finance housing construction programmes for workers in the steel and coal industries (Article 54(2) has been invoked as the legal basis, although specific reference to housing construction is not made in this article);[3]

(d) contribute to reconversion (Article 56). It may help finance investment by firms (whose activities may or may not be directly related to coal and steel and covered by the Treaty) for the creation of new activities which productively re-employ redundant coal and steel workers.[4]

The abovementioned loans may attract an interest subsidy (paid out on a non-actualized basis, i.e. once or twice a year). From the beginning of its financial activity in 1954 and up until 31 December 1989, total loans extended amounted to ECU 15 862 million whereas guarantees amounted to ECU 75 million.

Finally, ECSC loans have also been extended to projects outside the Community. It is important to note that the ECSC Treaty is due to expire in the year 2002.

(ii) EAEC (Euratom) loans

Article 172 of the Euratom Treaty empowers Euratom to borrow on the capital markets to finance research and investment in nuclear energy. The EIB administers the loans. The Commission (DG XVIII) borrows the necessary funds on the capital market on behalf of the EAEC. Council Decision 77/270/EEC provides the legal basis for Euratom loans for the purposes of financing investment projects relating to the industrial production of electricity in nuclear power stations and to industrial fuel-cycle installations (contribution of up to 20% of project costs).

Successive implementing Decisions have lifted the ceiling to which loans can be given: 77/271/Euratom (ECU 500 million), 80/29/Euratom (ECU 1 000 million), 82/537/Euratom (ECU 2 000 million), 85/537/Euratom (ECU 3 000 million) and 90/212/Euratom (ECU 4 000 million).

Finally, Euratom loans have also been extended to projects outside the Community.

(iii) EEC/EIB loans and guarantees

The European Investment Bank (EIB) was created by the EEC Treaty (Article 129). It is an independent public banking institution which operates on a non-profit-making basis. The Member States are its shareholders. The Bank specializes in providing long-term finance. It contributes up to 50% of the project costs. At the end of 1992 total loans outstanding amounted to nearly ECU 84 000 million. Besides loans, the EIB can extend guarantees. However, the total

1 Article 130 was amended by the Single European Act, notably to include economic and social cohesion, the environment and R&D.

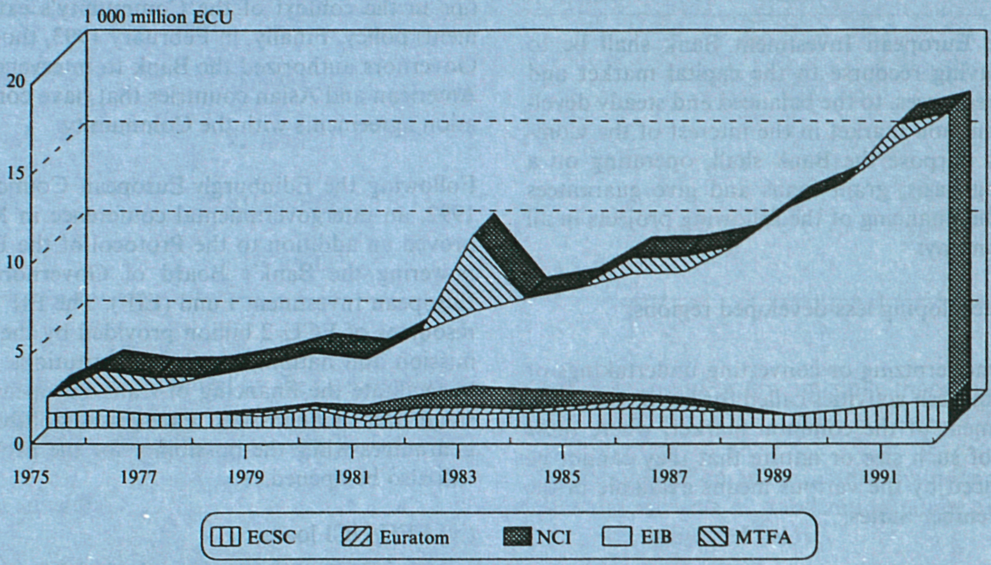
2 In the case of the loans referred to in Article 54, the Council must approve them unanimously.

3 For more information on this see Commission of the European Communities (1990a).

4 If the beneficiary project does not relate directly to the coal or steel sector, unanimous Council approval is required.

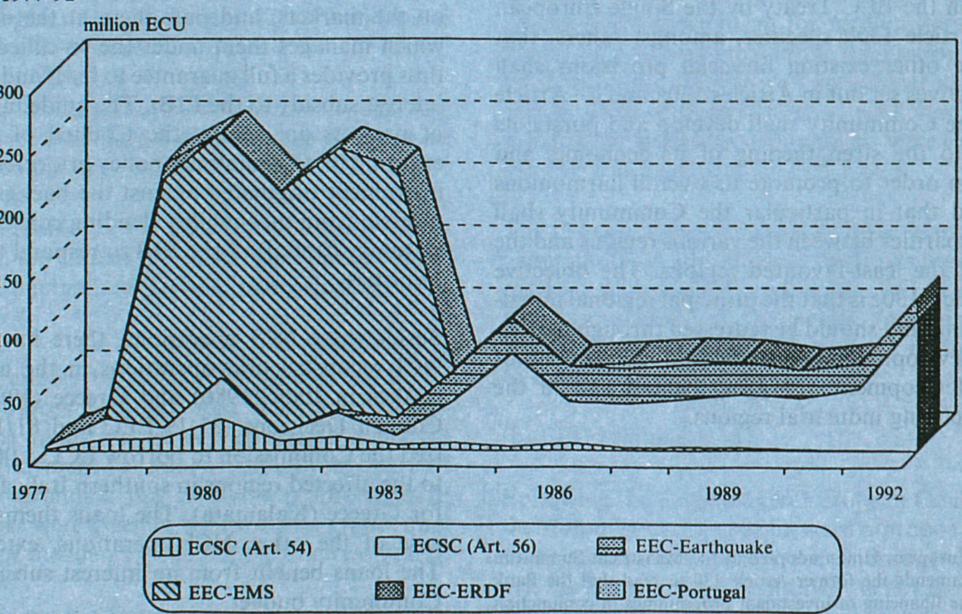
Box 2: Community loans and interest subsidies (within the Community)

Loans, 1975-92



The development of the Community loan activity (disbursed loans) can be seen from the chart above. The chart shows that overall Community loan activity has grown considerably over the last 27 years. EIB operations largely account for this. In 1992 it accounted for over 91% of all Community loan operations. The chart below gives an overview of the interest subsidies paid out. The different categories are described in the main text.

Interest subsidies, 1977-92



Source: Commission services.

amount of guarantees outstanding at end-1992 was ECU 391 million or less than 0,5% of its outstanding loans.

The EIB's task is set out in Article 130 of the EEC Treaty:[1]

'The task of the European Investment Bank shall be to contribute, by having recourse to the capital market and utilizing its own resources, to the balanced and steady development of the common market in the interest of the Community. For this purpose the Bank shall, operating on a non-profit-making basis, grant loans and give guarantees which facilitate the financing of the following projects in all sectors of the economy:

(a) projects for developing less-developed regions;

(b) projects for modernizing or converting undertakings or for developing fresh activities called for by the progressive establishment of the common market, where these projects are of such size or nature that they cannot be entirely financed by the various means available in the individual Member States;

(c) projects of common interest to several Member States which are of such a size or nature that they cannot be entirely financed by the various means available in the individual Member States.'

In 1987 the explicit objective of economic and social cohesion was introduced in the EEC Treaty by the Single European Act. The new Article 130b specifies, amongst others, that the EIB and the other existing financial provisions shall support the objectives set out in Articles 130a and c.[2] Article 130a says that the Community shall develop and pursue its actions leading to the strengthening of its economic and social cohesion in order to promote its overall harmonious development and that in particular the Community shall aim to reduce disparities between the various regions and the backwardness of the least-favoured regions. The objective comprised in Article 130c is that the principal regional imbalances in the Community should be redressed through participation in the development and structural adjustment of regions whose development is lagging behind and in the conversion of declining industrial regions.

The EIB also intervenes outside the Community in the African, Caribbean and Pacific countries and the overseas countries and territories (ACP and OCTs), the Mediterranean countries and, recently, in Central and Eastern Europe in the context of the Community's external (development) policy. Finally, in February 1993, the EIB's Board of Governors authorized the Bank to intervene in those Latin American and Asian countries that have concluded cooperation agreements with the Community.

Following the Edinburgh European Council in December 1992, an intergovernmental conference in March 1993 approved an addition to the Protocol of the EIB Statute empowering the Bank's Board of Governors to create the European Investment Fund (EIF). The EIF will have initial resources of ECU 2 billion provided by the EIB, the Commission and national financial institutions. Its aim will be to facilitate the financing of trans-European networks and small and medium-sized enterprises notably by extending guarantees while the possibility for the provision of equity will also be opened.

(iv) EEC/NCI loans

The New Community Instrument for borrowing and lending (NCI), or Ortoli facility, was set up by the Council Decision of 16 October 1978. Its main purpose was to help stimulate economic recovery by contributing to investment.

The Commission (DG XVIII) borrows the necessary funds on the markets, and puts them at the disposal of the EIB which manages them under the so-called special section (it thus provides a full guarantee to itself and extends an implicit interest subsidy to the EIB). The guidelines for the eligibility of projects are set by the Council of Ministers, thereby ensuring that Community policy priorities are respected. The instrument originated against the background of economic recession and the inability (lending constraints relating to its statutory capital) of the EIB to respond to new Community priorities.

Beside these NCI operations, there have been two special NCI reconstruction operations in the aftermath of earthquakes in Italy (1980) and Greece (1981). The respective Council Decisions (81/19/EEC and 81/1013/EEC) authorized the Commission to borrow ECU 1 000 million for loans to the affected regions in southern Italy and ECU 80 million for Greece (Kalamata). The loans themselves are, as is the case of the other NCI operations, extended by the EIB. The loans benefit from an interest subsidy paid out of the Community budget.

When in 1986, the same region in Greece (Kalamata) was hit again, the Council only decided on a 3% interest subsidy

[1] The Treaty on European Union adopted at the Maastricht Summit in December 1991 amends the former Article 130 to read that the Bank shall facilitate the financing of investment programmes in conjunction with assistance from the Structural Funds and other Community financial instruments (see Article 198e).

[2] In the Treaty on European Union, the reference to Article 130c is dropped.

New Community Instrument

	Council Decision	For investment in: Industry and agriculture	Infrastructure	Energy
NCI 1 ECU 1 000 million	78/870/EEC	X	X	X
NCI 2 ECU 1 000 million	82/169/EEC	X	X	X
NCI 3 ECU 3 000 million	83/200/EEC	X	X	X
NCI 4 ECU 750 million	87/870/EEC	X		

(thus no longer were funds borrowed by the Commission on behalf of the Community) to be given to EIB loans (on own resources) of up to ECU 100 million (Decision 88/561/EEC).

(v) EEC interest subsidies

Interest subsidies paid for by the EC budget (see Box 2) have in the past been paid to reduce the cost of:

(a) EIB and NCI loans for Italy and Ireland (to convince them to take part in the European Monetary System (EMS), so-called EMS subsidies are paid out on an actualized basis, i.e. at the same time as the disbursement of the loan; Regulations (EEC) Nos 1736/79 and 2790/82 and Decision 79/691/EEC);

(b) NCI and EIB earthquake reconstruction loans (see under (iv) above; the interest subsidies are paid out on a non-actualized basis);

(c) loans made available by the EIB in the context of regional policy in the United Kingdom (paid out of ERDF resources on an actualized basis; Commission Decision of 23 July 1979);

(d) loans made available by certain Portuguese banks on their own resources to small and medium-sized enterprises in the industrial or service sector aimed at increasing employment (although formally no part of the PEDIP programme, this action was linked to it; interest subsidies were given in the form of a grant equal to the interest of the loan for each of the first two years).

Furthermore, following the Copenhagen European Council in June 1993, the Commission has put forward a proposal to extend interest subsidies on EIB loans to small and medium-sized enterprises. These interest subsidies will be limited in time and/or amounts like those mentioned under (a) through to (d).

For the sake of completeness the main loan (-related) instruments in the area of stabilization policy and external policy are briefly indicated below.

(vi) Stabilization policy

(a) EEC/MTFA loans[1]

The first loans for balance of payments financing were introduced in 1975 (Regulation (EEC) No 379/75). In 1988 an integrated mechanism for medium-term financial assistance (MTFA) was created by Regulation (EEC) No 1969/88. The loans do not serve a specific structural purpose, but are tied to conditions of a macroeconomic nature. The most recent loans under these provisions were extended to Greece (91/136/EEC) and Italy (93/67/EEC).

The Commission itself extends these loans on behalf of the Community. It also borrows the funds needed on the capital market. Within the Commission, DG II is responsible for the formulation of proposals (containing conditions), whereas DG XVIII performs all the financial tasks related to these loans.

(b) EEC bridging loans

Following the Copenhagen European Council in June 1993, the Commission has put forward a proposal to extend loans to the member countries to pre-finance, and hence to accelerate, the implementation of investment projects scheduled for later years under the Structural Funds. The Commission

[1] See Papaspyrou (this volume).

would collect the financial resources by borrowing on the capital market. The repayment of this Community loan would be drawn from future Structural Fund appropriations in its budget.

The purpose of these bridging loans would be to provide for a short-term measure at Community level in the context of the promotion of economic growth, competitiveness and the fight against unemployment.

(vii) External policy[1]

(a) African, Caribbean and Pacific countries and the overseas countries and territories (ACP and OCTs)

The Member States, via the European Development Fund (EDF), fully guarantee the EIB operations on its own resources in the ACP countries and the OCTs. These loans may also benefit from interest subsidies paid out of the EDF. Besides operations on its own resources, the EIB also administers risk capital from EDF resources.

(b) Mediterranean

The EC budget partially guarantees the EIB's operations on its own resources.

A medium-term financial assistance loan has been provided to Algeria in 1991.

The Community provided special loans to Israel and Turkey in the context of aid to countries adversely affected by the Gulf War.

(c) Central and Eastern Europe and the former Soviet Union

- The Community and the EIB both participate (each for 1,5%) in the ECU 10 billion statutory capital of the EBRD.[2]
- The Community budget fully guarantees the EIB's operations on its own resources in Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia. In December 1992 the Commission tabled a proposal to extend this guarantee to Albania.
- The Community budget partially guarantees loans granted to Russia and other former Soviet republics by a banking syndicate to pay for the import of agricultural and food products and medical supplies from the Community and the Central and East European countries.
- EEC medium-term financial assistance loans (Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Romania and Slovakia).
- ECSC loans (Poland, Hungary, Czech Republic, Slovakia, Bulgaria and Romania).
- Euratom loans (Commission proposal under examination by the Council and Parliament since the beginning of 1993).

(d) Latin America and Asia

The EC budget fully guarantees the EIB's operations on its own resources in those countries that have concluded cooperation agreements with the Community.

Reviewing these instruments it emerges that in all cases loans play a major role. The resources needed to extend the loans are borrowed on the capital market.[3] In the case of ECSC, Euratom, EEC/NCI and EEC/MTFA loans (and EEC bridging loans) the Commission, on behalf of the different Communities, contracts the borrowings on the capital market.

The general budget of the Communities provides a guarantee (token entry) for these loans. The EIB operations on its own resources are in principle 'guaranteed' by its statutory capital. However, its operations outside the European Community benefit from an additional guarantee by the Member States or the Community budget.[4] No fees are charged for these guarantees.

Interest subsidies were envisaged, from the beginning, for ECSC loans only. Later, temporary interest subsidies were introduced on the basis of Article 235 of the EEC Treaty for specific EIB and NCI operations (notably for reconstruction in the aftermath of earthquakes).

1 See Article 130w(2) of the Treaty on European Union. It formally introduces a role for the EIB in the context of Community development cooperation policy.

2 See the Decision of the EIB's Board of Governors of 11 June 1990, OJ L 377/3, 31.12.1990.

3 However, the EIB can also extend loans out of its 'paid in' capital and the ECSC from its own resources (note that in the case of the EIB, operations on own resources refer also to loans financed out of borrowings).

4 Thus far, the Community budget guarantee for loans in third countries was provided for by a token entry. However, in view of their growing importance and following the Edinburgh European Council in December 1992, the Commission proposed to set up a guarantee fund that would cover the guarantees on these loans.

How can these different activities be interpreted with reference to allocational and distributional considerations? Accounting for over 90% of all Community loan activity, the focus will be on the EIB. Before that, however, the other instruments (ECSC, Euratom and the NCI) will be briefly discussed. As regards the ECSC it would appear that in this sector policy is primarily aimed at resource allocation, although it is difficult to see whether economic considerations (are there Community-wide externalities involved? Is steel a merit good? If not, why implicitly subsidize its consumption? What is the special merit of housing programmes for workers in these industries?) would justify this particular intervention. To the extent that the coal and steel industries pay for all this (implicit) expenditure the distributional implications are intra-industry. Euratom loans contribute to the financing of nuclear power stations and would therefore appear to be a sector intervention inspired by allocational considerations. What EC-wide positive effects stem from investment in nuclear energy? The reason invoked is that the Community's external dependence on other traditional energy sources is reduced. The New Community Instrument (NCI) was created to promote investment within the Community. The promotion of investment in general, within the Community, would appear to be an instrument in the context of stabilization policy rather than allocation policy. In fact, however, it is clear that this instrument can be considered much more as an allocational instrument as it was specifically geared to small and medium-sized enterprises (SMEs). Investment in SMEs can typically be expected to have a local or regional impact. It is therefore doubtful as to whether good economic reasons at EC level existed in the allocational field (Community-wide externalities) to justify the instrument from this point of view. The other NCI operations aimed at providing assistance for earthquake reconstruction can be clearly interpreted as being instruments in the context of (re)distribution policies. The explicit interest subsidies that were extended in the context of earthquake reconstruction (and the EMS) can be largely interpreted in the framework of redistribution although one could argue that a degree of Community allocational interest exists in assisting regions hit by natural disasters. Interest subsidies paid out in the context of regional policy and the special programme for Portugal can be understood as redistribution.

As can be seen in Box 2, the EIB accounts for the lion's share of all Community loan operations. From its task as described in Article 130 of the EEC Treaty and the subsequent amendments (Single Act) to this it becomes clear that the Bank's primary role is to be found within the context of redistribution. But first, what indications of an allocational role can be found? Reference to the allocational role is clearest in Article 130(c) as it talks of projects of common interest to several Member States. It is less clear in Article 130(b) which speaks of projects called for by the establishment of the common market. Furthermore, it is interesting to note that, with regard to these allocation-inspired objectives, a clear proviso is made in the sense that only to the extent that they cannot be entirely financed by the various means available in the individual Member States shall the EIB intervene. Therefore, the risk that the projects otherwise do not go ahead at all, or to a lesser extent, seems to be a clear precondition for the EIB to participate in financing for allocational purposes. This would seem to point to the case of incomplete financial markets. Since, along with the creation of the internal market and EMU, financial markets become more integrated and developed, one would expect that this latter condition is less and less likely to be fulfilled, implying that one would expect fewer and fewer projects that can be financed on allocational grounds.

Perhaps the clearest cases of projects to whose financing the EIB contributes and which entail Community-wide externalities are the projects that are physically outside the Community's territory. Examples are the contribution in financing gas pipelines to transport natural gas from Algeria, Russia and Norway to the Community, the production and exploitation of natural gas and oil in the North Sea, and satellites and international telephone cables linking the Community to the USA.[1] From 1958 to March 1991 the EIB has provided loans totalling ECU 1 082,85 million to 23 projects which fall into this category (some 1,3% of its total loans within the Community since 1958). Projects within the Community tend to be more in the interest of only a few Member States (common interest, Article 130(c)) rather than to entail Community-wide benefits. An example is the Channel tunnel which is clearly most in the interest of the United Kingdom and France. However, it could be argued that to some extent there is a Community interest as residents of other Member States might benefit from it too. The EIB might in that case participate in providing loan finance, if the projects otherwise risk not going ahead. The same may apply to other major infrastructure projects. In the environmental field, it is also possible to identify a number of projects which could be said to entail, to some extent, Community interests. Failing more precise criteria as to how high the 'Community content' of projects should be in order to justify participation in financing and the vague provision that it should only intervene to the extent that the projects cannot

[1] In the case of telecommunication networks provision it would seem that, in principle, this can be perfectly financed out of user charges as there is no scope for 'free' consumption. However, the risks associated might be rather high, in which case the financial market might not be willing to provide sufficient finance. The intervention is then effectively aimed at mending an incomplete financial market.

be entirely financed by the various means available in the individual Member States, the EIB is potentially unconstrained (apart from its capital) to intervene for allocational reasons.[1]

It has already been hinted that the Bank's primary role is to be found in the context of (re)distribution. Article 130(a) and the Single Act amendments, introducing the objective of economic and social cohesion, clearly point in this direction.[2] This redistribution is to take place in favour of regions lagging behind. Due to the uneven spread of these regions among the Member States, *de facto* redistribution is taking place among the Member States. In the case of redistribution, the Treaty does not envisage a financial clause. Apart from constraints resulting from its statutory capital, the EIB's scope for action is potentially large. As we have seen in our general analysis, loans and guarantees are not a first-best approach to redistribution issues. However, decision-making in the Community is severely constrained. Therefore, in practice, the scope for less than first-best instruments in the context of Community policies may be relatively high. In fact, the use of loan (-related) instruments is an attempt to maximize the allocational impact of transfers decided upon for political reasons. As the allocational impact is, however, not the prime motivation, the criteria from this point of view can be less rigid in the sense that the 'European content' of the externalities is not that important.[3] The redistribution element might not be obvious. The beneficiary perceives, however, an implicit interest subsidy. Citizens may not be aware of it but each time that capital is increased they pay, via their governments, part of this subsidy. The bigger part of the subsidies takes the form of increased liabilities or 'potential payments' rather than actual payments (i.e. everyone assumes part of the risks), which are normally not considered to lead to extra taxes in the future.[4]

To conclude, in some cases intervention could be largely explained by allocational considerations and in other cases by distributional considerations. The word 'largely' is deliberately used as usually allocational and distributional considerations can not be completely separated. To explain is not to justify. One would have to appraise each instrument carefully in terms of effectiveness, efficiency and the possible alternatives at hand in order to pass judgment on whether it was/is right to employ the instruments actually used and whether they are still needed.

3.2. How could existing instruments be reorganized?

In reviewing the different existing loan (-related) instruments in the last section, one may have been struck by the haphazard structure of intervention via loan (-related) instruments; sometimes quite specific instruments managed in a specific way exist, whereas in other comparable instances instruments are governed quite differently. The ECSC Treaty reserved the most far-reaching powers for the Community's executive (the Commission). The Community can borrow funds and make them available to the financial intermediaries it chooses for the financing (by way of loans) of specific investment projects. In addition to this, interest subsidies can be given. In the case of Euratom and the NCI, the Commission also borrows the funds but puts them at the disposal of the EIB which selects the projects itself, subject to approval by the Commission. These funds are managed by the EIB in the so-called special section and do not count under the EIB's lending restriction (gearing ratio: 2,5). In some specific cases interest subsidies are also possible on EIB and NCI loans.

In an attempt to explain this diversity it should be noted that these policies have developed over a number of years. Each instrument originated against a different background of specific economic, political and historic conditions. A structure that develops in such a way is likely to give rise to overlaps and/or different instruments aimed at resolving essentially similar problems. Both the EIB and the ECSC can provide finance for industrial reconversion. Investment in power stations may attract contributions on different terms from the EIB, the ECSC and Euratom according to different sources of energy input. Both the EIB and the NCI can contribute to providing advantageous loans for SMEs. Generally, there is a risk that these different arrangements may lead to isolated and obscured (unclear) decision-making processes with negative consequences for the coherence, effectiveness and efficiency of Community policies. A thorough rethinking of all these instruments, a regrouping and a possible sharpening of instruments with a view to the future seems therefore in order. Within the Community this

1 In this context attention could be drawn to the growing participation of the EIB in the financing of aircraft also in the richer Member States of the Community. Does the EIB intervene because those airplanes cannot entirely be financed by the various means available in the Member States?

2 Cohesion should not be confused with equity; whereas cohesion is essentially about equal opportunities, equity is about equal results.

3 The EIB's contribution to local infrastructure in regions lagging behind can be understood in this light.

4 In the past, however, the EIB had to call upon guarantees provided to it by the Member States and the European Community in the context of external policies. Taxes on citizens will increase to provide for the resources needed. Up until now, however, in most cases the money due has been repaid finally by the beneficiary.

exercise has already started with respect to the coordination and streamlining of financial interventions in the context of the reform of the Structural Funds.[1] As the ECSC Treaty will expire in 2002, this has also sparked reflection as to which, in the affirmative case, instruments should be retained and possibly introduced in the EEC Treaty. This exercise will, without doubt, gain importance over the coming years.

From an economic point of view this exercise should be seized upon to review at a distance the rationale for the different loan (-related) instruments in the context of allocational and distributional considerations as discussed in section 2. Also, it should be reviewed whether, in the present situation and to what extent, loans, guarantees and interest subsidies are in all cases still the most feasible instruments or whether better alternatives are on offer. It is essential to create some distance in order to be able to develop a long-term view on the role of lending and borrowing instruments. Failing this, one risks getting into a situation in which the administrative services concerned will endeavour merely to preserve and expand the scope of existing instruments (behaviour highlighted by public choice theory).

Now, without entering into details, what guiding principles should be retained in shaping future loan (-related) operations? The following sets out some of the possibilities:

(i) the use of loan (-related) instruments inspired by allocational objectives should be confined to cases in which significant Community-wide benefits are expected and instruments at a lower level give rise to severe difficulties (subsidiarity in operational terms);

(ii) the instruments employed should provide for maximum transparency so as to minimize the scope for 'rent-seeking';

(iii) the administrative structure for managing the instruments should be as light as possible and should be subject to independent and credible control so as to check the natural bureaucratic tendency to develop 'own' objectives;

(iv) those politically accountable should have sufficient control of the instruments employed;

(v) similar instruments should be used for similar problems (no isolated decision-making for different economic sectors) so as to keep distortions in the market to a minimum and to ensure coherency; furthermore the instruments used should, as much as possible, operate via the financial markets;

(vi) clear rules for deciding whether borrowings are warranted should be set out. These are needed to prevent an undue shifting of the burden to future generations.

Following these principles one could try to set up an ideal structure which does justice to all these considerations. Realistically speaking, in a medium-term setting, we have to take existing instruments as given and see how they could be reorganized. Taking account of the guiding principles set out above, efficiency considerations would seem to favour a solution whereby all comparable instruments at the same level are managed by a single body/institution to ensure maximum coherence of Community interventions. From the point of view of effectiveness and political accountability it would seem that those responsible for the different policy areas (for example, structural policy, sectoral policy, competition policy, environmental policy, infrastructure policy) should have sufficient control of the instruments so as to be able to respond to shifting priorities. On the other hand, some distance is necessary so as to reduce the scope for rent-seeking and political influences.[2]

Taking account of the above, three alternatives might be outlined.

(a) One possibility would be to refrain from renewing existing provisions. ECSC provisions will run out by the year 2002. Nearly all NCI funds have been used (it could well be depleted by the end of next year). New Euratom operations will become impossible once the existing ceiling has been reached. In this perspective there will only be EIB operations and Community interventions on budgetary resources linked to them (interest subsidies, guarantees) in about 10 years' time. This solution presupposes that one considers that existing arrangements relating to the Bank are satisfactory from the point of view of effectiveness, efficiency and accountability.

(b) A second possibility would be to take the existing ECSC provisions as a model and generalize them, meaning that the Commission takes the decision on which projects should benefit from finance on preferential terms by extending guarantees to banks that provide loans on their own resources or by making funds available to the banks themselves, out of which they then extend, under certain conditions, loans on preferential terms. In addition to this, interest subsidies might be paid out of the Community budget to favour specific investments. Other existing arrangements (Euratom, EIB) will in due course have to fit into this framework.

[1] See Regulations (EEC) Nos 2052/88 and 4253/88.

[2] Principal-agent problems may however increase with 'independence' (see Millward, 1983, Chapter 5, on this interesting issue).

The advantage of this system is that the authorities holding policy responsibility have maximum control over the instruments so as to ensure sufficient flexibility. The principal disadvantage is that considerable investment in human resources will have to be made to ensure the proper functioning of such a system. Furthermore, there is a risk that the lack of independence of the services managing the loan instruments might prejudice their proper use.[1]

(c) A third possibility would be to entrust all Community loan (-related) instruments guiding investment to the EIB, being the Community's banking institution.[2]

The advantage of this scheme would be that optimum use is made of the know-how available at this banking institution and Commission services can concentrate on policy formulation itself rather than being occupied with operational matters. The main problem is to ensure that the Bank carries out the Community policies as intended. The authorities responsible for the implementation of the relevant policies should therefore have sufficient control over the instruments and thus on the Bank's policy. This would indicate that, in entrusting the operational part of Community loan instruments to the EIB, modalities can be found to monitor the EIB loan operations rather closely. To this end the Council might establish specific and detailed guidelines which the Bank should follow.[3] It has to be reviewed to what extent institutional links between the Commission and the Council on the one hand, and the Bank on the other, permit the necessary influence. It might be necessary to review the Statutes of the Bank and/or appoint a Governor on behalf of the Commission.

This mechanism would allow for the necessary flexibility if any specific effort is considered necessary to speed up reconstruction after natural disasters.[4]

In any arrangement, sufficient outside control on these loan (-related) operations is called for so as to ensure that administering bodies do not develop 'own objectives'. New ideas such as providing only partial guarantees which could be auctioned among competing (subcontracting) banks should be considered. It should also be examined whether, in designing future interventions, one should have recourse to explicit rather than implicit interest subsidies. As to intergenerational equity, it would have to be considered how one could properly take account of this. Existing rules on borrowing would probably have to be reviewed in this context.

4. Concluding remarks

This paper examines in what context Community loan and loan-related instruments can be appreciated. To this end a number of theoretical considerations were presented in section 2. This analysis showed that a role for public loan (-related) instruments in the allocational field might exist in case: (i) a periodicity problem exists, and (ii) the government identifies reasons, on the basis of the public (social) welfare function, to intervene with the functioning of the market so as to improve resource allocation. It was then stressed that this is a necessary rather than a sufficient condition. The proposed intervention needs to be screened on effectiveness, efficiency and equity implications before one can pronounce on the question of whether it is actually warranted. In this light interest subsidies would in general appear to be preferable to guarantees and loans. As to the utilization of loan (-related) instruments in the context of distribution policies, it was concluded that a possible role could only exist in the context of a second-best policy environment.

The Community context was then discussed in order to assess what role loan (-related) instruments could play and how EMU would impinge on this. As to allocation, the analysis now has to take account of a Community public welfare function meaning that externalities, etc. need to display Community dimensions. As EMU would reinforce integration, the extent to which some projects give rise to Community externalities may increase. However, it was

1 Political pressure to favour certain industries will get through more easily.

2 Logic would suggest that the concomitant borrowing activity should then be carried out by the Bank as well.

3 In practice, the system might work as follows. The different Commission services responsible for specific policies, in which loans could be instrumental (relating to, for example, regional policy, SMEs, industrial policy, environmental policy, etc.) prepare a proposal for the guidelines to be followed by the Bank. In conjunction with these they could propose making funds available from their budget out of which the Commission could decide to pay interest subsidies to the Bank for specific types of projects. The guidelines could be reviewed annually. The Commission should adopt the set of guidelines (coherence is thus assured) in the form of a proposal to the Council which by adopting them gives the necessary status.

4 As an illustration of how this could work one is referred to the Council Decision following earthquakes in Kalamata in 1986 (88/561/EEC of 7 November 1988). In this Decision the Council decided to make interest subsidies available of 3% on EIB loans (out of its own resources) of up to ECU 100 million. See also Article 103a(2) of the Treaty on European Union.

stressed that certain criteria would need to be decided upon so as to limit the implication of loan (-related) instruments to situations in which important Community interests are at stake. As to distribution, the conclusion that, from an economic point of view, these are not the first instruments that spring to mind remains true. However, as the Community is far from being a first-best policy environment, some scope, depending on essentially political decisions, might exist.

Section 3 reviewed the existing loan (-related) instruments at Community level followed by a brief appraisal in terms of allocation/distribution. This review highlighted the fact that the different instruments originated in specific historical settings, resulting in a rather fragmented structure in which clear overlaps do sometimes exist. It also demonstrated the fact that, from an economic point of view, the reasons for different instruments were not always obvious. It would therefore make sense to rethink the existing set of instruments. This rethinking should take place against the background of the theoretical analysis developed in this paper. It should thus review the basic economic rationale, the effectiveness, the efficiency and the impact on intergenerational equity of each instrument. Some broad directions were indicated in which one could go, in an effort to rationalize the existing instruments.

References

Commission of the European Communities (1990a), 'ECSC subsidized housing loans: An appraisal presented on the completion of the 200 000th subsidized home', DG V, October.

Commission of the European Communities (1990b), *Financial report 1989*, European Coal and Steel Community.

Commission of the European Communities (1990c), 'One market, one money', *European Economy* No 44, October.

Commission of the European Communities (1993), 'The Commission's annual report to the Council and to Parliament on the borrowing and lending activities of the Community in 1992'.

Costello, D. (1993a), 'Intergovernmental grants: What role for the European Community?', in this volume.

Costello, D. (1993b), 'Public interventions to promote economic efficiency: Implications for the Community budget', in this volume.

Court of Auditors (1990), 'Special Report No 3/90 on ECSC, Euratom and NCI loans and borrowings', *Official Journal of the European Communities* C 160, Volume 33, 29 June 1990.

European Investment Bank (1992), *Annual report 1992.*

King, D. (1984), *Fiscal tiers: the economics of multilevel government*, George Allen & Unwin, London.

Lelakis, V. (1993), 'Community medium-term loans to third countries', in this volume.

Millward, R. (ed.) (1983), *Public sector economics*, Longman, London.

Papaspyrou (1993), 'Stabilization policy in economic and monetary union in the light of the Maastricht Treaty provisions concerning financial assistance', in this volume.

Santos, P. (1993), 'The spatial implications of economic and monetary union', in this volume.

Teutemann, M. (1993), 'The role of the EC budget in the fields of defence, external affairs and international assistance — as seen from the perspectives of fiscal federalism and public choice theory', in this volume.

Walsh, C. (1993), 'Fiscal federalism: An overview of issues and a discussion of their relevance to the European Community', in this volume.

Community medium-term loans to third countries

Vassilis Lelakis

Directorate-General for Economic and Financial Affairs, Commission of the European Communities

Contents

The author is Head of the International Financial Matters Unit in the Directorate-General for Economic and Financial Affairs of the EC Commission. The views expressed can only be attributed to the author and do not necessarily reflect the Commission's official position.

Summary

Several Community medium-term loan operations have been extended to third countries since 1990, mainly in favour of Central and Eastern Europe and the former Soviet Union, in order to support their transition to market-based economies. The Community has so far pledged some ECU 4,7 billion of such macro-financial assistance and effectively disbursed ECU 3,8 billion.

The Community's macro-financial assistance to Central and Eastern Europe (some ECU 2 billion) has been mobilized in the context of the G24 (Group of 24 OECD countries) coordination process chaired by the Commission and is designed to complement resources provided by the International Monetary Fund (IMF) and other international financial institutions in support of the macroeconomic stabilization and reform programmes implemented by those countries. An overall amount of ECU 3,2 billion has thus been committed by the G24 out of which roughly 40% by non-EC/G24 donor countries (mainly EFTA and Japan).

The assistance generally takes the form of untied medium-term loans, priced at market rates. Macroeconomic conditionality is normally attached to these loans which as a rule are released by successive instalments.

Although exceptional in nature, EC macro-financial assistance to third countries having close economic and political links with the Community turns out to be an important instrument of the Community's external economic and financial policy.

1. Origin and recent developments

Initially conceived for intra-Community balance-of-payments support, the back-to-back Community borrowing and lending operations have been extended since 1990 to third countries, mainly those of Central and Eastern Europe, with a view to supporting their political and economic reform efforts. The need for macroeconomic medium-term financial assistance to Central and East European countries (CEEC) appeared in late 1989 and 1990 on account of the substantial external financing gaps those countries were facing in their move to market-oriented economies.

The first Community medium-term loan operation to a third country goes back to February 1990 when the Council, on a proposal by the Commission, decided to grant Hungary a five-year ECU 870 million untied loan to be disbursed in three tranches in support of the country's efforts to overcome structural adjustment difficulties.[1]

Designed from the model of the medium-term financial assistance mechanism[2] (applying to intra-Community balance-of-payments loans), the Community loan to Hungary has been financed by means of an equivalent Community borrowing operation on the capital markets. These back-to-back borrowing and lending operations do not involve any transformation of maturities or any commercial exchange or interest-rate risk for the Community. The Community is simply using its credit of AAA borrower to raise funds on the markets with a view to putting them at the disposal of the beneficiary country in the form of loans, without any additional fees or charges other than those reflecting strictly the cost of borrowing. Hence, the beneficiary country not only is gaining (indirectly) access to the financial markets (which in most cases would not have been possible) but also benefits from a discount of 2 to 3% in comparison with the 'normal' interest rate it would have paid in case of direct recourse to these markets. The Commission is responsible for the management and the follow-up of the operations and is also ensuring, in consultation with the Monetary Committee, the verification of the economic conditionality which is normally attached to these operations.

In late 1990 it appeared clearly that apart from the financing needs directly associated with their transition efforts, the CEEC were to face two additional external shocks: the consequences of the Gulf crisis and the collapse of the intra-Comecon trade. As coordinator of the Group of 24 OECD countries supporting the reform efforts of the CEEC, the Commission, in close cooperation with the IMF, pointed to prospects of exceptionally large financing needs for these countries in 1991. Even with a substantial degree of adjustment, cut in the internal demand, and import compression, these countries were expected to face substantial residual financing gaps over and above the amounts available from full recourse to the multilateral financial institutions. Since commercial banks and private investors were reluctant to contribute significantly at such an early stage of the econ-

[1] OJ L 58, 7.3.1990.
[2] OJ L 178, 8.7.1988.

omic transformation of the CEEC, the appeal to the Community and the other G24 member countries was natural.

Against this background and in view of the political impetus given by the European Council at its December 1990 meeting, the Commission presented to the Council a series of Community initiatives elaborated on a case-by-case basis and taking the form of medium-term balance-of-payments loan operations similar to the one decided for Hungary. The Council adopted four decisions in that respect granting six- to seven-year financial assistance of ECU 375 million to Czechoslovakia, ECU 290 million to Bulgaria, ECU 375 million to Romania and a further ECU 180 million to Hungary (in addition to the amount committed under the 1990 Community loan facility).

All these initiatives were taken in the context of overall G24 coordinated financing packages totalling some ECU 2,4 billion in 1991, around 50% of which was borne by the Community. The Community loans have been disbursed in two tranches after verification of the performance criteria attached to them.

Two other Community loan operations have been decided by the Council in 1991 outside the region of Central and Eastern Europe. In the context of Community support for Middle Eastern and Mediterranean countries adversely affected by the Gulf conflict, the Council granted to Israel in July 1991 an ECU 160 million loan, which was made available in a single tranche and for a six-year period. The loan was accompanied by an interest-rate subsidy totalling ECU 27,5 million in charge of the general budget of the Community. In September 1991, another medium-term balance-of-payments loan of ECU 400 million was decided in favour of Algeria in response to the wish expressed by the European Council at its meeting in Luxembourg, to help the country to carry through the political and economic reforms under way.

In late 1992 a second series of Community balance-of-payments loan operations was decided by the Council in favour of the CEEC:

(i) a further ECU 80 million in a single tranche in favour of Romania;

(ii) a global amount of ECU 220 million in favour of the Baltic States, of which 40 million for Estonia, 80 million for Latvia and 100 million for Lithuania, to be disbursed in two tranches.

Balance-of-payments support was also decided in 1992 for Albania (ECU 70 million in two tranches) but took the form of straight grants given the low level of development of this country.

Finally, two commercial credit operations of a maximum duration of three years were implemented in 1992 in favour of Russia and other former Soviet Union Republics with a view to financing essential imports of agricultural products and medical supplies from the Community and the CEEC:

(i) an ECU 500 million credit guarantee (of both principal and interest), decided in December 1990 in favour of the USSR, but delayed and finally allocated entirely to Russia;

(ii) ECU 1 250 million of Community loans decided in December 1991 in favour of the USSR but finally implemented directly in favour of its successor States.

Overall the Community has so far committed some ECU 4,8 billion of macro-financial assistance to third countries (see Annex A for the details of commitments and effective disbursements). Out of this amount approximately half was provided in the context of the G24 coordination process which under the chairmanship of the Commission succeeded in mobilizing an overall amount of USD 3,6 billion in favour of the CEEC, with the non-EC/G24 donors providing roughly 40% of the assistance (see Annex B for the details and the effective burden-sharing of the EC/G24 macro-financial assistance programme).

2. Rules of eligibility and conditionality

All the Community medium-term loan operations to third countries have so far been adopted on a case-by-case basis, by *ad hoc* Council decisions taken unanimously following Article 235 of the EEC Treaty. Contrary to the mechanism of the medium-term financial support (MTFA) to the balances of payments of the Member States, which set up the precise rules, conditions and procedures attached to the mobilization of the Community loans, so far there is no such framework decision for loans outside the Community. Nor is there any ceiling limiting, as in the MTFA, the global amount of loans outstanding.

In its communication to the Council of June 1991 relating to the framework for EC/G24 medium-term balance-of-payments assistance to the CEEC (SEC(91) 1290 final), the Commission presents the main characteristics of this assistance and its efforts to set up in the context of the G24 some common guidelines for its implementation. Those common guidelines have been agreed by the vast majority of the G24 member countries and are so far also guiding the Community's decision-making process in this area. They do not, however, provide a legally binding framework for the Community and could not strictly speaking apply to Community operations outside the scope of the G24 (i.e. the area of the CEEC).

The key elements of the agreed guidelines are summarized below:

(i) Transitional character

The EC/G24 initiative is exceptional in nature and is expected to be progressively discontinued. This initiative is, however, explicitly referred to in the association agreements, already established or expected, between the Community and the CEEC. This might introduce a longer-term dimension to that type of assistance.

(ii) Complementarity

The basic prerequisite for the mobilization of this assistance is the existence of a significant residual balance-of-payments financing gap, over and above the resources provided by the IMF and other multilateral institutions and despite the implementation of strong economic stabilization and reform programmes.

(iii) Conditionality

The loans are generally released in successive tranches, the disbursement of each of them being conditional upon the fulfilment of macroeconomic performance and structural adjustment criteria, normally based on the economic programmes of the beneficiary countries, as agreed with the IMF and other multilateral financial institutions.

(iv) Untied and medium-term character

The assistance generally takes the form of untied[1] medium-term loans (five to seven years) with the interest rate reflecting the effective cost of borrowing of the lender on the capital markets.

3. Budgetary aspects and the creditor status of the Community

The traditional budgetary treatment of the Community's lending operations, backed by Community borrowing on the markets, consists in the inscription of a token entry into the general budget to cover the risk of future expenditure in case of an effective call on the guarantee.

[1] The Community loan to the former USSR is an exception in that respect.

This practice is justified since the amount and timing of any call on this budget line cannot be calculated in advance and because it is normally expected that the budget guarantee will not be called. Otherwise, the recourse to a loan instrument would not have been appropriate.

If, however, the guarantee were to be called into effect, the following procedures are brought into force:

(i) in order to fulfil the Community's obligations, the Commission can provisionally ensure the debt service without delay with funds from its treasury (some ECU 3 to 4 billion on average);

(ii) the funds necessary to cover definitively the budgetary expenditure due to the default of the borrower would then have to be found, either by transfer from other existing articles or through an amended and/or supplementary budget.

The present situation appears to be satisfactory from the Community's creditors' standpoint. However, on account of the Community's growing lending activities, if the guarantee were to be invoked for large amounts, the consequence would be to disturb the smooth execution of the budget. In this respect the European Council agreed in December 1992 that a Guarantee Fund should be established in order to deal with the risk of default on Community loans and loan guarantees to third countries. The Commission adopted accordingly, in early 1993, a series of proposals to the Council (COM(93) 20 final, 26.1.1993) with a view to establishing the Guarantee Fund. The target size of the Fund is expected to be 10% of the outstanding liabilities of the Community arising from external loans and loan guarantees.

For most of the third countries that have so far benefited from Community medium-term loans, the issue of debt accumulation is also important. The debt problems of these countries are of course taken into consideration when the Council decisions to support them are taken, but the Community as such has not been so far directly involved in debt discussions. It is worth noting in that respect that the creditor status of the Community is comparable to the one of an official sovereign creditor rather than to the one of international financial institutions like the IMF or the World Bank. The latter are only providing support to member countries which, by the very signature of the articles of agreement of these institutions, are explicitly recognizing that their assets (including, *inter alia*, the loans granted to the beneficiary member countries) are exempt from moratoriums of any nature. No such protection is explicitly provided in the EEC Treaty, even *vis-à-vis* the Community's own Member States.

4. Conclusions

The Community is increasingly involved in providing macro-financial assistance in the form of loans to the CEEC and other third countries of critical importance to it from the cultural, political and economic standpoints.

Although on an *ad hoc* basis and exceptional in nature, this type of assistance, designed to support adjustment and reform efforts in those countries, is already perceived as being an important new instrument of the Community's external financial policy.

The macro-financial assistance provided so far has been instrumental in supporting the substantial adjustment and reform efforts undertaken by the CEEC. Without the catalytic role of this assistance, the stabilization and structural adjustment of the economies of those countries would have been put in jeopardy or significantly delayed and their transition to a market economy would have been made much harder.

In developing the use of this instrument, the Community should clearly establish the terms and conditions attached to the mobilization of Community loans as well as some form of budgetary discipline and transparency.

In order to assess appropriately the potential implications for the Community budget of the increasing amounts committed in favour of third countries, the Community institutions should also ensure a close monitoring of the adjustment and reform progress in the recipient countries. A certain degree of country risk has, however, to be accepted as a normal consequence of the major political role the Community is now playing especially in the region of Central and Eastern Europe.

Although highly political, the decision to grant Community loans to third countries should always be based on a thorough analysis of the economic and financial situation of the country concerned with a view, in particular, to assessing its debt-servicing capacity and thus the suitability of loan-financing.

Finally, it is very important to avoid creating false expectations and, to this end, to establish strict eligibility rules and a ceiling to the amount of loans that could be mobilized. The role of the Community as a provider of external financial assistance should by no means be perceived as an alternative to normal recourse to the international financial institutions or to the private sector inflows.

In its communication to the Council relating to the Community's finances between now and 1997,[1] the Commission has indicated its intention to propose a framework decision concerning Community loans to third countries, along the lines of the Council Regulation establishing the MTFA for Member States' balance of payments. This would clearly be an opportunity to rationalize and circumscribe the use of that forceful instrument of the Community's external financial policy.

[1] COM(92) 2001 final, 10.3.1992.

Annex A — Community macro-financial assistance to third countries
(Status of effective disbursements as of 15 April 1993)

(Million ECU)

Country	Maximum amount authorized (Council Decision)	Disbursed	Undisbursed
Hungary I (structural adjustment loan)	870 (22.2.1990)	610 (350 — April 1990) (260 — February 1991)	260
Czechoslovakia (balance-of-payments loan)	375 (25.2.1991)	375 (185 — mid-1991) (190 — February 1992)	—
Russia (Community credit guarantee)	406[1] (5.3.1991)	376 (mid-1992)	30
Hungary II (balance-of-payments loan)	180 (24.6.1991)	180 (100 — August 1991) (80 — January 1993)	
Bulgaria I (balance-of-payments loan)	290 (24.6.1991)	290 (150 — August 1991) (140 — March 1992)	—
Romania I (balance-of-payments loan)	375 (22.7.1991)	375 (190 — January 1992) (185 — April 1992)	—
Israel (structural adjustment soft loan)	160 (22.7.1991)	160 (March 1992)	—
Algeria (balance-of-payments loan)	400 (23.9.1991)	250 (January 1992)	150
Former USSR (Community credits) of which:	1 250 (16.12.1991)	1 053[2] (as of mid-1993)	197
Armenia		58	
Belarus		102	
Georgia		80	
Kazakhstan		25	
Moldova		27	
Russia		499	
Tadjikistan		55	
Turkmenistan		45	
Ukraine		130	
Albania (balance-of-payments grant)	70 (28.9.1992)	35 (December 1992)	35
Bulgaria II (balance-of-payments loan)	110 (19.10.1992)	—	110
Baltic States (balance-of-payments loans) of which:	220 (23.11.1992)	60	160
Estonia	40	20 (March 1993)	20
Latvia	80	40 (March 1993)	40
Lithuania	100	—	100
Romania II (balance-of-payments loan)	80 (27.11.1992)	80 (February 1993)	—
Total	4 786	3 844	942

[1] Amount in principal.
[2] Loan agreements signed but not necessarily fully disbursed so far.

Annex B — EC/G24 macro-financial assistance to Central and Eastern Europe since 1991
(cumulative amounts in million USD)

Country (identified gaps)	Albania (USD 165 million)				Baltic States (USD 600 million)				Bulgaria (USD 1 040 million)			
	Commitments			Disbursements	Commitments			Disbursements	Commitments			Disbursements
	Amount	% of gap	% of commitments	Amount	Amount	% of gap	% of commitments	Amount	Amount	% of gap	% of commitments	Amount
Community	82,5	50,0	86,9	41,3	300,0	50,0	57,4	81,8	520,0	50,0	68,8	400,0
EFTA	12,5	7,6	13,1	4,2	123,1	20,5	23,5		116,7	11,2	15,4	32,0
USA									10,0	1,0	1,3	10,0
Japan					100,0	16,7	19,1		100,0	9,6	13,2	
Others									8,7	0,8	1,2	
Total	95,0	57,6	100,0	45,5	523,1	87,2	100,0	81,8	755,4	72,6	100,0	442,0

Country (identified gaps)	CSFR (USD 1 000 million)				Hungary (USD 500 million)				Romania (USD 1 180 million)			
	Commitments			Disbursements	Commitments			Disbursements	Commitments			Disbursements
	Amount	% of gap	% of commitments	Amount	Amount	% of gap	% of commitments	Amount	Amount	% of gap	% of commitments	Amount
Community	500,0	50,0	56,6	500,0	250,0	50,0	48,3	250,0	590,0	50,0	69,5	590,0
EFTA	146,0	14,6	16,5	146,0	95,0	19,0	18,3	95,0	136,4	11,6	16,1	119,5
USA	15,0	1,5	1,7	15,0	10,0	2,0	1,9	10,0				
Japan	200,0	20,0	22,6	200,0	150,0	30,0	29,0	125,0	100,0	8,5	11,8	40,0
Others	22,8	2,3	2,6	1,0	12,8	2,6	2,5	12,8	22,0	1,9	2,6	
Total	883,8	88,4	100,0	862,0	517,8	103,6	100,0	492,8	848,4	71,9	100,0	749,5

Country (identified gaps)	Total (USD 4 485 million)			
	Commitments			Disbursements
	Amount	% of gap	% of commitments	Amount
Community	2 242,5	50,0	61,9	1 863,1
EFTA	629,7	14,0	17,4	396,7
USA	35,0	0,8	1,0	35,0
Japan	650,0	14,5	17,9	365,0
Others	66,3	1,5	1,8	13,8
Total	3 623,5	80,8	100,0	2 673,6

Source: EC Commission.

VII — The budgetary process and managerial aspects

Decision-making, discipline and flexibility

Jean-Pierre Baché and Charles Groutage

Directorate-General for Budgets,
Commission of the European Communities

Contents

Summary

Progress towards economic and monetary union, as well as towards political union, opens up a potentially new field for Community intervention. Yet, above and beyond the application of the principle of subsidiarity, there is a need for strict budgetary discipline.

The implementation of budgetary discipline begins with clarification of the respective responsibilities of the different institutions. It depends also on greater cooperation between them, whether concerning the linkage between implementing legislation and the budget decision or progress in the budget procedure.

Experience has shown that both the type of agreement concluded at the time of the reform of Community finances in 1988 and the medium-term financial structure on which it is based are essential elements for the success of budgetary discipline. The obvious conclusion is that these instruments should be retained, if made a little more flexible in operation.

A weakening of the principle of budgetary balance, which is applied with rigour to Community finances would risk, on the other hand, running counter to the objective of budgetary discipline without any compensating economic justification. The Community budget can, none the less, contribute to a better allocation of resources, if not directly by means of lending and borrowing operations, then indirectly by way of granting loan guarantees and closer coordination with the European Investment Bank.

1. Introduction

The establishment of economic and monetary union is likely to confer on the Community the general task of dealing with all aspects of the definition and pursuit of economic and monetary policies. At the same time, progress towards political union implies the transfer of specific but significant powers in many fields: external relations, the promotion of economic and social cohesion, research and technological development and other policy areas (environment, trans-European networks, energy, etc.).

The exercise of wider and increased powers entails a need for change in the Community's public finances in terms of the size of the budget, the pattern of expenditure and financing arrangements. It also requires adjustment of the budget procedure and management methods. In particular, greater financial independence for the Community must be based on rules and procedures which ensure strict budgetary discipline. In this context, budgetary discipline should be construed in a broad sense to cover:

(i) efforts to control increases in expenditure;

(ii) strict application of the principle of subsidiarity;

(iii) the search for greater cost-effectiveness;

(iv) the allocation of expenditure in accordance with medium-term priorities;

(v) forward planning of Community operations and the corresponding financial cost to help Member States plan their own budget policy requirements.

It lies outside the terms of reference of the present study, which is concerned with economic aspects, to discuss in detail the institutional and procedural changes which should be made to the budget process. Moreover, these adjustments must be considered in the wider context of the general balance of power between the Community institutions and the strengthening of democratic legitimacy. Nevertheless, it is possible to adopt general guidelines pointing the way towards greater efficiency and tighter budgetary discipline.

In discussing the streamlining of the Community's budget process, four key aspects will be addressed:

(1) the link between legislative and budgetary decision-making;

(2) the budget procedure and the roles of the Council and the European Parliament;

(3) the continued need for a medium-term financial framework;

(4) a balanced budget and lending and borrowing operations.

2. Decision-making

In all Member States, the legislature, as a rule, is careful in its decision-making to maintain a division between the legislative and the budgetary. This is for the very good reason that budget decisions are taken in the perspective of a financial year when competing demands for limited funds may be viewed together and relative political priorities determined. In this sense the budget decision may be seen as autonomous.

In the context of the Community there is the added complication that the legislative power and budgetary power are not one and the same. This arrangement has been the root cause of a lack of coherence and indeed conflict between the Council and Parliament. In fact, the Joint Declaration of 1982 marked an important advance in ensuring consistency between the adoption of a measure by the legislative power (exercised by the Council) and the allocation of the corresponding appropriations by the budgetary power (exercised jointly by Parliament and the Council).

The agreement succeeded in maintaining the distinction between legislative and budgetary powers which had become increasingly blurred as the Council and Parliament vied for superiority. Two notable constraints on the actions of each institution were agreed. Firstly, that the basic regulations for a measure, as approved by the Council, should avoid setting a ceiling for expenditure — a practice which the Council had introduced in order to restrict Parliament's room for manoeuvre in the exercise of its budgetary power. Secondly, that for financially significant measures, their inclusion in the budget would not be considered an adequate legal basis, requiring a distinct legal base ratified by the Council. In this way Parliament's attempts to introduce unilaterally new measures into the Community domain via the budget process were halted.

The Single European Act of 1987 paved the way for the involvement of Parliament in determining Community legislation through the cooperation procedure, and so signalled a closer working relationship between the two institutions. The Treaty of Maastricht foresees further progress in the participation of Parliament in the determination of legislation, through an extension of the co-decision and cooperation procedures to new fields of Community activity. Clearly parallel advances in how budgetary aspects are incorporated in the work of the Council and of each specialized Council are to be sought. In the same spirit, proposals presented by the Commission need to take account of the closer working relationship of the Council and Parliament in legislative and budgetary matters.

Agreement between the Council, Parliament and the Commission to a financial framework for the medium term, for which not only the global expenditure and revenue are agreed, but also the main policies to be implemented and their relative weightings, would appear to be a prerequisite for a more coherent institutional working relationship.

3. Budget procedure

The budget authority comprises the Council and Parliament and the division of responsibility is based on the distinction between compulsory and non-compulsory expenditure. Compulsory expenditure, mainly agriculture and financial protocols with third countries, is primarily the Council's responsibility. Parliament is primarily responsible for non-compulsory expenditure, such as the Structural Funds, other internal policies and external actions. Hence the distinction made as to whether a budget line comprises compulsory expenditure is, in practice, a means of delineating budgetary power between the two institutions. The risk to budgetary 'peace', however, is that any overrun in agricultural expenditure would jeopardize the resources available for non-compulsory expenditure and give rise to conflict between the Council and Parliament.

Accordingly, the budget reform of 1988 sought, amongst other things, to establish a financial framework which would avoid institutional conflict, enable continued, but limited, expansion of agricultural spending and increase significantly that part of the budget to which Parliament laid claim. The result was a five-year framework with binding ceilings by category of expenditure; an 'agricultural guideline' which limited growth of agricultural spending to 74% of annual Community growth of GNP; and the objective of doubling Structural Funds by 1997 (to some 50% of agricultural spending).

The agricultural guideline demonstrates the consensus for a shift of spending emphasis from agriculture to new areas of Community policy. However, as an instrument of budgetary control, its effectiveness has been more apparent than real in the first four years of the Interinstitutional Agreement, given the moderate growth of actual spending demands over the period. The reform of the common agricultural policy, now decided, will render expenditure in this field more controllable and a more explicit link will be established between agricultural policy decisions and budget constraints. The share of non-compulsory expenditure has substantially increased, as has the responsibility of Parliament. However, the breakdown by major category, agreed by the two arms of the budget authority, allowed for due account to be taken of medium-term political priorities.

In many ways, therefore, the effect of the Interinstitutional Agreement has been to achieve budget peace at the cost of the entrenchment of the Council's and Parliament's acquired responsibilities. Obviously, if the two arms of the budget authority are to move closer together, the distinction between compulsory and non-compulsory expenditure — often difficult to establish at the margin — will have to become less important.

The Maastricht Summit was silent on this point. None the less, it is obvious that whatever the detailed procedures adopted, both the Council and Parliament will have to become more involved in those aspects of the budget which have been essentially dominated by one or the other. Although, on the grounds of streamlining budgetary procedures, there is no obvious reason for Member States to give up or lessen their power of decision over the total amount of revenue to be made available to the Community budget, the Parliament, on the other hand, as the directly elected body of the people of the European Community, can claim with some force the legitimacy of a greater role for itself in not only the expenditure side but also the revenue side of the budget. At present the Community budget is based on expenditure: the amount of revenue depends automatically on the level of appropriations adopted by the budgetary authority, within the limit of own resources. There will have to be a link between the exercise of the budgetary authority's right of initiative regarding expenditure and the calculation of the level of revenue.

The role of the Commission is currently limited to that of initiator, yet it is clear that for the efficient working of the budget procedure, the Commission should also be required to intervene, as budget discussions progress, to amend the initial proposal in line with developments agreed. The Commission would, moreover, be required to ensure that expenditure corresponding to legal commitments is implemented and that expenditure which is not mandatory does not compromise the limits imposed by budgetary discipline and the ceiling on own resources.

4. Medium-term planning

It is evident that the effective interplay of the institutions will be very much facilitated if discussions take place in the context of a medium-term financial framework for which the key parameters have already been agreed by the protagonists. Indeed the reasons for fixing a financial framework in 1988 are still valid. In the transition to EMU and political union, the provisions of the new Treaties can only have their full practical effect if there is an overall agreement on the financial resources to be mobilized in the near future and on the breakdown of these resources by major categories of expenditure.

An agreement of this kind can and must provide each institution involved with a response to its own particular concerns. It allows the Commission to draw up its proposals and implement Community policies on the sound basis of clear financial planning and a budget procedure which is less prone to conflict; the financial framework itself adds an element of consistency and efficiency to the Commission's internal decision-making procedures. As regards the Member States, acting through the Council, it is essential that they be able to foresee, with relative certainty, the financial resources which will be made available to the Community and the breakdown of these resources by major areas of activity. Since decisions of a financial nature can also be taken outside the budget procedure, Parliament will see an increase in the scope of its powers of co-decision with the Council and obtain a greater margin for manoeuvre than it would have under the systematic application of the maximum rates of increase.

Certainly the 1988 agreement has been a success — a stable system of resources for the Community, the orderly development of expenditure and an improvement in the functioning of the budget procedure — especially by comparison with the situation which prevailed before. Particularly, the financial framework has provided stability for Community operations over the medium term with the guarantee of the necessary funding within the context of annual (balanced) budgets. The pegging-off of agricultural spending at 74% of the rate of growth of the Community budget has facilitated the process of doubling expenditure in real terms for the Structural Funds by 1993. This represents a relative shift in the volume of spending on the Structural Funds from something under 30% of agricultural expenditure in 1988 to 50% in 1992 — a dramatic change in emphasis in the focus of the Community budget. The Interinstitutional Agreement has also enabled a steady evolution of Community policies based on a consensus between institutions as to the priorities to be followed. In addition the agreement has promoted a greater coherence between annual budget decisions and the medium-term outlook. Moreover, the financial framework has been respected — which is no small achievement — placing Member States (unusually so in an uncertain world) in the happy position of having actual payments remain within forecast ceilings.

In many ways the strengths of the Interinstitutional Agreement are also its weakness. The very rigidity of the financial framework is at once the foundation for Community cooperation and an obstacle to rapid reaction to exceptional situations for which a consensus exists. In particular there is a need for a greater margin of manœuvre for the unforeseen, for which the developments in Eastern Europe, the former USSR, the Gulf and the former Yugoslavia are but recent examples of potential and realized demands from the international scene. The solution probably lies in maintaining the overall rigidity of the financial framework with the addition of a reserve mechanism for contingencies. The reserve could be a general one, or linked to clearly defined eventualities.

5. Lending and borrowing operations

When a national government wishes to spend more than expected revenue allows, the national budget runs a deficit, borrowing the sums necessary on the money and capital markets. The Community budget, however, is a balanced one, with expenditure subject to the limit of own resources as set by the Council. Many would argue that the Community budget should dispense with this restriction in the name of flexibility. On closer examination, however, the arguments for maintaining the status quo are formidable. To begin with, the requirement to maintain an annual balanced budget is a key factor for ensuring budgetary discipline. In addition, the impact of any extra spending permitted by a budget deficit to counter, say, an economic shock suffered by a section of the Community, would be negligible on a macroeconomic level by comparison with that of national budgets.

At the microeconomic level, there exist other channels through which capital loans to achieve Community policy ends can be made, notably the European Investment Bank (EIB). However, the Community budget may be used as an instrument for facilitating access to loan capital via guarantees or by bearing the cost of interest charges, for example. In such circumstances, it would be prudent to foresee modification of the budget to encompass a reserve for the risks arising from loan guarantees being called upon in the event of default. The whole would depend on closer coordination of the Community's lending and borrowing operations as foreseen by Article 198e of the Maastricht Treaty. This seeks to reinforce links between the EIB and the Commission for the key management actions of conception, monitoring and evaluation and should lead, therefore, to more effective intervention by the Community in this domain.

Cost-effective decentralized management and accountability aspects

Charles Groutage

Directorate-General for Budgets,
Commission of the European Communities

Contents

Summary

For the implementation of Community policy, the Commission depends very largely on shared management arrangements with Member States. The two main policy instruments are legislation and financial intervention, subject to the exigencies of the principle of subsidiarity.

The challenge for the Commission, which must be met to the satisfaction of the budgetary authority and within tight staffing constraints, is therefore to maximize the gains to be achieved from the delegation of responsibility to the lowest administrative level, whilst ensuring effective compliance with Community requirements. This latter involves both compliance with the letter of the law and the provision of good quality stewardship of Community policies.

The formal judgment by the budgetary authority on the management performance of the Commission takes the form of a discharge decision. It concerns the financial year n − 2 and sets out not only to make a judgment on regularity aspects but also on sound financial management, i.e. economy, efficiency and effectiveness. No parallel procedure exists between the Commission, as superior stewards, and the Member States' agencies, as subordinate stewards. There is, however, a procedure known as clearance of accounts, which recognizes the existence of a debtor/creditor relationship, whereby Commission auditors verify that the Member States' paying agencies have strictly complied with the regulations governing Community agricultural spending.

Generally, however, to seek assurance from the Member States' agencies about the adequacy of their management of Community policies, the Commission requires them to submit reports. Yet the problem remains of determining the credibility which can be placed on results which the Member State's agency asserts to have achieved with the resources and powers entrusted to it. The risk is that agencies will not bring to the attention of the Commission any compliance failure for which they are responsible.

For areas outside agriculture, a solution might be for the Commission to apply subsidiarity to the verification of compliance. In other words, to establish through negotiation, within existing national audit bodies, independent units responsible for the control of the implementation of Community policies by national agencies: their objective being to determine the credibility of agencies' reported results.

1. Introduction

The Community's success on the ground will depend on compliance by Member States with EC legislation. Media stories of fraud, waste and unchecked irregularities concerning common agricultural policy (CAP) spending, and other policy areas also, place the Community under fire from critics and supporters alike. Without, especially, a high level of compliance in financial matters the Community not only risks tarnishing its reputation, it risks engendering a crisis of confidence.

The day-to-day implementation of Community policies depends upon varying forms of shared management between the Commission and Member States. This pragmatic arrangement is included under the umbrella heading of subsidiarity. The premise which underpins subsidiarity is that it would not be possible nor desirable for the Commission itself to manage and control directly the various expenditure, revenue and transfer systems which support Community policies. In other words, the Commission does not have (and does not wish to have) the quantity and quality of resources necessary for the direct administration of Community policies; rather it is constrained to combine its resources with those of the Member States.

In practice, the Commission will continue to rely on two main instruments for achieving Community policy ends: legislation and financial intervention. The relative importance of each instrument will vary from policy to policy, but both require complementary action by Member States. The danger to the successful operation of subsidiarity is a failure of compliance by national and regional tiers of government on legal and financial levels. It is the verification of compliance which is the subject of this paper.

2. Accountability: the logic behind the notion of financial responsibility

Whatever the precise traditions and practices of finance in the 12 Member States, it is generally accepted that moneys and other assets may be managed by persons who do not own them. Such persons are known as stewards. Today most transactions are administered by stewards rather than by owners, i.e. company directors manage resources entrusted to them by shareholders and civil servants manage resources entrusted by taxpayers.

The budgetary authority of the Council and the European Parliament acts as intermediary between the taxpayer and executive. It entrusts a large part of it's stewardship of Community resources into the hands of the Members of the Commission, who in turn delegate day-to-day management and decision-making powers to European civil servants. This basic pattern of delegation is repeated in all Member States for national parliaments and their executives. With the widespread application of the principle of subsidiarity and the continuing development of Community policies, it is reasonable to expect that the quality of stewardship of Community funds practised by Member States will become increasingly a matter of public interest.

In practice, the steward is in a stronger position than the owner, who may lack the necessary expertise or time to manage the resources concerned. It is not surprising, therefore, that convention and the law often seek to impose checks and balances on the actions of the steward. A steward is thus accountable to the owner who entrusted moneys or assets to him. It also follows that the steward is accountable to any hierarchically superior steward. Discharge of the duty of accountability by the steward requires two stages: first he must give an account of his management of the moneys and assets entrusted to him; and second, he must allow his account to be examined by the owner or superior steward (or whoever is appointed to act on their behalf). That is, the steward is required to submit his actions to examination and to make available to the examiner (or auditor as he is generally known) evidence in support of his account (which is the formal expression of the steward's assertion that he has complied with the wishes of the owner).

3. Discharge decision: the formal judgment on the management performance of the Commission

Each year the Commission is subject to the discharge decision of the budgetary authority for its stewardship of the Community budget for the financial year $n-2$. This procedure echoes a centuries-old practice when the steward would be charged with receiving moneys due to the King and the ensuing trial would determine whether the steward could provide a satisfactory account of his stewardship in order to obtain acquittal or discharge. Failure to render a satisfactory account resulted in a charge on the steward equal to the deficit recorded by the Court. The underlying assumption was that the relationship between steward and owner was one of debtor/creditor.

The discharge decision of the budgetary authority retains this assumption in its judgment as to whether the Commission has managed the resources entrusted to it within the ambit voted by the legislature. However, the discharge procedure also recognizes that simple reliance upon regularity aspects of the Commission's management would provide a misleading view of accountability. For the primary aim of the budgetary authority is not that the Commission should keep within the objects and amounts of appropriations set out on each budget line, but that the Commission should achieve policy objectives on a large scale for maximum impact at minimum cost. Accordingly, the discharge decision sets out not merely to make a judgment on regularity aspects but also on sound financial management, i.e. economy, efficiency and effectiveness.

Yet although the budgetary authority has the legal responsibility to call to task the Commission on all aspects of regularity and sound financial management, this has not provoked the development of a parallel procedure between the Commission and the Member States. That is not to say that there is an absence of arrangements for Community verification of Member States' compliance.

The prime responsibility, of course, lies with Commission managers, but in a period when it is the development and adoption of Community policy on which emphasis is laid, it is understandable that in the competition for limited resources, the compliance function is often the last in line to have satisfaction. Of the explicit control functions, it is the so-called clearance of accounts which recognizes most emphatically the existence of a debtor/creditor relationship between stewards superior and subordinate. Clearance of accounts is a mechanism whereby the Commission's agricultural auditors verify that the Member States' paying agencies have strictly complied with the regulations governing Community agricultural spending. The scope of the audit does not include the quality of Member States' financial management, however, as the costs of implementing Community policy (i.e. administration and accounting arrangements) fall on national budgets.

Others areas of the budget, such as the Structural Funds and research, are subject to evaluation exercises by independent third parties and to checks by the Directorate-General for Financial Control, the Commission's internal audit service. The work of Financial Control may comprise regularity and value-for-money aspects. The resulting findings are raised bilaterally with those concerned and remedial action sought where necessary. However, there is no formal drawing-up of findings in the form of an annual report listing, for example, items of irregular spending by Member States and the amounts due consequently for repayment to the Commission — as is the case with the audit of the agricultural budget. The reasons for this state of affairs are not clear, but it is possible that a reluctance to emphasize the Commission's position of superior steward *vis-à-vis* Member States, *ad hoc* development of the budget and the nature of the external audit process (which is considered below) are all possible contributing factors. The effect is to obscure, for that part of the budget spent in Member States on policies other than agriculture, the chain of accountability from the Community's budgetary authority to Member States' national and regional agencies which handle Community budget funds. In the light of this, some might question the extent to which the discharge procedure of the Council and Parliament is rooted in the realities of Community finance.

4. Audit reporting: the basis for the discharge decision

The auditor may be considered as an independent third party working on behalf of the owner to examine the statement of financial dealings prepared by the steward. The object of the auditor is to verify whether the assertion of the steward presents a fair and proper account of his actual financial management for the period. Like any good investigator, the auditor is indifferent as to whether or not he proves the assertion: his main preoccupation will be to obtain satisfactory evidence on which to draw valid conclusions. This means that the auditor has a duty to the owner to make known the issues involved (this is straightforward in matters of regularity, and often complicated when concerned with sound financial management); the significance of any failings and successes and how they arose; any remedial action (this does not imply a counsel of perfection); the extent of the steward's responsibility; the standards/criteria used; and the overall opinion of the auditor.

The owner is quite justified in expecting the auditor to present his findings on regularity in the context of operations overall and in the concise form of a statement of assurance. This means that the auditor has not only to identify and make known any significant mistakes of regularity by management, but that he is also required to exercise his judgment in making known publicly the conclusions or opinion he draws in relation to the whole account. Any number of reported cases of irregularities may make interesting reading for certain audiences, but this will not answer the legitimate question of the owner, of whether such cases are a fair indicator of the overall position.

As for an examination of the sound financial management of a steward's dealings, it is evident, if the exercise is to be perceived as valid, that a standard of performance should be agreed by the auditor with the steward prior to the start of the examination. Without agreed standards the reader of any audit report will be in ignorance as to the standards of performance which can be reasonably achieved (i.e. a positive standard) or indeed what should and could be done (i.e. a normative standard).

Article 206a of the EEC Treaty foresees the publication of an annual report by the Court of Auditors, the external auditors to the Community budget, on the previous financial year. The report tends to highlight negative aspects of the Commission's management, often without specifying the representativeness or the financial importance of its findings. But apart from providing ammunition to those who wish to criticize adversely the activities of the Community, the annual report does not attempt to present an opinion or statement of assurance as to the regularity of the accounts, nor does it present what might be described as a fair or balanced opinion on the performance of the Commission from the perspective of sound financial management. In this sense, it does not address the key information needs of the concerned European taxpayer and the budgetary authority for its discharge decision.

It is pleasing to note, therefore, that the Maastricht Treaty appears to have recognized the need to remedy this problem, by now requiring of the Court of Auditors a statement of assurance on the implementation of the annual budget. Although it is unclear as yet the form such a statement will take, it is clear that the implications for the organization and presentation of the work of the Court of Auditors promise to be significant.

5. Subsidiarity: the management dilemma of coordination and compliance

With the advent of subsidiarity, a problem arises which concerns the coordination of budgets for certain policies and actions between Community and national levels: in particular, the agreed balance of expenditure and its linkage. The problem is also one of interdependence, and particularly whether and to what extent key variables are controllable or uncontrollable by the Commission, depending upon the agreed division of management competences between Community and national levels. The complexity of the problem will grow as the achievement of policy objectives becomes increasingly dependent upon the convergence of budgets between Member States and with the Commission.

The chain of accountability is already quite long for many major Community policies such as agriculture. Subsidiarity will not alter the length of existing chains, nor will it require longer ones for new or revised policies, but it will in all probability increase the frequency of their occurrence. The danger is that the problems of long chains of accountability which are already experienced by Commission services will not only persist but become more widespread. These problems are of three types:

(i) the delegation of powers is not accompanied by effective control measures at the level of the superior steward;

(ii) the exercise of delegated powers by the subordinate steward may depend upon ineffective systems of administration;

(iii) responsibility for the proper discharge of policy is in danger of being diluted by the sheer number of levels of stewardship, both by subordinate stewards who may disclaim responsibility to respect fully instructions set far away at the centre, and by superior stewards who might disclaim responsibility at such distance from the point of execution.

The criticism of the auditors in response to such problems would be couched in terms of 'failure to demonstrate adequate control over Member States'. But what are the control measures which the Commission can reasonably be expected to take; what is the level of compliance which would prove satisfactory; and where lies the balance between cost of controls and costs of non-compliance? The reader will search in vain for the relevant answers in the annual report of the Court of Auditors, in its current form.

If the arrangements between the various levels of management are too loose, then there will be too much 'leakage' through poor administrative coordination, duplication of management and control activity, and fraud and irregularities. If the arrangements for delegated management are too strict, then the realization of the full potential of efficiency gains will be lost. The dilemma for the Community is how to achieve what is a fine balance between the efficiency gains of delegated responsibility and the costs and constraints inherent in effective policing of compliance. Accountability requirements can be — and are — written into the appropriate legislation, but can they be effectively imposed by the weaker party upon the stronger? One element that is clear, however, is that Community and national authorities must be in agreement from the beginning as to the body at national or regional levels with which stewardship responsibility lies and the national or regional programme which comprises the Community actions.

6. The verification of compliance

It is here that the interests of the Commission as superior steward to the national authorities coincide with those of the auditors, in so far as both are interested to seek assurance about the good management of systems for planning, budgeting, execution and review. The aim of the Commission, like the auditors, is to determine the credibility which can be placed on the results which the (subordinate) steward asserts to have achieved with the resources entrusted to him.

The Commission can draw upon two main sources of information regarding the performance of Member States: that generated by Member States themselves and that obtained directly by the Commission. The information may itself be divided into two types: that which is the product of normal management processes and that which results from an inspection or control of activity. Clearly the relevance and reliability of this information for the purposes of the Commission will vary depending upon its source and type. The Commission in the course of day-to-day management is not, and will not be, in a position to verify the documentation proffered by the Member States' agencies against the transaction to which it relates for many of the key parameters involved in the calculation of expenditure, such as quality and quantity. The Commission is, and will be, therefore, obliged to proceed on the premise that in the absence of reasonable doubt the documentation provided by Member States is reliable. The Commission will thus need to set out in legislation the documentation which is relevant and sufficient for the purpose of establishing the accuracy and validity of financial transactions, as well as provision for the verification of the information contained therein by an independent third party, i.e. internal or external audit. The principal risk is that Member States will not, of their own volition, bring to the attention of the Commission any compliance failure for which they are responsible. This is because there is no obvious incentive for a Member State's officials to raise or to validate a document for which the only bureaucratic consequence is to invite censure and its attendant difficulties.

The extent and importance of financing from the Community budget may have a certain influence on the reliance which a priori may be placed on the stewardship of national authorities, in so far as better financial control by national civil servants may be motivated in proportion to the size of the national share of spending on an activity. But the control effort required of the Commission to obtain assurance as to the good working of national systems will remain broadly unchanged. That is, unless subsidiarity implies the right of the Commission to rely upon national systems of administration entirely on trust: a development which would be unacceptable on the grounds of accountability. It is evident that the Commission cannot properly rely upon its external auditor to provide management with the assurance it needs. It must therefore rely on a specialized internal audit service such as 'clearance of accounts' or Financial Control, and Member States' own audit services.

Unlike private sector auditors, the Commission auditors and national audit services (the Court of Auditors, too), reporting to Community and national levels, respectively, can pursue their enquiries with the utmost vim and vigour without any threat to their continued nomination or to the possible loss of lucrative consultancy work. Reliance by the Commission on national audit services to provide assurance on Member States' accounts of their handling of Community funds would, however, present a similar dilemma for the auditors to that of a company which has too large a (financial) lever against its auditors. Certainly, this is where the controversy lies. But this is to ignore the traditional discipline of the accounting profession to remain independent in the voicing of its opinions; the effectiveness of a 'Chinese wall' within organizations to protect the independence of audit staff from national influences; and the effective role which can be played by a Commission-based review team reporting to an audit steering committee the results of quality assurance checks on the audit work performed at national levels.

7. Conclusions

The attractions of subsidiarity include the potential efficiency gains of delegating the direct management of the execution of Community policies to the lowest levels of public administration. These gains, however, should not blind one to the need for a Community-oriented financial control system otherwise there is a danger that subsidiarity will achieve the contrary result of wasteful spending. In practical terms, therefore, the key problem from the point of view of the Commission is how to determine with reasonable assurance, and at reasonable cost, whether regularity and sound financial management is being achieved by Member States in their management of Community policies. A possible solution might be:

(i) for the internal audit function of the Commission to report more on the performance of national systems for the execution of Community policies; to exploit further the existing Community network of control arrangements in order to obtain explicit assurance on compliance; and to prepare an annual report of its findings and conclusions;

(ii) to extend the regularity audit of the 'clearance of accounts' type to embrace all other sectors of the budget where spending is through the Member States' agencies, with findings published in an annual report.

The whole process would be greatly facilitated if the Commission were able to negotiate the application of the principle of subsidiarity to embrace the Member State's own audit services. This will not be easy to achieve given that the audit services concerned report primarily to their own management and ultimately to their own national parliaments, and prize the confidentiality of their work. Nonetheless, it should not be beyond the wit of the Member States' audit services to so arrange their internal organizational structures to provide a sustainable mechanism, such as a Chinese wall, which will free certain designated units from traditional reporting lines and so avoid any possible conflicts of interest between national and Community levels. The real stumbling-block is likely to concern the allocation of the audit costs arising.

In adopting the abovementioned proposals, the chain of accountability would not only be reinforced, but the credibility of Member States' assertions of compliance with Community requirements would be verifiable for all sections of the budget and reported upon in a format which would have the merits of being both comprehensive and accessible to the Commission. The result would be a marked improvement in the quality of the dialogue between all protagonists in the formulation and execution of the Community budget.

List of contents of European Economy

17, September 1983	— *The borrowing and lending activities of the Community in 1982*
18, November 1983	— *Annual Economic Report 1983-84* — *Annual Economic Review 1983-84*
19, March 1984	— *Economic trends and prospects* — *Industrial labour costs* — *Medium-term budget balance and the public debt* — *The issue of protectionism*
20, July 1984	— *Some aspects of industrial productive performance in the European Community: an appraisal* — *Profitability, relative factor prices and capital/labour substitution in the Community, the United States and Japan, 1960-83* — *Convergence and coordination of macroeconomic policies: some basic issues*
21, September 1984	— *Commission report to the Council and to Parliament on the borrowing and lending activities of the Community in 1983*
22, November 1984	— *Annual Economic Report 1984-85* — *Annual Economic Review 1984-85*
23, March 1985	— *Economic trends and prospects 1984-85*
24, July 1985	— *The borrowing and lending activities of the Community in 1984*
25, September 1985	— *Competitiveness of European industry: situation to date* — *The determinants of supply in industry in the Community* — *The development of market services in the European Community, the United States and Japan* — *Technical progress, structural change and employment*
26, November 1985	— *Annual Economic Report 1985-86* — *Annual Economic Review 1985-86*
27, March 1986	— *Employment problems: views of businessmen and the workforce* — *Compact — A prototype macroeconomic model of the European Community in the world economy*
28, May 1986	— *Commission report to the Council and to Parliament on the borrowing and lending activities of the Community in 1985*
29, July 1986	— *Annual Economic Review 1986-87*
30, November 1986	— *Annual Economic Report 1986-87*
31, March 1987	— *The determinants of investment* — *Estimation and simulation of international trade linkages in the Quest model*
32, May 1987	— *Commission report to the Council and to Parliament on the borrowing and lending activities of the Community in 1986*

33, July 1987	— *The economic outlook for 1988 and budgetary policy in the Member States* — *Economic trends in the Community and Member States*
34, November 1987	— *Annual Economic Report 1987-88*
35, March 1988	— *The economics of 1992*
36, May 1988	— *Creation of a European financial area*
37, July 1988	— *Commission report to the Council and to Parliament on the borrowing and lending activities of the Community in 1987*
38, November 1988	— *Annual Economic Report 1988-89*
39, March 1989	— *International trade of the European Community*
40, May 1989	— *Horizontal mergers and competition policy in the European Community*
41, July 1989	— *The borrowing and lending activities of the Community in 1988* — *Economic convergence in the Community: a greater effort is needed*
42, November 1989	— *Annual Economic Report 1989-90*
43, March 1990	— *Economic transformation in Hungary and Poland*
44, October 1990	— *One market, one money*
45, December 1990	— *Stabilization, liberalization and devolution*
46, December 1990	— *Annual Economic Report 1990-91*
47, March 1991	— *Developments on the labour market in the Community* — *Quest — A macroeconomic model for the countries of the European Community as part of the world economy*
48, September 1991	— *Fair competition in the internal market: Community State aid policy* — *The ecu and its role in the process towards monetary union*
49, 1993	— *Reform issues in the former Soviet Union*
50, December 1991	— *Annual Economic Report 1991-92*
51, May 1992	— *The climate challenge: Economic aspects of the Community's strategy for limiting CO_2 emissions*
52, 1993	— *The European Community as a world trade partner*
53, 1993	— *(In preparation)*
54, 1993	— *Annual Economic Report for 1993*

Special editions

Special issue 1979	— *Changes in industrial structure in the European economies since the oil crisis 1973-78* — *Europe — its capacity to change in question!*
Special edition 1990	— *The impact of the internal market by industrial sector: the challenge for the Member States*
Special edition No 1/91	— *The economics of EMU*
Special edition No 2/91	— *The path of reform in Central and Eastern Europe*
Special edition No 1/92	— *The economics of limiting CO_2 emissions*

Reports and studies

1, 1993	— *The economic and financial situation in Italy*
2, 1993	— *Shaping a market economy legal system (in preparation)*
3, 1993	— *(In preparation)*
4, 1993	— *The economic and financial situation in Belgium*

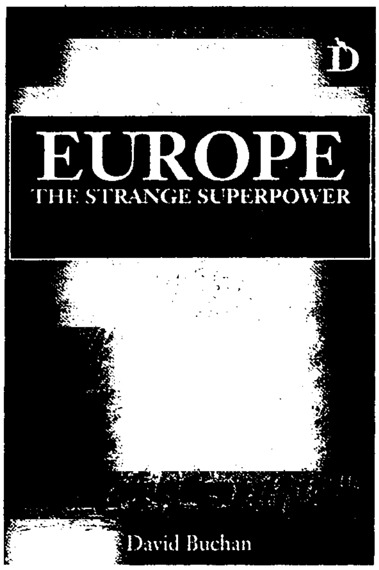
Europe

THE STRANGE SUPERPOWER

David Buchan

The European Community has developed into a curious creature. It has solid legs built on economic power, trade, aid and, maybe one day, a common currency. But its decentralized nature gives it a political hydra for a head.

This book tackles the contrast between the Community's growing world role and its persistent inability to play this part as a conventional superpower would — a paradox that is eased, yet not resolved, by the Maastricht Treaty. The book argues that, in a world shaped by and for nation States, the Community will forever remain a strange superpower, but that for all the apparent muddle of its institutions and occasional serious mistakes of its policies, it has gained a regional and global role from which it cannot now shrink back.



181 pp. Price: ECU 22 (excluding VAT)
CM-78-93-976-EN-C

22/10/93

This work retraces the history of the High Authority of the European Coal and Steel Community from its creation, following the Schuman Declaration of 9 May 1950, to the implementation of the Merger Treaty, which established a single Council and Commission for the three European Communities (ECSC, EEC and Euratom) in 1967.

The ECSC's founders hoped not only to create a common market between the Member States, but also to bridge the divide between former enemies and foster a new political climate. The brainchild of two convinced Europeans, Jean Monnet and Robert Schuman, the ECSC was bold in providing the initial momentum for European integration. It was to be an arduous task, one which confronted the High Authority with numerous difficulties. The authors describe how this supranational body coped with the complex problems posed by political and economic events, and with the highs and lows of European integration. In many areas, the High Authority was both pioneer and role-model.

This book is addressed to those who remember the years of hope which followed the Second World War, and to future generations who will be called upon to lead Europe in the 21st century.

Its authors are Dirk Spierenburg, the Netherlands' principal negotiator of the Treaty of Paris, Member of the High Authority for 10 years and its Vice-President from 1958 to 1962, and Professor Raymond Poidevin of the University of Strasbourg III, author of a biography of Robert Schuman and an expert on the early years of the Communities.

This publication is available in the following language:

French: **HISTOIRE DE LA HAUTE AUTORITÉ DE LA COMMUNAUTÉ EUROPÉENNE DU CHARBON ET DE L'ACIER**
Bruylant — Bruxelles, 1993 • Price: ECU 87.50

Sales: Office for Official Publications of the European Communities,
L-2985 Luxembourg; and accredited sales agents in the Member States.
CM-77-92-449-FR-C

22/10/93

This book by Giovanni Grasso, lecturer in criminal law at the University of Catania, deals with the relationship between Community rules and the criminal law systems of the Member States.

While the general view is that criminal law does not fall within the terms of reference of the European Communities but is the preserve of each Member State, the many ways in which Community legislation influences national criminal law cannot be overlooked.

For one thing, Community legislation has a direct impact on rules governing penalties in that it can take the form of punitive measures (not necessarily in the criminal courts) designed to secure the protection of legal interests generated by the activities of the European Communities.

For another, it has indirect effects on national criminal law, in particular by narrowing the scope of Member States' criminal law, but also by defining the types and severity of penalties in certain situations.

How does Community law influence the rules providing for penalties imposed to secure the legal interests of the European Communities?

What 'protection models' potentially exist for the interests of the European Communities, as determined mainly by Community provisions, by the widening of the scope of national criminal provisions and by measures to harmonize and coordinate the criminal laws of the Member States?

What effects does Community law already have on the criminal law systems of the Member States?

These are some of the questions raised in this book, which takes the form of an exhaustive examination of the relationship between Community law and the criminal law systems of the Member States and is one of the rare attempts to put the matter into an orderly theoretical perspective.

This publication is available in the following language:

Spanish: **COMUNIDADES EUROPEAS Y DERECHO PENAL**
Ediciones de la Universidad de Castilla-La Mancha, 1993 • Price: ECU 21.80

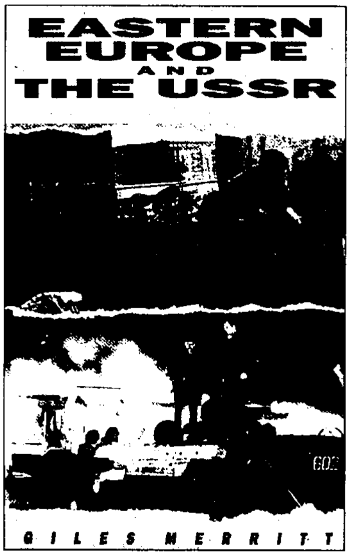
Sales: Office for Official Publications of the European Communities,
L-2985 Luxembourg; and accredited sales agents in the Member States.
CM-75-92-308-ES-C

22/10/93

Eastern Europe and the USSR

THE CHALLENGE OF FREEDOM

GILES MERRITT



The sparks of unrest that leapt from Berlin in November 1989 to Moscow's Red Square in August 1991 are firing an explosion of political and economic change. Out of the ashes of Communism is emerging the shape of a vast new European market-place stretching from the Atlantic to the Pacific.

In his fascinating account of Europe's fast-changing East-West relationships, Giles Merritt argues that a massive rescue operation must be mounted to ensure the success of these changes. The upheaval of Communism's collapse is 'The challenge of freedom'.

Written with the cooperation and support of the European Commission, this book sets out to identify the key policy areas where a new partnership is being forged between the countries of Eastern and Western Europe. It offers a privileged insight into the current thinking of European Community officials, politicians and industrial leaders, and analyses the factors that will determine whether the emerging market economies of Eastern Europe can truly be absorbed into a single European economy.

Immensely readable and often disturbing, this important book contains much up-to-date and hitherto unpublished information on such major East-West problem areas as energy, environmental control, immigration, trade relations, agriculture and investment. It also examines the arguments surrounding a 'Marshall Plan' for Eastern Europe that would emulate the famous US aid programme that helped relaunch the economies of Western Europe in the aftermath of World War II.

For anyone concerned about the future of Eastern Europe and the USSR, whether from a political, social or economic standpoint, this book is essential reading.

256 pp. — Price: ECU 14.30 *(excluding VAT)*
CM-71-91-655-EN-C

22/10/93

Bulletin
of the European Communities

The *Bulletin of the European Communities*, published by the Commission as a complement to the General Report, is the only official reference work containing a month-by-month account of Community activities.

Produced in the nine official languages of the Community, the Bulletin is a user-friendly and reliable reference tool thanks to:

- its clear presentation of the different stages of Community legislation, with copious references to the Official Journal and to previous issues;
- its monthly and annual indexes;
- its subject-based structure providing easy access to topical information on areas of special interest: the single market, economic and social cohesion, the Community's role in the world, etc.;
- its documentation section, which often includes previously unpublished material, such as addresses to the UN General Assembly, G7 declarations, etc.

Supplements to the Bulletin are published from time to time, containing background material on significant Community issues of the day. These are included in the annual subscription.

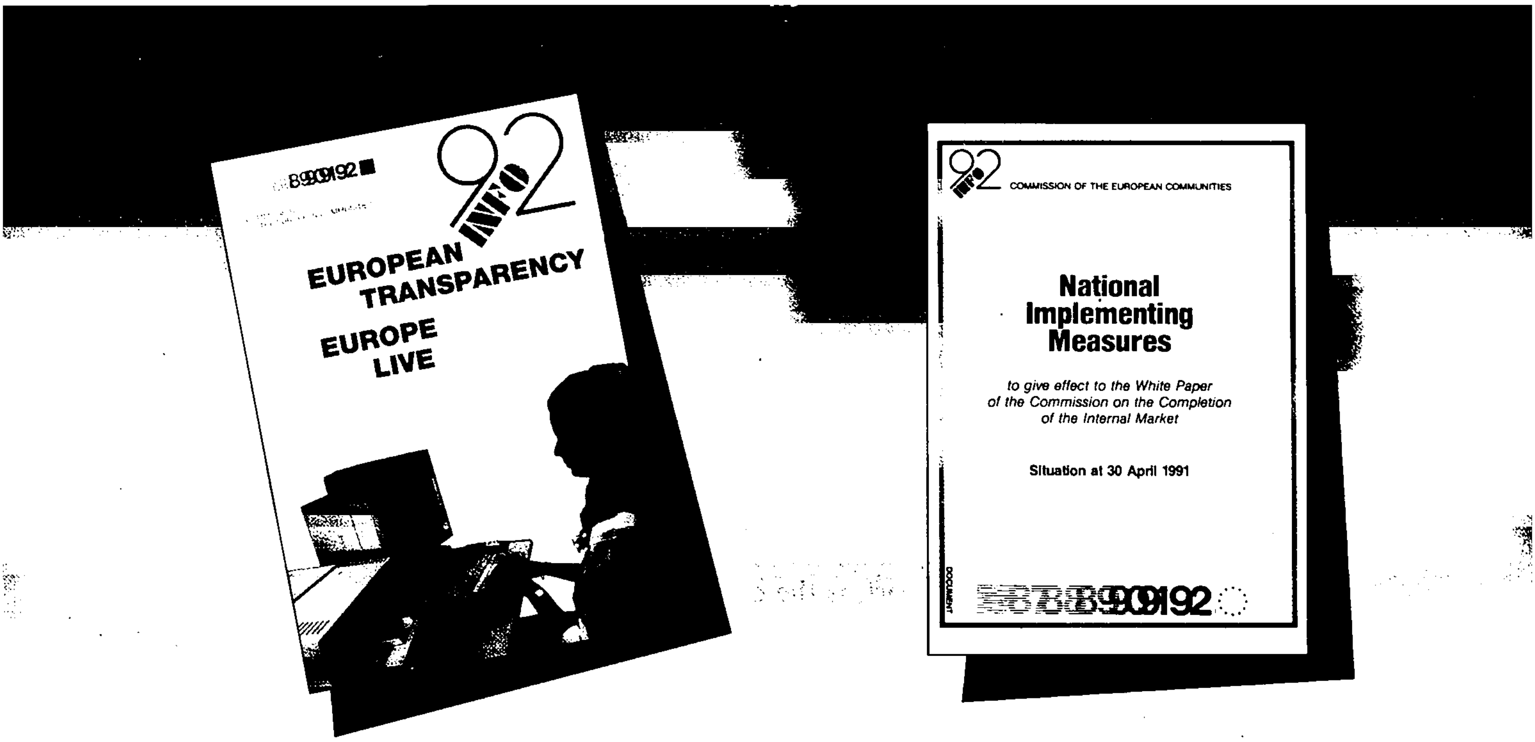
The following annual reports are also published in the nine official languages of the Community:

The **General Report on the Activities of the European Communities** is the most compact and comprehensive source book on the Community's progress over the years. It gives a bird's-eye view of matters handled at Community level, highlights the different phases of the decision-making process and serves as a guide to the intricacies of Community legislation, which reflect the economic and political challenges facing Europe.

The Agricultural Situation in the Community sets out the main policy decisions, traces developments in the most important markets and looks at the other aspects of the agricultural situation. It includes a detailed statistical annex.

The **Report on Competition Policy** gives a general view of the application of competition policy over the previous year. It is divided into four parts: main developments, policy towards enterprises, State intervention, and contacts with Community and other institutions.

22/10/93



INFO92

The Community database focusing on the objectives and the social dimension of the single market

As a practical guide to the single market, INFO92 contains vital information for all those determined to be ready for 1992.

INFO92 is really a simple market scoreboard, recording the state of play on the stage-by-stage progress of Commission proposals up to their adoption by the Council, summarizing each notable development and placing it in context, and keeping track of the transposition of directives into Member States' national legislation.

Using INFO92 is simplicity itself. It can be consulted on-screen by means of a wide range of everyday equipment connected to specialized data-relay networks. Fast transmission, the virtually instant updating facility (several times a day, if necessary) and dialogue procedures requiring no prior training make INFO92 ideal for the general public as well as for business circles and the professions.

The system offers easy access to information thanks to the choice of menus available and to the logical presentation modelled on the structure of the *White Paper*, the *Social Charter* and the decision-making process within the institutions.

Enquiries may also be made to the Commission Offices in the Member States or – for small businesses – the Euro-Info Centres now open in all regions of the Community.

Eurobases Helpdesk Tel. : (32-2) 295 00 03
Fax : (32-2) 296 06 24

22/10/93

Official Journal of the European Communities

DIRECTORY

OF COMMUNITY LEGISLATION IN FORCE
and other acts of the Community institutions

The Community's legal system is of direct concern to the individual citizen as much as to the Member States themselves.

Both lawyers and non-lawyers, then, need to be familiar not just with national law, but also with Community legislation, which is implemented, applied or interpreted by national law and in some cases takes precedence over it.

To make Community legislation more accessible to the public, the Commission of the European Communities publishes a Directory, updated twice a year, covering:

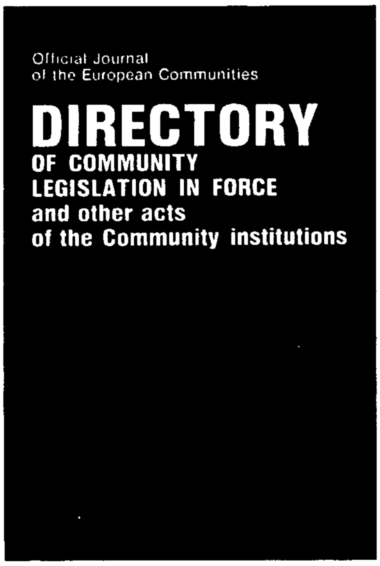
- binding instruments of secondary legislation arising out of the Treaties establishing the three Communities (regulations, decisions, directives, etc.);
- other legislation (internal agreements, etc.);
- agreements between the Communities and non-member countries.

Each entry in the Directory gives the number and title of the instrument, together with a reference to the Official Journal in which it is to be found. Any amending instruments are also indicated, with the appropriate references in each case.

The legislation is classified by subject matter. Instruments classifiable in more than one subject area appear under each of the headings concerned.

The Directory proper (Vol. I) is accompanied by two indexes (Vol. II), one chronological by document number and the other alphabetical by keyword.

The Directory is available in the nine official languages of the Community.



1 064 pp. – ECU 83
ISBN 92-77-77093-7 (Volume I)
ISBN 92-77-77094-5 (Volume II)
ISBN 92-77-77095-3 (Volume I and II)
FX-86-91-001-EN-C
FX-86-91-002-EN-C

EUROPEAN ECONOMY

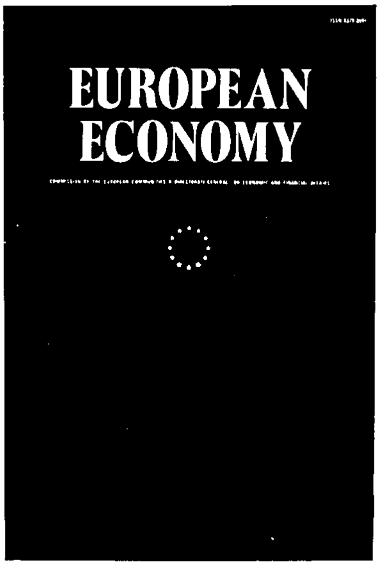
European Economy appears four times a year, in March, May, July and November. It contains important reports and communications from the Commission to the Council and to Parliament on the economic situation and developments, as well as on the borrowing and lending activities of the Community. In addition, *European Economy* presents reports and studies on problems concerning economic policy.

Two supplements accompany the main periodical:

- Series A – 'Economic trends' appears monthly except in August and describes with the aid of tables and graphs the most recent trends of industrial production, consumer prices, unemployment, the balance of trade, exchange rates, and other indicators. This supplement also presents the Commission staff's macroeconomic forecasts and Commission communications to the Council on economic policy.
- Series B – 'Business and consumer survey results' gives the main results of opinion surveys of industrial chief executives (orders, stocks, production outlook, etc.) and of consumers (economic and financial situation and outlook, etc.) in the Community, and other business cycle indicators. It also appears monthly, with the exception of August.

Unless otherwise indicated, the texts are published under the responsibility of the Directorate-General for Economic and Financial Affairs of the Commission of the European Communities, 200 rue de la Loi, B-1049 Brussels, to which enquiries other than those related to sales and subscriptions should be addressed.

Subscription terms are shown on the back cover and the addresses of the sales offices are shown on the third page of the cover.



22/10/93

SOCIAL EUROPE

Social Europe, published by the Commission of the European Communities, Directorate-General for Employment, Industrial Relations and Social Affairs (DG V), Coordination and Information Policy Unit, deals with current social affairs in Europe.

The basic review appears three times a year. In addition, a number of supplements/files are published annually, each dealing in depth with a given subject.

OFFICE FOR OFFICIAL PUBLICATIONS OF THE EUROPEAN COMMUNITIES
2, rue Mercier — L-2985 Luxembourg [Tel. (352) 499 28-1]

ENERGY

A CHALLENGE FOR EUROPE AND THE WORLD

Since it first appeared in 1985 **Energy in Europe** has become recognized as an invaluable source of information on both the policy-making and the operational aspects of European Community energy policy. Subscribers include leaders of energy-consuming and energy-producing industries and other decision-makers in the private and public sectors, as well as major consultancies and research institutes in and outside the Community.

In the present situation within the Community, itself at the eve of the single market, and *vis-à-vis* the huge energy problems, as well as the potential, of our neighbours in Central and Eastern Europe and in the Commonwealth of Independent States, the energy sector is of the greatest strategic importance. An understanding of it is indispensable in many areas of economic activity. It also constitutes a crucial factor within a debate of truly global importance, namely the protection of the environment, including the global warming issue.

Energy in Europe continues to keep its readers abreast of the ongoing situation as regards overall policy, markets, energy planning, and the constant quest for cleaner and more efficient energy technology.

Market trends and perspectives are covered in **two regular issues** each year, and also in a **Short-term energy outlook** appearing in the first half of the year and an **Annual energy review** at the end of the year which includes the world energy situation by region including EC Member States, the short-term energy outlook for the Community, and a review of trends in main indicators over 10 years. Further **Special Issues** are also produced in connection with major developments or events, including international conferences on or relevant to the energy sector.

Energy in Europe appears in English but each issue also contains translations into French, German or Spanish of articles from the preceding issue.

22/10/93

Also available:

Treaty on European Union

253 pp. * ECU 9 * ISBN 92-824-0959-7 * RX-73-92-796-EN-C — 1992

Conradh ar an Aontas Eorpach

253 pp. * ECU 9 * ISBN 92-824-0964-3 * RX-73-92-796-GA-C — 1992

National implementing measures to give effect to the White Paper of the Commission on the completion of the internal market – *Situation at 30 April 1993*

570 pp. * ECU 40 * ISBN 92-826-5368-4 * CM-78-93-677-EN-C — 1993

Adaptation of remuneration systems

75 pp. * ECU 11.50 * ISBN 92-826-5640-3 * CE-78-93-176-EN-C — 1993

The geographical dimension of competition in the European single market

182 pp. * ECU 26.50 * ISBN 92-826-5613-6 * CV-78-93-136-EN-C — 1993

European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) – Inventory of EC (legal) texts on drugs

1 330 pp. * ECU 101 * ISBN 92-826-5415-X * CM-76-92-722-EN-C — 1993

Reports of Commission Decisions relating to competition – 1989/1990

247 pp. * ECU 12 * ISBN 92-826-3868-5 * CV-73-92-772-EN-C — 1992

Harmonization of company law in the European Community – Measures adopted and proposed – *Situation as at 1 March 1992*

518 pp. * ECU 54 * ISBN 92-826-4314-X * C1-74-92-831-EN-C — 1992

The European Community and human rights

61 pp. * ECU 8 * ISBN 92-826-5083-9 * CM-76-92-407-EN-C — 1993

The opening-up of public procurement

46 pp. * ECU 6 * ISBN 92-826-5130-4 * CO-77-92-085-EN-C — 1993

Enterprise and people aspects in the information technology sector to the year 2000 – *Social Europe – Supplement 2/92*

111 pp. * ECU 9 * ISBN 92-826-4537-1 * CE-NC-92-002-EN-C — 1992

The regulation of working conditions in the Member States of the European Community – Volume 1 – *Social Europe – Supplement 4/92*

114 pp. * ECU 9 * ISBN 92-826-4996-2 * CE-NC-92-004-EN-C — 1992

XXVIth General Report on the Activities of the European Communities – 1992

520 pp. * ECU 20 * ISBN 92-826-5340-4 * CM-76-92-681-EN-C — 1993

EUR 14006 – Thesaurus guide – *Second edition, prepared by EUROBrokerS*

1033 pp. * ECU 78 * ISBN 92-826-4956-3 * CD-NA-14006-EN-C — 1993

EUR 14197 – Evaluation of economic effects: relevance and impacts of EC programmes promoting industrial R&D with special emphasis on small and medium-sized enterprises (pilot methodological study)
K. HORNSCHILD, F. MEYER-KRAHMER

129 pp. * ECU 13.50 * ISBN 92-826-3817-0 * CD-NA-14197-EN-C — 1992

EUR 14198 – Evaluation of the impact of European Community research programmes upon the competitiveness of European industry – concepts and approaches
J.S. METCALFE, L. GEORGHIOU, P. CUNNINGHAM, H.M. CAMERON

44 pp. * ECU 6.00 * ISBN 92-826-3818-9 * CD-NA-14198-EN-C — 1992

EUR 14777 – Research publications 1992

128 pp. * ECU 20 * ISBN 92-826-6165-2 * CD-NA-14777-EN-C — 1993

Employment in Europe – 1993

206 pp. * ECU 12 * ISBN 92-826-6055-9 * CE-79-93-275-EN-C — 1993

Energy policies and trends in the European Community
– *Energy in Europe*

197 pp. * ECU 21 * ISSN 1017-6705 * CS-BI-93-001-4H-C — 1993

Annual energy review – *Energy in Europe, Special issue, April 1993*

183 pp. * ECU 19 * ISBN 92-826-5325-0 * CS-77-92-102-EN-C — 1993

Focus on the East – *Energy in Europe*

157 pp. * ECU 19 * ISSN 1017-6705 * CS-BI-92-001-4H-C — 1992

A view to the future – *Energy in Europe*

176 pp. * ECU 19 * ISBN 92-826-3665-8 * CS-75-92-841-EN-C — 1992

Administrative structures for environmental management in the European Community

189 pp. * ECU 11 * ISBN 92-826-5152-5 * CR-77-92-134-EN-C — 1993

Small business and competition – A practical guide

55 pp. * ECU 6 * ISBN 92-826-5212-2 * CT-77-92-409-EN-C — 1993

Unemployed women in the EC – Statistical facts

103 pp. * ECU 7 * ISBN 92-826-6008-7 * CA-79-93-340-EN-C — 1993

Eurostat – European statistics: official sources

206 pp. * free of charge * ISBN 92-826-5328-5 * CA-76-92-900-3A-C — 1993

The European Community as a publisher 1993-1994 – *Extract from our publications catalogue*

160 pp. * JY-76-92-794-EN-C — 1993

The finances of Europe, Daniel STRASSER

439 pp. * ECU 18.50 * ISBN 92-826-2306-8 * CM-60-90-280-EN-C — 1992

XXIInd Report on Competition Policy – 1992

531 pp. * ECU 32 * ISBN 92-826-6126-1 * CM-76-93-689-EN-C — 1993

Europe in figures – *Third edition*

256 pp. * ECU 16.50 * ISBN 92-826-3371-1 * CA-70-91-895-EN-C — 1992

Inventory of taxes levied in the Member States of the European Communities – *14th edition*

726 pp. * ECU 80 * ISBN 92-826-0417-9 * CM-59-90-855-EN-C — 1992

A common market for services – *Current status 1 January 1993*
Banking • Insurance • Transactions in securities • Transport services • New technologies and services • Capital movements • Free movement of labour and the professions
(Internal market – Volume 1)

184 pp. * ECU 19 * ISBN 92-826-5257-2 * CO-10-93-001-EN-C — 1993

The elimination of frontier controls – *Current status 1 January 1993*
Control of goods • Control of individuals • Value-added tax • Excise duties
(Internal market – Volume 2)

128 pp. * ECU 19 * ISBN 92-826-5268-8 * CO-10-93-002-EN-C — 1993

Conditions for business cooperation – *Current status 1 January 1993 Company law • Intellectual property • Company taxation* – **Public procurement**
Internal market for energy
(Internal market – Volume 3)

104 pp. * ECU 19 * ISBN 92-826-5277-7 * CO-10-93-003-EN-C — 1993

Community social policy – *Labour market • Employment and pay • Improved living and working conditions • Free movement of workers • Social protection • Freedom of association and collective bargaining • Information, consultation and participation of employees • Equal treatment for men and women • Vocational training • Health and safety at work • Rights and protection of children and adolescents • The elderly • The disabled*
(Completing the internal market – Volume 6)

308 pp. * ECU 34 * ISBN 92-826-3609-7 * CO-62-91-006-EN-C — 1992

Address by Jacques Delors, President of the Commission, to the European Parliament on the occasion of the investiture debate of the new Commission – The Commission's work programme for 1993-94 – The Commission's legislative programme for 1993 – Joint declaration on the 1993 legislative programme – *Supplement 1/93 – Bull. EC*

69 pp. * ECU 6 * ISBN 92-826-5358-7 * CM-NF-93-001-EN-C — 1993

Research after Maastricht: an assessment, a strategy – *Supplement 2/92 – Bull. EC*

49 pp. * ECU 5 * ISBN 92-826-4307-7 * CM-NF-92-002-EN-C — 1992

Europe and the challenge of enlargement – *Supplement 3/92 – Bull. EC*

24 pp. * ECU 5 * ISBN 92-826-4524-X * CM-NF-92-003-EN-C — 1992

The challenge of enlargement – Commission opinion on Austria's application for membership – *Supplement 4/92 – Bull. EC*

49 pp. * ECU 5 * ISBN 92-826-4989-X * CM-NF-92-004-EN-C — 1993

The challenge of enlargement – Commission opinion on Sweden's application for membership – *Supplement 5/92 – Bull. EC*

59 pp. * ECU 5 * ISBN 92-826-5498-2 * CM-NF-92-005-EN-C — 1993

The challenge of enlargement – Commission opinion on Finland's application for membership – *Supplement 6/92 – Bull. EC*

55 pp. * ECU 5 * ISBN 92-826-5755-8 * CM-NF-92-006-EN-C — 1993

The challenge of enlargement – Commission opinion on Norway's application for membership – *Supplement 2/93 – Bull. EC*

56 pp. * ECU 6 * ISBN 92-826-5932-1 * CM-NF-93-002-EN-C — 1993

Study on transfer of the head office of a company from one Member State to another, K.P.W.G. European Business Centre, Brussels

66 pp. * ECU 8.50 * ISBN 92-826-5882-1 * C1-79-93-017-EN-C — 1993

The creation of the internal market in insurance, Bill POOL

126 pp. * ECU 10.50 * ISBN 92-826-0246-X * CB-58-90-336-EN-C — 1992

European Economy – No 44 – **One market, one money – An evaluation of the potential benefits and costs of forming an economic and monetary union**

351 pp. * ECU 18 * ISSN 0379-0991 * CB-AR-90-044-EN-C — 1992

European Economy – The economics of EMU – Background studies for European Economy No 44 'One market, one money'
Special edition No 1 – 1991

248 pp. * ECU 18 * ISBN 92-826-1996-6 * CM-60-90-208-EN-C — 1992

European Economy – No 49 – **Reform issues in the former Soviet Union**

240 pp. * ECU 20 * ISSN 0379-0991 * CM-AR-91-049-EN-C — 1993

European Economy – No 52 – **The European Community as a world trade partner**

218 pp. * ECU 23.50 * ISSN 0379-0991 * CM-AR-92-052-EN-C — 1993

European Economy – No 54 – **Annual Economic Report for 1993**

254 pp. * ECU 23.50 * ISSN 0379-0991 * CM-AR-92-054-EN-C — 1993

European Economy – *Reports and studies* – **The economic and financial situation in Italy – No 1/93**

175 pp. * ECU 26 * ISSN 0379-0991 * CM-78-93-944-EN-C — 1993

European Economy – *Reports and studies* – **The economic and financial situation in Belgium – No 4/93**

110 pp. * ECU 26 * ISSN 0379-0991 * CM-79-93-687-EN-C — 1993

Practical guide to legal aspects of industrial subcontracting within the European Community – Volume I – **The subcontract**

118 pp. * ECU 11.25 * ISBN 92-825-9593-5 * CB-27-89-001-EN-C — 1992

Practical guide to legal aspects of industrial subcontracting in the European Community – Volume II – **The legal framework of subcontracting in the twelve Member States**

70 pp. * ECU 9 * ISBN 92-826-4651-3 * CB-27-89-002-EN-C — 1992

The rules governing medicinal products in the European Community – Volume I – **The rules governing medicinal products for human use in the European Community** – *Revised edition / September 1991*

228 pp. * ECU 20 * ISBN 92-826-3166-4 * CO-71-91-631-EN-C — 1992

The rules governing medicinal products in the European Community – Volume II – **Notice to applicants for marketing authorizations for medicinal products for human use in the Member States of the European Community**

186 pp. * ECU 16.50 * ISBN 92-825-9503-X * CB-55-89-293-EN-C — 1992

The rules governing medicinal products in the European Community – Volume III – *Addendum No 2 – May 1992* – **Guidelines on the quality, safety and efficacy of medicinal products for human use**

206 pp. * ECU 23 * ISBN 92-826-4550-9 * CO-75-92-558-EN-C — 1992

The rules governing medicinal products in the European Community – Volume IV – **Good manufacturing practice for medicinal products**

177 pp. * ECU 19.50 * ISBN 92-826-3180-X * CO-71-91-760-EN-C — 1992

The rules governing medicinal products in the European Community – Volume VA – **The rules governing veterinary medicinal products in the European Community** – Revised edition/November 1992

218 pp. * ECU 24 * ISBN 92-826-5174-6 * CO-77-92-384-EN-C — 1993

The rules governing medicinal products in the European Community – Volume VI – Establishment by the European Community of maximum residue limits (MRLs) for residues of veterinary medicinal products in foodstuffs of animal origin

127 pp. * ECU 13.50 * ISBN 92-826-3173-7 * CO-71-91-768-EN-C — 1992

Credit institutions – Community measures adopted or proposed – *Situation as at August 1992*

356 pp. * ECU 37 * ISBN 92-826-4842-7 * C1-76-92-293-EN-C — 1992

Third survey on State aids in the European Community in the manufacturing and certain other sectors
84 pp. * ECU 10 * ISBN 92-826-4637-8 * CV-75-92-881-EN-C — 1992

Green Paper on the development of the single market for postal services (Communication from the Commission) – COM(91) 476 final
371 pp. * ISBN 92-77-45007-X * CB-CO-92-263-EN-C — 1992

Farm take-over and farm entrance within the EEC
148 pp. * ECU 15 * ISBN 92-826-3667-4 * CM-73-91-376-EN-C — 1992

Copyright and information limits to the protection of literary and pseudo-literary works in the Member States of the EC
262 pp. * ECU 27 * ISBN 92-826-3666-6 * CM-75-92-049-EN-C — 1992

Social security for persons moving within the Community – *Social Europe 3/92*
154 pp. * ECU 19 * ISSN 0255-0776 * CE-AA-92-003-EN-C — 1992

Urban social development – *Social Europe – Supplement 1/92*
125 pp. * ECU 9 * ISBN 92-826-4013-2 * CE-NC-92-001-EN-C — 1992

Towards a Europe of solidarity: housing – *Social Europe – Supplement 3/92*
142 pp. * ECU 9 * ISBN 92-826-4567-3 * CE-NC-92-003-EN-C — 1992

EUR 13914 – European cooperation in the field of scientific and technical research, COST secretariat with the assistance of J. L. Roland
93 pp. * ECU 16.50 * ISBN 92-826-4371-9 * CG-NA-13914-EN-C — 1992

EUR 14326 – The European market for value analysis
139 pp. * ECU 15 * ISBN 92-826-4130-9 * CD-NA-14326-EN-C — 1992

The current situation, evolution and future prospects for agriculture in Yugoslavia
128 pp. * ECU 12 * ISBN 92-826-3485-X * CM-72-91-899-EN-C — 1992

A practical guide to cross-border cooperation
112 pp. * ECU 10 * ISBN 92-826-3143-5 * CT-70-91-992-EN-C — 1992

New information technology in education – France
110 pp. * ECU 13 * ISBN 92-826-4771-4 * CY-03-92-007-EN-C — 1992

New information technology in education – Germany
124 pp. * ECU 13 * ISBN 92-826-4683-1 * CY-03-92-004-EN-C — 1992

New information technology in education – Denmark
138 pp. * ECU 14 * ISBN 92-826-4681-5 * CY-03-92-003-EN-C — 1992

New information technology in education – The Netherlands
108 pp. * ECU 12 * ISBN 92-826-4779-X * CY-03-92-011-EN-C — 1992

New information technology in education – Luxembourg
122 pp. * ECU 13 * ISBN 92-826-4777-3 * CY-03-92-010-EN-C — 1992

Removal of tax obstacles to the cross-frontier activities of companies – *Supplement 4/91 – Bull. EC*
67 pp. * ECU 4.25 * ISBN 92-826-3025-0 * CM-NF-91-004-EN-C — 1992

Agriculture in Europe
97 pp. * ECU 7 * ISBN 92-826-0476-4 * CM-60-90-418-EN-C — 1992

Telecommunications in Europe, Herbert UNGERER with the collaboration of Nicholas P. COSTELLO
Revised edition, 1990
257 pp. * ECU 10 * ISBN 92-826-1640-1 * CM-59-90-346-EN-C — 1992

European Economy – No 35 – **The economics of 1992**
222 pp. * ECU 16 * ISSN 0379-0991 * CB-AR-88-035-EN-C — 1992

European Economy – No 36 – **Creation of a European financial area – Liberalization of capital movements and financial integration in the Community**
212 pp. * ECU 16 * ISSN 0379-0991 * CB-AR-88-036-EN-C — 1992

European Economy – No 40 – **Horizontal mergers and competition policy in the European Community**
98 pp. * ECU 16 * ISSN 0379-0991 * CB-AR-89-040-EN-C — 1992

European Economy – No 45 – **Stabilization, liberalization and devolution – Assessment of the economic situation and reform process in the Soviet Union**
191 pp. * ECU 18 * ISSN 0379-0991 * CB-AR-90-045-EN-C — 1992

European Economy – No 50 – **Annual Economic Report 1991-92 – Strengthening growth and improving convergence**
285 pp. * ECU 20 * ISSN 0379-0991 * CM-AR-91-050-EN-C — 1992

European Economy – No 51 – **The climate challenge – Economic aspects of the Community's strategy for limiting CO_2 emissions**
253 pp. * ECU 23.50 * ISSN 0379-0991 * CM-AR-92-051-EN-C — 1992

European Economy – Social Europe – **The impact of the internal market by industrial sector: the challenge for the Member States** – *Special edition – 1990*
340 pp. * ECU 18 * ISBN 92-826-1818-8 * CM-59-90-887-EN-C — 1992

Social Europe 3/91 – Equal opportunities for women and men
202 pp. * ECU 18 * ISSN 0255-0776 * CE-AA-91-003-EN-C — 1992

Guide to the reform of the Community's structural Funds
104 pp. * ECU 11.25 * ISBN 92-826-0029-7 * CB-56-89-223-EN-C — 1992

The rights of working women in the European Community, Eve C. LANDAU
244 pp. * ECU 5.25 * ISBN 92-825-5341-8 * CB-43-85-741-EN-C — 1992

1992: the European social dimension, Patrick VENTURINI
119 pp. * ECU 9.75 * ISBN 92-825-8703-7 * CB-PP-88-B05-EN-C — 1992

Research on the 'cost of non-Europe' – Basic findings

Volume 1 – **Basic studies: Executive summaries**
578 pp. * ECU 53.25 * ISBN 92-825-8605-7 * CB-PP-88-B14-EN-C — 1992

Volume 2 – **Studies on the economics of integration**
652 pp. * ECU 57 * ISBN 92-825-8616-2 * CB-PP-88-C14-EN-C — 1992

Volume 3 – **The completion of the internal market: A survey of European industry's perception of the likely effects**
309 pp. * ECU 25.50 * ISBN 92-825-8610-3 * CB-PP-88-D14-EN-C — 1992

Volume 4 – **The 'cost of non-Europe': Border-related controls and administrative formalities – An illustration in the road haulage sector**
280 pp. * ECU 22.50 * ISBN 92-825-8618-9 * CB-PP-88-E14-EN-C — 1992

Volume 5 (Parts A + B)
The 'cost of non-Europe' in public-sector procurement
Part A: 552 pp. * ISBN 92-825-8646-4 * CB-P1-88-F14-EN-C — 1992
Part B: 278 pp. * ISBN 92-825-8647-2 * CB-P2-88-F14-EN-C — 1992
Parts A + B: ECU 120 * ISBN 92-825-8648-0

Volume 6 – **Technical barriers in the EC: An illustration by six industries**
The 'cost of non-Europe': Some case studies on technical barriers
242 pp. * ECU 21 * ISBN 92-825-8649-9 * CB-PP-88-G14-EN-C — 1992

Volume 7 – **The 'cost of non-Europe': Obstacles to transborder business activity**
154 pp. * ECU 12.75 * ISBN 92-825-8638-3 * CB-PP-88-H14-EN-C — 1992

Volume 8 – **The 'cost of non-Europe' for business services**
140 pp. * ECU 13.50 * ISBN 92-825-8637-5 * CB-PP-88-I14-EN-C — 1992

Volume 9 – **The 'cost of non-Europe' in financial services**
494 pp. * ECU 120 * ISBN 92-825-8636-7 * CB-PP-88-J14-EN-C — 1992

Volume 10 – **The benefits of completing the internal market for telecommunication services equipment in the Community**
197 pp. * ECU 17.25 * ISBN 92-825-8650-2 * CB-PP-88-K14-EN-C — 1992

Volume 11 – **The EC 92 automobile sector**
350 pp. * ECU 27.75 * ISBN 92-825-8619-7 * CB-PP-88-L14-EN-C — 1992

Volume 12 (Parts A + B)
The 'cost of non-Europe' in the foodstuffs industry
Part A: 424 pp. * ISBN 92-825-8642-1 * CB-P1-88-M14-EN-C — 1992
Part B: 328 pp. * ISBN 92-825-8643-X * CB-P2-88-M14-EN-C — 1992
Parts A + B: ECU 120 * ISBN 92-825-8644-8

Volume 13 – **«Le coût de la non-Europe» des produits de construction**
168 pp. * ECU 14.25 * ISBN 92-825-8631-6 * CB-PP-88-N14-FR-C — 1992

Volume 14 – **'The cost of non-Europe' in the textile-clothing industry**
256 pp. * ECU 21.75 * ISBN 92-825-8641-3 * CB-PP-88-O14-EN-C — 1992

Volume 15 – **'The cost of non-Europe' in the pharmaceutical industry**
182 pp. * ECU 13.50 * ISBN 92-825-8632-4 * CB-PP-88-P14-EN-C — 1992

Volume 16 – **The internal markets of North America – Fragmentation and integration in the USA and Canada**
176 pp. * ECU 13.50 * ISBN 92-825-8630-8 * CB-PP-88-Q14-EN-C — 1992

Special price for the complete series: **ECU 360**

Commission of the European Communities
OFFICES

EIRE — IRELAND

Dublin

Commission of the European Communities
Office in Ireland

Jean Monnet Centre
39 Molesworth Street
Dublin 2
Tel. (353-1) 71 22 44
Fax (353-1) 71 26 57
Telex (0500) 93827 EUCO EI

UNITED KINGDOM

London

Commission of the European Communities
Office in the United Kingdom

Jean Monnet House
8 Storey's Gate
London SW1P 3AT
Tel. (44-71) 973 19 92
Fax (44-71) 973 19 00/19 10
Telex (051) 23208 EURUK G

Belfast

Commission of the European Communities
Office in Northern Ireland

Windsor House
9/15 Bedford Street
Belfast BT2 7EG
Tel. (44-232) 24 07 08
Fax (44-232) 24 82 41
Telex (051) 74117 CECBEL G

Cardiff

Commission of the European Communities
Office in Wales

4 Cathedral Road
Cardiff CF1 9SG
Tel. (44-222) 37 16 31
Fax (44-222) 39 54 89
Telex (051) 497727 EUROPA G

Edinburgh

Commission of the European Communities
Office in Scotland

9 Alva Street
Edinburgh EH2 4PH
Tel. (44-31) 225 20 58
Fax (44-31) 226 41 05
Telex (051) 727420 EUEDING

UNITED STATES OF AMERICA

Washington

Commission of the European Communities
External Delegation

2100 M Street, NW (Suite 707)
Washington DC 20037
Tel. (1-202) 862 95 00
Fax (1-202) 429 17 66
Telex (023) 64215 EURCOM NW

New York

Commission of the European Communities
External Delegation

3 Dag Hammarskjöld Plaza
305 East 47th Street
New York NY 10017
Tel. (1-212) 371 38 04
Fax (1-212) 758 27 18
Telex (023) 012396 EURCOM NY

JAPAN

Tokyo

Commission of the European Communities
External Delegation

Europa House
9-15 Sanbancho
Chiyoda-Ku
Tokyo 102
Tel. (81-3) 239 04 41
Fax (81-3) 239 93 37
Telex (072) 28567 COMEUTOK J

BELGIQUE/BELGIË
Bruxelles/Brussel
Commission des Communautés européennes
Commissie van de Europese Gemeenschappen
Bureau en Belgique/Bureau in België
Rue Archimèdestraat 73
B-1040 Bruxelles/Brussel
Tél.: (32-2) 295 38 44
Fax: (32-2) 295 01 66
Télex: 26657 COMINF B

DANMARK
København
Kommissionen for De Europæiske Fællesskaber
Kontor i Danmark
Højbrohus
Østergade 61
Postbox 144
DK-1004 København K
Tlf.: (45-33) 14 41 40
Telefax: (45-33) 11 12 03/14 13 92
Telex: (055) 16402 COMEUR DK

FRANCE
Paris
Commission des Communautés européennes
Bureau de représentation en France
288, boulevard Saint-Germain
F-75007 Paris
Tél.: (33-1) 40 63 38 00
Fax: (33-1) 45 56 94 17/18/19
Télex: (042) 202271F

Marseille
Commission des Communautés européennes
Bureau à Marseille
2, rue Henri-Barbusse
F-13241 Marseille Cedex 01
Tél.: (33) 91 91 46 00
Fax: (33) 91 90 98 07
Télex: (042) 402538 EURMA

LUXEMBOURG
Commission des Communautés européennes
Bureau au Luxembourg
Bâtiment Jean Monnet
Rue Alcide De Gasperi
L-2920 Luxembourg
Tél.: (352) 43 01
Fax: (352) 43 01 44 33
Télex: 3423/3446/3476 COMEUR LU

SUISSE/SCHWEIZ/SVIZZERA
Genève
Commission des Communautés européennes
Bureau de presse et d'information
Kommission der Europäischen Gemeinschaften
Presse- und Informationsbüro
Commissione delle Comunità europee
Ufficio stampa e informazione
Case postale 195
37-39, rue de Vermont
CH-1211 Genève 20 CIC
Tél.: (41-22) 734 97 50
Fax: (41-22) 734 22 36
Télex: (045) 414 165 ECOM CH

BR DEUTSCHLAND
Bonn
Kommission der Europäischen Gemeinschaften
Vertretung in der Bundesrepublik Deutschland
Zitelmannstraße 22
D-53113 Bonn 1
Tel.: (49-228) 53 00 90
Fax: (49-228) 530 09 50/12
Telex: (041) 886648 EUROP D

Berlin
Kommission der Europäischen Gemeinschaften
Vertretung in der Bundesrepublik Deutschland
Außenstelle Berlin
Kurfürstendamm 102
D-W-10711 Berlin 31
Tel.: (49-30) 896 09 30
Fax: (49-30) 892 20 59
Telex: (041) 184015 EUROP D

München
Kommission der Europäischen Gemeinschaften
Vertretung in der Bundesrepublik Deutschland
Vertretung in München
Erhardtstraße 27
D-80331 München 2
Tel.: (49-89) 202 10 11
Fax: (49-89) 202 10 15
Telex: (041) 5218135

ESPAÑA
Madrid
Comisión de las Comunidades Europeas
Oficina en España
Calle de Serrano, 41, 5ª planta
E-28001 Madrid
Tel.: (34-1) 435 17 00
Telecopia: (34-1) 576 03 87/577 29 23
Télex: (052) 46818 OIPE E

Barcelona
Comisión de las Comunidades Europeas
Oficina en España
Avenida Diagonal, 407 bis, 18ª planta
E-08008 Barcelona
Tel.: (34-3) 415 81 77
Telecopia: (34-3) 415 63 11
Télex: (052) 97524 BDC E

VENEZUELA
Caracas
Comisión de las Comunidades Europeas
Delegación
Calle Orinoco, Las Mercedes
Apartado 67 076,
Las Américas 1061A
Caracas
Tel.: (58-2) 91 51 33
Telecopia: (58-2) 91 88 76
Télex: (031) 27298 COMEU VC

ΕΛΛΑΔΑ
Αθήνα
Επιτροπή των Ευρωπαϊκών Κοινοτήτων
Γραφείο στην Ελλάδα
Βασιλίσσης Σοφίας 2
Τθ 30284
GR-10674 Αθήνα
Τηλ.: (30-1) 724 39 82/83/84
Τέλεφαξ: (30-1) 724 46 20
Τέλεξ: (0601) 219324 ECAT GR

ITALIA
Roma
Commissione delle Comunità europee
Ufficio in Italia
Via Poli, 29
I-00187 Roma
Tel.: (39-6) 699 11 60
Telecopia: (39-6) 679 16 58 / 679 36 52
Telex: (043) 610184 EUROMA I

Milano
Commissione delle Comunità europee
Ufficio a Milano
Corso Magenta, 59
I-20123 Milano
Tel.: (39-2) 48 01 25 05
Telecopia: (39-2) 481 85 43
Telex: (043) 316200 EURMIL I

NEDERLAND
Den Haag
Commissie van de Europese Gemeenschappen
Bureau in Nederland
Korte Vijverberg 5
2513 AB Den Haag
Nederland
Tel.: (31-70) 346 93 26
Telecopie: (31-70) 364 66 19
Telex: (044) 31094 EURCO NL

PORTUGAL
Lisboa
Comissão das Comunidades Europeias
Gabinete em Portugal
Centro Europeu Jean Monnet
Largo Jean Monnet, 1-10.°
P-1200 Lisboa
Tel.: (351-1) 350 98 00
Telecopiador: (351-1) 350 98 01/2/3
Telex: (0404) 18810 COMEUR P

ORDER FORM

for European Economy and Supplements

ORDER FORM

European Economy ISSN 0379-0991

Price annual subscription (2 issues and 3 reports per year):
ECU 99

European Economy + Supplements A and B

Price combined annual subscription:
ECU 149

Number of copies: ....

....

Name and address:

Date: .... Signature: ....

ORDER FORM

Supplements to 'European Economy'.

Series A — **Recent economic trends**
Price annual subscription (11 issues per year):
ECU 41

Series B — **Economic prospects — business survey results**
Price annual subscription (11 issues per year):
ECU 41

Price both supplements:
ECU 81

Number of copies: ....

....

....

Name and address:

Date: .... Signature: ....

ORDER FORM

European Economy ISSN 0379-0991

Price annual subscription (2 issues and 3 reports per year):
ECU 99

European Economy + Supplements A and B

Price combined annual subscription:
ECU 149

Number of copies: ....

....

Name and address:

Date: .... Signature: ....

Office des
publications officielles
des Communautés européennes

L-2985 **Luxembourg**

Office des
publications officielles
des Communautés européennes

L-2985 **Luxembourg**

Office des
publications officielles
des Communautés européennes

L-2985 **Luxembourg**

Venta y suscripciones • Salg og abonnement • Verkauf und Abonnement • Πωλήσεις και συνδρομές
Sales and subscriptions • Vente et abonnements • Vendita e abbonamenti
Verkoop en abonnementen • Venda e assinaturas

BELGIQUE / BELGIË

Moniteur belge / Belgisch staatsblad
Rue de Louvain 42 / Leuvenseweg 42
B-1000 Bruxelles / B-1000 Brussel
Tél. (02) 512 00 26
Fax (02) 511 01 84

Jean De Lannoy
Avenue du Roi 202 / Koningslaan 202
B-1060 Bruxelles / B-1060 Brussel
Tél. (02) 538 51 69
Télex 63220 UNBOOK B
Fax (02) 538 08 41

Autres distributeurs/ Overige verkooppunten:

Librairie européenne/ Europese boekhandel
Rue de la Loi 244/Wetstraat 244
B-1040 Bruxelles / B-1040 Brussel
Tél. (02) 231 04 35
Fax (02) 735 08 60

Document delivery:

Credoc
Rue de la Montagne 34 / Bergstraat 34
Bte 11 / Bus 11
B-1000 Bruxelles / B-1000 Brussel
Tél. (02) 511 69 41
Fax (02) 513 31 95

DANMARK

J. H. Schultz Information A/S
Herstedvang 10-12
DK-2620 Albertslund
Tlf. 43 63 23 00
Fax (Sales) 43 63 19 69
Fax (Management) 43 63 19 49

DEUTSCHLAND

Bundesanzeiger Verlag
Breite Straße 78-80
Postfach 10 05 34
D-50445 Köln
Tel. (02 21) 20 29-0
Telex ANZEIGER BONN 8 882 595
Fax 202 92 78

GREECE/ΕΛΛΑΔΑ

G.C. Eleftheroudakis SA
International Bookstore
Nikis Street 4
GR-10563 Athens
Tel. (01) 322 63 23
Telex 219410 ELEF
Fax 323 98 21

ESPAÑA

Boletín Oficial del Estado
Trafalgar, 27-29
E-28071 Madrid
Tel. (91) 538 22 95
Fax (91) 538 23 49

Mundi-Prensa Libros, SA
Castelló, 37
E-28001 Madrid
Tel. (91) 431 33 99 (Libros)
431 32 22 (Suscripciones)
435 36 37 (Dirección)
Télex 49370-MPLI-E
Fax (91) 575 39 98

Sucursal:

Librería Internacional AEDOS
Consejo de Ciento, 391
E-08009 Barcelona
Tel. (93) 488 34 92
Fax (93) 487 76 59

Llibreria de la Generalitat de Catalunya
Rambla dels Estudis, 118 (Palau Moja)
E-08002 Barcelona
Tel. (93) 302 68 35
Tel. (93) 302 64 62
Fax (93) 302 12 99

FRANCE

Journal officiel Service des publications des Communautés européennes
26, rue Desaix
F-75727 Paris Cedex 15
Tél. (1) 40 58 77 01/31
Fax (1) 40 58 77 00

IRELAND

Government Supplies Agency
4-5 Harcourt Road
Dublin 2
Tel. (1) 66 13 111
Fax (1) 47 80 645

ITALIA

Licosa SpA
Via Duca di Calabria 1/1
Casella postale 552
I-50125 Firenze
Tel. (055) 64 54 15
Fax 64 12 57
Telex 570466 LICOSA I

GRAND-DUCHÉ DE LUXEMBOURG

Messageries du livre
5, rue Raiffeisen
L-2411 Luxembourg
Tél. 40 10 20
Fax 49 06 61

NEDERLAND

SDU Overheidsinformatie
Externe Fondsen
Postbus 20014
2500 EA 's-Gravenhage
Tel. (070) 37 89 911
Fax (070) 34 75 778

PORTUGAL

Imprensa Nacional
Casa da Moeda, EP
Rua D. Francisco Manuel de Melo, 5
P-1092 Lisboa Codex
Tel. (01) 69 34 14
Fax (01) 69 31 66

Distribuidora de Livros Bertrand, Ld.ª

Grupo Bertrand, SA
Rua das Terras dos Vales, 4-A
Apartado 37
P-2700 Amadora Codex
Tel. (01) 49 59 050
Telex 15798 BERDIS
Fax 49 60 255

UNITED KINGDOM

HMSO Books (Agency section)
HMSO Publications Centre
51 Nine Elms Lane
London SW8 5DR
Tel. (071) 873 9090
Fax 873 8463
Telex 29 71 138

ÖSTERREICH

Manz'sche Verlags- und Universitätsbuchhandlung
Kohlmarkt 16
A-1014 Wien
Tel. (1) 531 610
Telex 112 500 BOX A
Fax (1) 531 61-181

SUOMI/FINLAND

Akateeminen Kirjakauppa
Keskuskatu 1
PO Box 218
FIN-00381 Helsinki
Tel. (0) 121 41
Fax (0) 121 44 41

NORGE

Narvesen Info Center
Bertrand Narvesens vei 2
PO Box 6125 Etterstad
N-0602 Oslo 6
Tel. (22) 57 33 00
Telex 79668 NIC N
Fax (22) 68 19 01

SVERIGE

BTJ AB
Traktorvgen 13
S-22100 Lund
Tel. (046) 18 00 00
Fax (046) 18 01 25
30 79 47

SCHWEIZ / SUISSE / SVIZZERA

OSEC
Stampfenbachstraße 85
CH-8035 Zürich
Tel. (01) 365 54 49
Fax (01) 365 54 11

BĂLGARIJA

Europress Klassica BK Ltd
66, bd Vitosha
BG-1463 Sofia
Tel./Fax 2 52 74 75

ČESKÁ REPUBLIKA

NIS ČR
Havelkova 22
CZ-130 00 Praha 3
Tel. (2) 235 84 46
Fax (2) 235 97 88

MAGYARORSZÁG

Euro-Info-Service
Európa Ház
Margitsziget
H-1138 Budapest
Tel./Fax 1 111 60 61
1 111 62 16

POLSKA

Business Foundation
ul. Krucza 38/42
PL-00-512 Warszawa
Tel. (22) 621 99 93, 628-28-82
International Fax&Phone
(0-39) 12-00-77

ROMÂNIA

Euromedia
65, Strada Dionisie Lupu
RO-70184 Bucuresti
Tel./Fax 0 12 96 46

RUSSIA

CCEC
9,60-letiya Oktyabrya Avenue
117312 Moscow
Tel./Fax (095) 135 52 27

SLOVAKIA

Slovak Technical Library
Nm. slobody 19
SO-812 23 Bratislava 1
Tel. (7) 220 452
Fax : (7) 295 785

CYPRUS

Cyprus Chamber of Commerce and Industry
Chamber Building
38 Grivas Dhigenis Ave
3 Deligiorgis Street
PO Box 1455
Nicosia
Tel. (2) 449500/462312
Fax (2) 458630

MALTA

Miller distributors Ltd
PO Box 25
Malta International Airport
LQA 05 Malta
Tel. 66 44 88
Fax 67 67 99

TÜRKIYE

Pres Gazete Kitap Dergi Pazarlama Dagitim Ticaret ve sanayi AŞ
Narlibaçhe Sokak N. 15
Istanbul-Cagaloğlu
Tel. (1) 520 92 96 - 528 55 66
Fax 520 64 57
Telex 23822 DSVO-TR

ISRAEL

ROY International
PO Box 13056
41 Mishmar Hayarden Street
Tel Aviv 61130
Tel. 3 496 108
Fax 3 648 60 39

EGYPT/ MIDDLE EAST

Middle East Observer
41 Sherif St.
Cairo
Tel/Fax 39 39 732

UNITED STATES OF AMERICA / CANADA

UNIPUB
4611-F Assembly Drive
Lanham, MD 20706-4391
Tel. Toll Free (800) 274 4888
Fax (301) 459 0056

CANADA

Subscriptions only
Uniquement abonnements

Renouf Publishing Co. Ltd
1294 Algoma Road
Ottawa, Ontario K1B 3W8
Tel. (613) 741 43 33
Fax (613) 741 54 39
Telex 0534783

AUSTRALIA

Hunter Publications
58A Gipps Street
Collingwood
Victoria 3066
Tel. (3) 417 5361
Fax (3) 419 7154

JAPAN

Kinokuniya Company Ltd
17-7 Shinjuku 3-Chome
Shinjuku-ku
Tokyo 160-91
Tel. (03) 3439-0121

Journal Department
PO Box 55 Chitose
Tokyo 156
Tel. (03) 3439-0124

SOUTH-EAST ASIA

Legal Library Services Ltd
STK Agency
Robinson Road
PO Box 1817
Singapore 9036

SOUTH AFRICA

Safto
5th Floor, Export House
Cnr Maude & West Streets
Sandton 2146
Tel. (011) 883-3737
Fax (011) 883-6569

AUTRES PAYS
OTHER COUNTRIES
ANDERE LÄNDER

Office des publications officielles des Communautés européennes
2, rue Mercier
L-2985 Luxembourg
Tél. 499 28-1
Télex PUBOF LU 1324 b
Fax 48 85 73/48 68 17

10

CM-78-92-128-EN-C

Price (excluding VAT) in Luxembourg: ECU 26

European Economy (2 issues and 3 reports per year)	ECU 90	The annual subscription runs from 1 January to 31 December of each year
Supplements		
Series A — 'Recent economic trends' (11 issues per year)	ECU 37	Prices for single copies may be obtained from the sales offices
Series B — 'Business survey results' (11 issues per year)	ECU 37	
Both supplements	ECU 74	These are surface mail rates; for air subscription rates please apply to the sales offices
Combined subscription — *European Economy* and supplements	ECU 135	

OFFICE FOR OFFICIAL PUBLICATIONS
OF THE EUROPEAN COMMUNITIES

L-2985 Luxembourg

ISBN 92-826-5611-X

9 789282 656112