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DISECONOMIES IN SPACE: THE EFFECTS OF TRADITIONAL SECTORAL EC
POLICIES AND COLLABORATIVE R&D SCHEMES ON REGIONAL DISPARITIES IN
THE COMMUNITY

by

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Paper presented at the second annual European Community Studies
Association meeting on "The Challenge of a New European
Architecture: Implications for the European Community's Internal
and External Agendas", May 22-24, 1991, George Mason University,
Fairfax Virginia

Introduction

This paper is not concerned with either the history or the effectiveness of transnational regional policies as carried out by the European Communities. It comments on the effects and consequences of traditional and more recent sectoral EC policies for the performance of regional economies and argues that classic redistributive measures will no longer suffice to neutralize and wipe out the negative territorial externalities of the former. Traditional financial transfers to peripheral regions might not be as Sharpe suggests "the price that rationality ... pays to democracy, or economics to altruism ... but quite the contrary ... the price payed by the core to the peripheral region for peripheralising it" (Sharpe 1984:58) ¹. Hence, the interest here on focussing on those policies undertaken by the Community which are co-responsible for and amplify peripherality. With the help of a small number of critical studies undertaken in this field (especially Molle/Cappellin 1988, and Cappellin 1988), some of the territorial externalities of EC policies in agriculture, industrial policy, energy, transport, social policy, trade and monetary policy are briefly discussed. The service sector and the

¹ see also Coombes (1989:18) who maintains that political attitudes influenced by certain ideological and theoretical convictions as well as institutional structures at the regional level may have to change first before a proper endogenous development strategy has a chance to emerge. In so far "as a solution by means of public policy was available at all, it could only be perceived as a permanent process of redistribution of income demanding highly centralized authority. The possibility was ignored that the measures typically employed to realize such functional solutions might, by denying sufficient territorial identity and autonomy to the regions affected, actually help to generate the problems they were intended to solve."

regional impact of a wide range of intersectoral Community initiatives in the fields of technological innovation, telecommunication, and research and development policies are then made the subjects of more detailed analysis. It turns out that these latter domains are likely to contribute to dramatic increases in regional disparities to an extent significantly higher than was the case for more traditional sectors. All this is not to say that sectoral Community policies have been responsible for the steady increases in regional disparities throughout the last decades to the same extent as the incompatible actions pursued by domestic governments. Yet, they tend to support the existence of uneven developments in a pattern which is likely to weaken the prospects for economic and social cohesion after the coming into force of the internal market. The suggestion advanced in the concluding section of this paper is to re-direct attention from the weaknesses of less-developed to the strengths of prosperous regions and to use the latter's distinct infrastructural resources as blueprints for a long-term regional development strategy which would comprise all policy domains. This, particularly, concerns the endowment of regions with non-economic institutional devices and the possibilities for transnational authorities to shape and co-determine their creation, growth and stability. It also calls for a systematic regional impact assessment (RIA) of each sectoral policy 2 and

2 see CEC (1988a:8 and 1988b:38-50) where the need of RIA is reiterated although, as pointed out by Molle and Cappellin (1988:ix), "the access to the results of these studies has been rather difficult, as they had been published either not at all or

for improved internal coordination among the responsible Community Directorate Generals in charge 3 - both of which represent demands vigorously opposing the type of argument which has recently been forwarded in general by Cecchini against sectoral policy evaluation. 4 While the Cecchini position stands for the neo-liberal faith currently in vogue among relevant parts of the Commission, the assertion by a DG V (Employment, Industrial Relations, and Social Affairs) led faction clearly

only in widely disparate journals." For more information on RIA see further George (1981:92) and CEC (1987b:70) the latter, however, mentioning only two sectors where "the question of regional impact arises mainly: agriculture and social policies."

3 an early OECD study (1975:98) on industrial policy points out that "regional policy ... is an exercise in co-ordination: it is a complex effort requiring co-ordination of many national policies and at various levels of government." Regional policy by the European Community can, at best, be described as an exercise in co-ordinating the structural funds and even this has not always been achieved.

4 Cecchini's critique against over-emphasized preoccupation with sectoral repercussions of the internal market in Italy shall be quoted extensively: "From an economic viewpoint, the fundamental problem consists in identifying the positive and negative peculiarities of the Italian situation rather than in an easy but dangerous attempt to forecast the sectoral perspectives. This kind of forecasting is condemned to failure for at least three reasons: firstly, the effects of the completion of the internal market will manifest themselves in the whole of the Community, with reciprocal and multiple incidents across all sectors and all countries, a fact which renders extremely uncertain and dubious any kind of forecast concerning processes of sectoral restructuring and industrial reconversion. Secondly, exercises of this kind risk over-emphasizing those enterprises which, fearing increments in competition, pronounce their preoccupations more loudly than those finding themselves in an advantageous position. Finally, the results of the research on the costs of non-Europe tend to corroborate that the impact of an abolishment of the existing (market) restrictions is likely to lead to even more positive effects to the extent that reasonable and convergent policies are applied to the national level. That all requires that the analysis of domestic prospects for development shall be undertaken primarily on a global scale." (Cecchini 1988:15-16, author's translation)

demonstrates that the Commission is deeply split on the issue of social and economic cohesion:

"If, unlike the American economy where the social conditions of production are subordinate to economic objectives, the Commission intends to promote a process of development which offers a large measure of integration of the economic and the social, the least one can expect from this institution is that it acquires the means necessary for observing and, if possible, predicting the social changes prompted by the completion of the internal market" (CEC 1988a:28).

More radically phrased, as done by the authors of a FAST expert study, systematic RIA and resulting policy proposals, necessarily, "run counter to the currently prevailing ... policy" (CEC 1987a). Directing attention in this way from redistributive to more positive interventionist action and taking account of the fact that transnational regulation is increasingly replacing and complementing domestic regulatory regimes (Majone 1989, 1990) something like the establishment of an internal "regulatory budget" at the level of the EC Commission is then suggested.

Some of the above sectors (energy, transport, telecommunications) represent major inputs into the endowment of regions with infrastructural resources which, in the last instance, are not only the contextual determinants of a regional economy's productivity and relative competitiveness (Biehl, 1990) but delineate the political space within which governmental policies are able to directly steer and influence regional development. Technological resources represent a constantly increasing fraction of that group of infrastructures. Although infrastructure, normally, is characterized by high degrees of publicness and, consequently, by government provision (or private

provision under public regulation), two factors are currently undermining these traditional features of resource allocation and require a new and more encompassing understanding of the relevance of the productive environment and contexts of regional economies. Physical production inputs (here called 'hardware' infrastructure) are subject to an accelerated process of privatization (Peterson 1990, Ungerer/Costello 1988) especially in such strategically important fields as telecommunication. On the other hand, non-economic or collective production inputs ('software' infrastructure) have assumed a rather determining role for the performance of regional economies (Streeck 1989, Grabher 1990, Cooke/Morgan 1990, Grote 1991). They are privately generated and provided in most cases but under a more or less strongly pronounced regime of public obligations and norms which drastically diverge across the regions of the Community in terms of the extent to which regional authorities and institutions control, influence, and stimulate their procreation and promulgation.

Both the privatization of 'hardware' and the private character of 'software' infrastructure call for a transnationally binding regulatory policy (context regulation) aimed at a harmonization of these devices as a critical condition for the achievement of social, economic, and territorial cohesion. The need for context regulation of regional economies' productive environments and for enhanced institutional coordination of sectoral Community interventions increases proportionally to the pace with which the issue of 'political union' acquires

prominence in Community policy agendas. Redistributive reforms like the doubling of the structural funds until 1993, the shift from a project to a programme approach, and the cooptation of regional government in design and implementation of Community policies (see Bianchi/Grote 1990) will have their desired effects only if they are organically linked to a regulatory reform of an internal (establishment of a centrally coordinated regulatory budget) and an external nature (context regulation of the provision of 'hardware' and 'software' devices).

2. Traditional sectoral Community policies

Expenditure in agriculture still absorbs the most relevant part of the Community budget (74 per cent in 1985 with slight decreases since the coming into force of the SEA) and reduces the possibility to undertake alternative policies. The surplus produced in this sector represents enormous social costs.

Agriculture generates less than four per cent of GNP (CEC 1984c, 1985), which means that it tends to receive significantly more attention than is warranted by its total share in value added.

Whatever the reasons might be for this relative over-investment

5, the most startling facet of the CAP as the best equipped EC

5 Strijker and Veer (1988:23-24) mention five factors which might explain the high expenditure levels: firstly, agriculture still represents the main source of income with up to 25 per cent of output and more than 33 per cent of employment in Greece and Southern Italy; secondly, it generates income and employment in an indirect way since about 50 per cent of the EC food-processing industry directly depends on agricultural production; thirdly, agriculture is the greatest user of open space - the share of this sector in the EC's total acreage lies at around 60 per cent which has many implications for other policy domains; fourthly,

sectoral policy is that its contribution to a widening of the regional development gap is significant. It benefits most substantially those regions whose output is greatest. Output rates, in most cases, coincide with productivity rates of agricultural work. The bulk of the EC's output is produced in the more favoured areas of the North where incomes already tend to be higher and where numerous alternative occupations exist. While this is clearly demonstrated by the RICAP study of the Commission (CEC 1981), a more recent document (CEC 1987b) corroborates these early findings. In terms of EAGGF Guarantee Section expenditure per Annual Work Unit, indicators for the ten worst off and ten best off regions demonstrate relative funding rates of 1:24 (ibid:154). Since final production per worker is higher in the central and northern regions of the Community, they are the beneficiaries of greater EAGGF Guarantee section expenditure per worker. Conversely, most of the regions possessing low indicators of EAGGF expenditure per AWU (all of Greece, most of Spain, Portugal, Italy and some Southern French regions), also rank low or very low on labour productivity.

In general, the regional objectives of the CAP have never been very clear during the initial phases of Community activity in that sector. Notwithstanding the demands made by the Conference of Stresa - the meeting which prepared the ground for the EEC Treaty - in favour of a link between regional policy and

the sector produces many goods for basic needs and, finally, agricultural and food products possess a high share in international trade and account for, roughly, 12 per cent of intra-Community and 9 per cent of extra-Community trade.

the CAP (Strijker/Veer, 1988:25), Art. 39.2 of the Rome Treaty makes only marginal reference to potential regional disparities and possible counteraction. A distinct regional element was not introduced into the CAP before 1975⁶, the same year in which the launching of the ERDF opened up potential ways for a better balance between structural and spatial elements in agricultural policy. The distribution of EC expenditures in this sector, however, is not only determined by productivity and output rates: most farms are embedded in a service environment which is provided by downstream and upstream industries being interrelated among themselves (marketing of farm products, service firms, government-controlled research institutes, veterinary and quality control services). These commercial and contractual bonds by which farmers are linked to private service firms, industry and government institutions represent the main essence of agro-industrial complexes whose existence actually determines interregional competition for fund allocation. The size of farms and relative power of these complexes, no wonder, is highest in the core regions of the EC between Copenhagen and Paris, Hannover and London (including, eventually, the Po valley). Vested interests of this kind will surely oppose and try to block positive Community intervention in favour of both a more balanced growth of agriculture and a relative reduction in CAP assistance measures eventually linked to a redistribution in favour of alternative domains.

⁶ Directive 72/268/EC on mountain and hill farming in certain less favoured areas.

Traditional industrial policy of the Community has mainly dealt with the restructuring of declining industries, i.e. with the manufacturing sector (Molle, 1988:47) 7. Neither growth industries nor services formed part of EC initiatives until very recently when the launching of a European Technology Community (ETC) started to absorb the energy of different Directorate Generals of the Commission shaping policy in this domain. Although industrial policy has clear regional impacts as a result of the high concentration of both declining and growth industries in specific regions, the Rome Treaty is not very explicit in this respect, its basic philosophy being that a sound competition policy should suffice to regulate the market without a need for governments to fix prices and quantities for particular products. During a first phase in the process of the gradual emergence of a European industrial policy (until the early 1970s), the EC, accordingly, was mainly concerned with the creation of a European industrial base, with the facilitation of cross-border business integration and with first, but modest, initiatives towards the establishment of a common policy in the field of services and technology. Only during the second phase after the mid-1970s, when it became apparent that the centre of gravity of industrial policy had to change, the restructuring issue achieved more

7 concerning the provision of EC regions with services, Illeris (1989:3) maintains that "there are substantial regional disequilibria ... They are politically unacceptable, they show that resources in many areas are under-utilized, and in the long run they may endanger the coherence of the Communities ... Until now, the European regional policy ... has primarily focussed on the manufacturing activities."

prominence on Community policy agendas. "Coping with the losers and spotting the winners to replace them increasingly came to dominate industrial policy thinking" (Swan, 1983:178). The current phase, starting with the signing of the SEA and the publication of the Commission's White Paper, is characterized by a de-coupling of the above principles. 'Coping with the losers' is increasingly delegated to those Directorates responsible for regional policy, not least because in the realm of restructuring declining industrial sectors there is nothing to compare with the powerful financial resources of the ERDF. 'Spotting the winners', on the other hand, has come to mean providing a limited group of leading European multinationals - which, not long ago, carried the disparaging attribute of national champions and attracted a good deal of critical attention by DG IV (competition policy) - with a liberalized transnational regulatory framework and with significant financial assistance. These tasks are now jointly assumed by the services of the DG for telecommunications, information industries and innovation (XIII) and that responsible for industry and the internal market (III). Concerns for the state of competition (block exemption of the European information technology industries from EC competition rules since 1985) and the territorial impact of this new type of EC high-tech policy are either neglected and suppressed or externalized to other branches of the Commission with the resulting effects of considerable coordination problems and fierce internal struggles over competences and responsibilities. Since the top priority in the Community is the full implementation of the White Paper (i.e.

dismantling the material and technical barriers to transborder business activities and abolition of domestic protectionism in procurement markets), it is unlikely that those fractions of the Commission dealing with problems of either size (DG IV) or spatial location (DGs XVI and XXIII) of industrial groupings and economic activity will be able to improve their relative power positions within the institution under current conditions.

The term 'Community energy policy' is of recent vintage. In its review 'Energy and Europe', the Commission refers to the year 1967, when the executive institutions of the three communities merged, as that of the first 'Community energy action'. This notion was first diffused publicly in 1980, when the Community committed itself to energy objectives to be realized by 1990. The proposal was approved and, given a minimum of political support by the member states, concerned all of the main problems of energy policy. Recently, the Commission has included energy considerations in its actions of regional policy. Such actions are undertaken either to support economic development in the less favoured regions, or to help adjust potential energy supply to energy requirements. In the future, this might, eventually, coincide with the VALOREN programme 8 whose objectives are to strengthen the economic base in the regions concerned by improving the conditions of local energy supply (alternative and renewable energies, namely solar and wind energy, biomass including urban waste, small-scale hydro power and geothermal

8 approved by the Council on 27 October 1986. See: COM (85) 838 final

energy) and to make more efficient use of energy (energy savings and oil substitution). The underlying idea of the programme is to make such regions less sensitive to disturbances in the traditional energy markets, in particular oil. Generally, no author has yet attempted a synthesis of the territorial impact in the conditions of energy supply. The study 'Energy 2000', however, comes to a clear conclusion: Italy, Ireland and Greece are, together with Portugal and Spain, the member states with the structurally most unfavourable energy situation. They are the same countries which have the most underdeveloped regions and which are particularly vulnerable to disturbances in energy supply while, at the same time, in the UK, Germany, France and Belgium the situation is characterized by a contraction of the coal industry. Generally, the possibilities of the Commission to undertake action in this field are rather limited. Programmes such as 'Valoren' are not likely to change very much in this respect. It is also hard to predict whether Community energy policy action will concentrate on Northern European industrial regions in severe decline or whether it will switch to the developing regions of the South.

Before the ERDF reforms took off, almost three quarters of the structural funds had been spent on physical or hardware infrastructures, i.e. mainly on transport ⁹. Although the

⁹ many observers agree that the ERDF's bias in favour of transport infrastructure provision is also due to the fact that physical indicators (kilometers of roads accomplished) and criteria for progress of implementation (ECU per square meter) are more easily measurable than is the case for other types of investment. The monitoring capacity of the Commission is less

Community has certainly promoted the incorporation of peripheral regions into a comprehensive transport network, the improvement of transport infrastructure may also be harmful to the regions concerned. The opening up of transport and export opportunities for a peripheral region is also likely to promote out-migration of labour ¹⁰ and to expose that region to imports from other territories. If the peripheral economy is initially weak, improvements in transport may serve to expose those weaknesses to outside competition and may destroy a 'protection of distance' (Aberle 1979, Oettle 1979, Voigt 1979). Moreover, Community legislation on working conditions in transport industries may raise those costs which are directly attributable to distance and so weaken the competitive position of the periphery ¹¹.

Few, if any, EC regions possess such a deficient transport system that major regional resources are lying untapped.

Bonnaïous (1979) argues that the role of transport is now marginal to regional development and Hepworth (1986) and Bakis (1985) maintain that computer networks have much more profound

endangered here than, for example, in the case of assistance to SMEs or the training of highly qualified personnel and its subsequent insertion into the production process.

¹⁰ "The main effect of the Autostrada del Sole has been to encourage additional migration from the Mezzogiorno to more developed areas of Italy. The motorways had little effect on the behaviour of SMEs: it appears that the large firms and state enterprises which established themselves in the South were more attracted by state subventions than by improved land-transport links" (Fullerton/Gillespie 1988:89).

¹¹ EC regulations on drivers' hours and the use of tachographs to enforce them have been vigorously resisted in Ireland and the UK because they are seen to impose distance thresholds at particular points on the transport network (Fullerton/Gillespie, 1988).

implications for the development prospects of peripheral or otherwise less-favoured regions than transport structures. Overall, it can be argued that the quality of 'regional information environments' will emerge as the main factor differentiating one region from another. As in the case of industrial policy for declining industries, regional policy budget lines are far more important in terms of direct Community spending ¹² than the limited expenditure under transport policy. Since the objectives of the ERDF and of the Transport Funds are different, there has been little integration of spending in either schemes or areas. Transport fund expenditure did not particularly consider the needs of less favoured regions and its appropriations were rather equally apportioned between the core and periphery. Attempts of the Commission since the early 1970s to create a more coordinated European transport policy ¹³ and to increase its own capacities in this respect have been rather unsuccessful although a resolution was passed in 1976, and finally adopted by the Council, which suggested that a fraction of the total transport budget should be reserved and allocated for infrastructure projects of Community interest. Overall, problems surrounding the role of transport policy in regional development suggest that Community policies did relatively little

¹² in 1981, e.g., the funds available for the Community's transport policy amounted to 10 million ECU, while expenditure on regional policy approached 2400 million ECU (ibid.)

¹³ in October 1973, the Commission submitted a first outline of a common transport policy (CEC 1973) which was accepted by the EP but neither discussed nor endorsed by the Council.

to help the development of disadvantaged regions and, even more so, they may have worked in the opposite direction.

Various empirical studies have attempted to clarify how Community trade policy and figures for import and export affect employment on the national level ¹⁴. The most common method for measuring domestic trade performance uses accounting identities which lead to simple index numbers. Accordingly, this has also been attempted by the, so far, only available study on the regional impacts of trade policy (CEC 1984b). Evidence for negative territorial externalities of Community trade policy in terms of a worsening of the economic situation in backward regions is, however, hard to provide. The difficulties of quantifying integration effects on a regional scale spring from a lack of data available at that level. Information on prices, trade flows, etc. is much harder to get for regions than it is for nations. Yet, the results of the study by Kirschen et.al., whose purpose was to 'examine how the patterns of regional development within the European Community are affected by policies regarding the Community's trade with the rest of the world' (ibid:1), are in line with the conclusions of the Community's RICAP study at least with respect to agricultural trade. The Community protected its markets for agricultural products and, hence, helped many peripheral regions. The final impact, however, was much greater in several better-off regions in the northern parts of the Community.

¹⁴ one of the most recent ones being Sapir 1989

With regard to the territorial effects of EC monetary policy, a common currency and a European Monetary Union, there is generally much pessimism among observers. A rather early document by prominent European economists (The Economist 1975) recognizes that the tendency for capital and labour to move to the central and more developed regions may be accentuated by monetary union. The authors attribute the tendency to the fact that wages in the peripheral low productivity areas may be increased to those of the high productivity areas while differences in productivity remain unchanged, a prospect which would lead to subsequent out-migration of capital from these areas and to further decline. A policy is, therefore, recommended which does not permit encouragements of such moves. Yet, rather than elaborating adequate measures to be adopted in the realm of monetary policy itself, the authors follow the practice of authorities responsible for other sectoral policies and, quite conveniently, shift the problem to a domain which performs the function of a dumping ground for all kinds of negative externalities without, actually, being equipped for that task: "a vigorous regional policy as an integral part of monetary unification in the EC" 15. With regard to the more recent scenario, it seems that the logical outcome of past and present moves toward economic integration are very likely to result in irrevocably fixed

15 "We regard it as essential that such a policy should concentrate on eliminating the causes of regional imbalance by raising productivity levels in the poorer areas and that income transfers to alleviate the consequences of low productivity should be used as an interim measure only." (ibid.)

exchange rates leading to a common currency already in the short-to medium-term. This would, other things being equal, unavoidably produce severe problems of inflation and unemployment in particular states and regions. The objective of economic cohesion, therefore, presents the Community with a serious, and so far unresolved, dilemma.

The report of the Delors Committee on Economic and Monetary Union of 18 April 1989, for example, admits that further monetary and economic integration must, without compensatory measures, exacerbate regional disequilibria. It then follows the orthodoxy of market integration in stating that in an economic union measures designed to strengthen the mobility of factors of production and the flexibility of prices would help to deal with such imbalances (paragraph 26). But the report also recommends as part of its proposed solution to the disparities that are expected as a result of convergence common policies to enhance the process of resource allocation in those economic sectors and geographical areas where the working of the market forces needed to be reinforced or complemented (paragraph 27). The Delors Report is not an official statement by the Commission, but it seems to reflect the same incapacity to reconcile different views of the purposes of public intervention in economic affairs as the Commission's own repeated statements over the years. 'Economic and social cohesion' seems, indeed, to be the latest in a series of efforts to reconcile the irreconcilable. The truth is that problems of this order go

beyond the scope of purely economic explanation" (Coombes 1989:10).

If there is a justification for structural intervention in macro-economic terms, this justification is a political one. As noted by Coombes, the decision to double the structural funds is nothing more than a literal side-payment to those states expecting to experience greatest difficulty in adjusting to the conditions of market integration, with the removal of protective devices those conditions entail.

It is not self-evident to include Community social policies into this menu of territorial negative externalities of sectoral policies. The social policy domain is, by definition, inter-sectoral in character and possesses strong spatial elements. Yet, if we limit attention to its redistributive aspects, it becomes possible to speak of a bias of European Social Fund (ESF) operations in favour of regions in industrial decline and disregarding those which, today, carry the label of objective 1 regions (Steinle 1988). This was the case at least until the late 1970s when the Commission started to work towards an increased coherence and coordination of its policies in this domain, reorienting ESF operations so that more regions than before are now eligible for Fund application 16. Authors do not completely agree, however, on the problem of regional effects of the Fund.

16 the commitment appropriations of the ESF in 1985 totalled roughly 2200 million ECU with over a third committed to less favoured regions. Vanhoven and Klaassen (1987:442) even see appropriations to less developed regions increasing from 1977 (70 per cent) to 1981 (87 per cent) and 1982 (90 per cent).

While Vanhoven and Klaassen (1987:443) maintain that "the Fund is a very valuable complement to the ERDF", Cappellin (1988:107) attributes only minor importance for regional development to its operations. This is certainly due to the lack of effective additionality of Community measures to existing domestic policies undertaken in this domain. Steinle argues that even completely new guidelines for ESF intervention would change little in this respect 17. The Commission itself relates the higher geographical spread of ESF operations, relative to those of the ERDF, to principally different logics underlying the two instruments: the ESF's tasks are

"primarily functional ..., and regional criteria become involved only in a second stage, in the allocation of aid. The Regional Fund's tasks, by contrast, are primarily geographically oriented, with functional selection criteria ... playing a role in the second stage of the policy process" (CEC 1987b:72).

In the light of the above observations, it seems that the ESF shows hardly any direct effects on the regional level. Also, attempts at assessing the impact of interventions are rather disappointing. While a Belgian report states that "it is difficult to quantify the impact of the ESF in terms of jobs created" (CEC 1984a:19) and its German counterpart maintains that "the inaugural effect of the Social Fund of measures taken within the framework of labour market policy in the FRG cannot be measured precisely" (ibid:20), the French and other national reports completely dismiss the argument.

17 "The new priority of Social Fund interventions for the training of young people, for example, has on the whole not led to more young people being trained, but rather to member states submitting more projects within existing schemes" (Steinle 1988).

It would be reductionist, however, to discuss transnational social policy in terms of redistribution alone. Streeck (1989:1-2) distinguishes between a structural-institutional and a functional-economic perspective with regard to the social dimension of the internal market. The first concerns constitutional issues (transfers of social policy competences from the member state level to Brussels) and is likely to remain entrenched in struggles between incompatible national interests. The second perspective is then discussed in 'accomodative-redistributive' and 'productive-socio-political' terms:

"A social dimension defined in 'redistributive-political' terms is not of great interest to the scholar. It is rather a matter of horse-trading in the political market. For non-politicians and outside observers, whether they want it bigger or smaller depends at best on paradigmatic prejudice (economists being customarily for 'efficiency', sociologists 'for equity') and political taste, and at worst on who pays for one's research projects. This is different, however, where the social dimension of an economy is seen as serving a productive and not just a redistributive purpose" (ibid:3-4).

Unfortunately, this view does not seem to belong to the conventional wisdom available among those responsables for the domain. Yet, it is precisely non-economic production inputs and 'software infrastructures' such as broad-based skills and qualifications, the propensity of individual entrepreneurs to cooperate and 'network' with potential competitors and with public agencies and trade unions, the level of social peace, etc. which determine regional development perhaps more than any other motive. The need to pay more attention to training measures and to qualification of the workforce has, of course, been recognized by the Commission as well (CEC 1988b:46). At the same time, and

despite many verbal assertions against an unregulated internal market advanced even by prominent economists such as Padoa-Schioppa 18, there are few signs for initiatives in favour of an incorporation of regional actors into Community social policies and of policy guidelines and regulations which would contribute to a more even and appropriate allocation of institutional assets among the regions of the Community 19. Training, retraining and employment continue to be treated in isolation, as disparate parts of labour-market policies and possess little affiliation to regional policy objectives (Steinle 1988).

Although having received an amazing amount of public attention and figuring high on the list of complementing the internal market with a social dimension, the so called Social Dialogue between EC-level employers' and workers' associations, as well, lacks any concrete element which would make social partner concertation operational for purposes of regional development. Given the relatively unsuccessful track record this dialogue had since its early beginnings in the mid-1970s (Grote 1987) and considering the discouraging attempts of the Commission to 'sectoralize' it (Buda/Vogel 1989), it may be more reasonable to 'regionalize' the exercise, i.e. to discuss and launch social

18 see, for example, the Padoa-Schioppa Report which warns that "any easy extrapolation of 'invisible hand' ideas to the real world of regional economies in the presence of market opening measures would be unwarranted in the light of economic history and theory."

19 the experiences made with the Integrated Mediterranean Programmes are quite encouraging in this respect but it is not clear whether they have a chance of being generalized for all types of structural interventions (see Bianchi/Grote 1990).

partner concertation in terms of furnishing a non-economic but, nevertheless, important productive input to the performance of regional economies 20. Provided a pertinent geographical level with sufficient institutional saturation can be defined 21 where concertation has a chance to flourish, organized collective action of this kind

"might meet the needs of economic development better than direct intervention by public authorities itself" (EPRU 1989:7/1-2). "Increased consultative activity involving economic and social interests on the basis of the regional economy indicated an enhanced capacity for self-organization by productive networks, previously frustrated by an inappropriate territorial allocation of public authority" (ibid:56).

By way of concluding this section, the largely self-evident results of the study by Molle and Cappellin (1988) might suffice here. Table 1 demonstrates negative (-), positive (+) and neutral (0) effects of sectoral EC policies by policy area, type of region and the latter's location (North and South).

20 this is discussed, for the case of Italian regions in general and that of Emilia Romagna in particular, by Garmise and Grote 1990.

21 this level "should ... be defined in a functional manner with respect to a potential development project ... (and) is a space where it is possible to undertake a global and coherent action and where there exist common interests sufficiently strong to provoke a dialogue between local partners, where it is possible to reach sufficient numbers of people to acquire influence and make an impact and where cultural references conducive to awareness and a common commitment already exist or are of a nature to be developed." (CEC 1988a:23)

Table 1: schematic view of impacts by policy area and type of region

Effect	Metropolitan		Intermediate		Agricultural/ peripheral		Old industrial	
Policy Area	N	S	N	S	N	S	N	S
Agriculture	0	0	+	0	0	-	0	0
Industry	-	0	+	+	0	0	-	-
Energy	0	-	0	-	-	-	0	0
Transport/Telecm.	+	0	+	-	0	-	0	0
Social/Employmt.	?	?	?	?	?	?	?	?
Trade	0	0	0	0	0	0	0	0
Macro/Monetary	+	0	+	0	0	0	-	0

Source: Molle/Cappellin 1988

The sectoral policies briefly discussed in the foregoing pages show positive effects exclusively in metropolitan areas and in a group of so called intermediate regions, while neither agricultural/peripheral nor old industrial regions appear to reap benefits from them - if they are not altogether negatively effected by existing schemes, as is the case in 25 per cent. The South of the Community (with the exception of some industrial policy interventions) has gained nothing from these policies.

3. High tech and the service sector

Much has been said in recent years about the benefits of a Community of two speeds with some centrally located member states dictating the pace of development in core policy areas and the remaining partners slowly adapting to the hard facts in a second phase. Yet, opinions of this kind no longer carry the character of a mere strategic option being debated at the conference tables of European Political Cooperation. The features assumed by the European Technology Community (ETC) during its brief history of only five years demonstrate that large territories of the EC, entire countries included, do not only not form part of this exclusive club ²² but, moreover, are likely to stay out for a long period to come. Both the second phase of the Community's Technology Framework Programme for cooperative R&D ²³, which - having been launched in 1985, marked the beginnings of an ETC (Wäldchen 1988:50) and was, one year later, formally recognized by the Single European Act - together with the establishment of the European Research Cooperation Agency (Eureka) ²⁴, exhibit

²² "Many of the European level initiatives may be characterized as 'club-type' developments. Perceiving a major threat in terms of Japanese and US technology and market penetration, core groups at both the national and European level have formed defensive groupings manifested in terms of initiatives like Esprit to protect their interests." (Shearman 1989:6)

²³ the Framework Programme comprises and coordinates initiatives as Esprit, Eclair, Brite, Race, etc. Its financial endowments amount to 1.1 billion ECU per year (Peterson 1990:12)

²⁴ Eureka is entirely intergovernmental and independent of the EC. It groups together all 12 member states, the 6 EFTA countries, Turkey and the EC Commission the latter participating as a nominal extra member state. Eureka is designed to encourage "near market, product-oriented R&D".

extraordinary concentration rates in terms of territorial adhesion or origin of participating firms and of the latter's size and corporate power. Positive Community initiatives in the industrial policy domain are now, more than ever, dominated by activities aimed at enhancing the EC's high tech potential. The sustained focus of Community policies on R&D and other knowledge-intensive industries is, of course, necessary if one considers, for example, that 80 per cent of growth observed in the US economy between 1909 and 1949 was attributable to technical progress rather than to increasing inputs of capital and labour (Solow 1959, Thwaites/Oakey 1985:1). What is less understandable is that the intersectoral character of these policies has rarely been acknowledged and, secondly, that little is being done to fight the whole array of resulting negative externalities. The latter appear both territorially in regions and functionally in related policy domains.

Very significant consequences of these initiatives accrue to the service sector which, for two reasons, has been left aside in the foregoing section. Firstly, a comprehensive and transnationally coordinated service sector strategy never did exist nor does it exist today (Molle 1983:18 and 1988:47; Illeris 1989:3) and, secondly, the sector cannot be discussed separately without considering the IT domain and R&D initiatives as well (CEC 1984d and 1987a). Given the strategic importance of the service sector in terms of value added and employment, the reluctance of the Community to develop a consistent strategy for this domain in order to create conditions for a more balanced

factor endowment of the regions is preoccupying. At current market prices, the share of manufactured products in gross-value added in the Community (EUR 6) has declined from 33 per cent in 1960 to about 26 per cent in 1983. This declining pattern is mirrored by the corresponding share of market services, which expanded from 36 per cent to over 43 per cent. The share of non-market services also grew steadily from 11 to 15 per cent (European Economy 1986a). With regard to employment figures, the share accounted for by market and non-market services (EUR 6) rose from 48 to 59 per cent (European Economy 1986b). In some countries, these figures are approaching 70 per cent (Molle 1983:18, Vanhove/Klaassen 1987:xviii). Especially the new telecommunications services - and notably the value-added 'telecarried' services

"will have a major impact on the future tradability of services and on the location of economic activities. By the end of the century, up to 7 per cent of Community gross domestic product will result from telecommunications and closely related activities, as against around 3 per cent of today. By the early 1990s, telecommunications will have grown into one of the largest industrial sectors" (Ungerer/Costello 1988:98).

Interestingly, despite the expected 'distance-shrinking' effects of innovative developments in transport and telecommunication which could, potentially, "relax the need for most service activities to locate close to their customers" (Illeris 1989:68) and, subsequently, lead to the advantage of agglomeration in big cities to diminish, the exact opposite is more likely to happen (Goddard et.al. 1985:225). Because functional polarization is accompanied by social polarization 25,

with knowledge-intensive jobs requiring advanced qualifications being located in the key areas while a less-qualified and frequently female workforce tends to be employed part-time in the peripheral zones, the distance-shrinking effect, actually, turns out to favour central positions even more than was the case before the introduction of innovative technologies. Illeris (1989:137-184) demonstrates that clear moves towards service decentralization in the member states of the Community exclusively occur in countries such as Belgium, the Netherlands, Denmark and Germany, while France, Ireland and Portugal tend to further strengthen already existing service concentrations in their growth poles. Moreover, it appears that type 1-services (hotels, restaurants, etc.)²⁶ are over-represented in particular tourist areas of the Mediterranean while high-quality services are much better distributed in the Northern countries. In addition to that, and turning again to the Community's high tech activities, "the vast majority of projects financed by the

25 the combined effect of (i) business concentration, (ii) market homogenization, (iii) commissioning and, (iv) deregulation and privatization (each of these trends being mutually reinforcing) results in the geographical concentration of decision-making centres around the major urban agglomerations. This combined process of functional and social polarization, "once initiated, becomes perpetuated, reinforced and irreversible." (CEC 1987a:10-12)

26 the service sector literature (Illeris 1989:30-31) distinguishes between, firstly, goods-related (man-thing relationships), secondly, information (man-symbol relationships) and, finally, person-related services (man-man relationships). As demonstrated by the example of the US, type 1 and 3 services (especially catering and cleaning) are still relevant in terms of employment creation, accounting for almost 50 per cent of new jobs created between 1977 and 1987. From a strategic point of view, however, information services are of much more importance for regional development.

Community are in Central and Northern Europe in centres of excellence" (CEC 1987a). Hence, it appears that Community authorities are doing nothing other than "leaning back and waiting" for better times where they would, eventually, be equipped with more regulatory power and capacity to influence service sector and high tech decisions. Actually, they have already acquired considerable regulatory competences. That these tend to be spent to the benefit of centrally located, and to the detriment of less developed, regions and that "the regulatory framework chosen to govern the liberalization of the exchange of services ... will have extremely different effects at regional level" (ibid:21) follows from the empirical information presented in the subsequent sections.

4. The European Technology Community

The technology gap between less developed and advanced regions is considerably wider than that dividing the areas in overall economic terms. Disparities will increase even more than before as technology advances, and they are likely to become a persistent and permanent feature of future economic progress in the Community, slowing down the overall pace of economic development. A report produced for Stride (Science and Technology for Regional Innovation and Development in Europe) by the National Board for Science and Technology in Dublin (CEC 1987c), for the first time quantifies high tech disparities at a regional level (figure 1).

Figure 1: technological (Gross Expenditure on Research & Development/capita) and economic gaps (GDP/capita) in the Southern member states (EC12=100) 27

.G.R&DGAP.DOC;13 cm;9.557 cm;HPGL

source: CEC 1987c: 90

With regard to GDP and GERD (Gross Expenditure on R&D) figures per capita in the Southern member states and Ireland show that the ratio in the level of R&D intensity at the national level across the Community oscillates between 1:12 and, considering private investment intensity, between 1:28. A group of Mediterranean countries, accounting for about 40 per cent of the Community population, arrives at a meager share of not more than 10 per cent of R&D activity in the EC (ibid:v). At the sub-national level, disparities appear to be more pronounced:

"Many regions have almost zero R&D capacity. Their technology level can be a factor of 100 times lower than that of more developed core regions ... The scale of the technology gap is estimated at 7 billion ECU per annum. This indicates the level of additional annual investment which less favoured member states would require in R&D to reach average Community levels." (ibid)

27 productivity levels are given by GDP per capita and technology levels are given by GERD per capita. GERD reflects the total level of R&D being performed in a region, i.e. public expenditures as higher education institutions, government and private non-profit laboratories as well as purely private investments by the business enterprise sector (i.e. BERT).

The economic gap, which for so long has been formally recognized by the Community through its regional and other structural policies, is a factor of between 3 and 10 times smaller than the R&D gap for these countries. The question arises, therefore, as to whether the technology gap should not also be explicitly recognized within Community policy. In any case, "a gap of this magnitude suggests that solutions will be long-term" (ibid), meaning that there is time enough for going beyond mere redistributive interventions and developing an appropriate regulatory strategy. A programme like STAR (Special Telecommunications Action for Regional development) is, of course, an important step into this direction, although its impact cannot be more than marginal in comparison to that of the 'flagship' programmes of the EC as Esprit, Race, etc. which lack any regional dimension. Official EC documents recognize the extent of these problems. Yet, as regards positive strategic proposals for counteraction to be taken, one looks in vain for suggestions going beyond verbal and mere obligatory exercises in favour of economic and social cohesion which do seem to belong to a set of standard rituals of many official publications since the signing of the SEA (Art.130A). The well-informed and most comprehensive study on telecommunications in Europe (Ungerer/Costello 1988) dedicates not more than one and a half page (of a total of 260) to an investigation of potential territorial impacts of EC policy in that sector. Apart from a brief description of existing problems, the authors refer to a

Council Resolution of 30 June 1988 28 and demand that "a fundamental pre-condition for a Community-wide market in 1992 is the full integration of the less favoured regions of the Community into the economic mainstream of Europe" (ibid:158-160).

It remains to be seen, however, whether the purely deregulatory and market-driven solution they suggest will actually contribute to a more balanced growth 29. Deregulating the domestic procurement markets for telecommunications and high technology products is certainly necessary if competitiveness is to be re-established on international markets. The question is, in whose interest this should primarily be done and to what extent is this going to result in forms of transnational re-regulation. Stevers (1990:65) observes that the main initiatives in favour of deregulation were, actually, taken by the

28 the Resolution, in its ninth major goal of telecommunications policy, reads as follows: "integrating the less favoured areas of the Community fully into the emerging Community-wide market making full use of existing funds. This is one of the aims of the STAR programme, which is designed to promote these areas with high technology telecommunications networks and equipment as well as developing the endogenous potential, especially in the field of services linked to this sector, thus making the best use of growth potential of telecommunications..." (from: Ungerer/Costello 1988: 253)

29 as argued by Fullerton and Gillespie (1988:99), "there can be little doubt that public sector monopoly provision in Europe has benefitted peripheral and/or less favoured regions ... Although the principle of universality has been extended into the supply of new services, available evidence suggests that in practice there can be marked regional variations in the availability of new services arising from the phased stages by which investments are made and networks extended geographically." Wäldchen (1988:53), as well, maintains that "unless corrective action is taken, the development of the infrastructure for the new technologies will tend to follow established demand patterns and concentrate in the most developed regions of the Community."

"big European (equipment) industries. They stressed the importance of bigger home markets and congruent national regulation. The more technocratic decision-making at the EC level promised ... to be more successful than decision-making at the national level ... (where) distributive equity considerations ... are likely to carry more weight."

The deal struck between national governments and big business when the foundations for the Technology Community were hammered out consisted in business being prepared to support government in a reconstitution of eroding national sovereignty over economic policy at the supra-national level if government was prepared to concede that a future European political economy was to be significantly less subject to institutional regulation (Streeck 1989:6). While the increasing withdrawal of member states from past patterns of 'dirigisme' would have opened opportunities for the issuing of a vast array of transnational regulatory rules by the EC, the opposite occurred and the Commission, by way of its 'block exemption' from EC competition rules coming into force in 1985, almost completely abstained from imposing binding norms on enterprises which agreed to participate in Community-guided cooperative ventures. The resulting effects of these deals, i.e. the characteristics of different industry-led schemes for technological and R&D cooperation, are embarrassing both in terms of spatial and corporate concentration

30.

4.1. The spatial concentration of Community R&D schemes .. (territorial aspects of the ETC)

30. the reader should, of course, keep in mind that none of these programmes had actually been designed to further regional development objectives. They provide support for activities exclusively in 'centres of excellence'.

Several studies have been carried out by the International Union of Local Authorities (IULA) in order "to verify whether or not Community policies in R&D (via programmes as, e.g. Brite, Race, etc.) really contribute to economic and social cohesion in the Community" (Saublens 1988:2). The results of this work fully confirm what has been argued so far: Community policy in the IT, in the telecom and in other related high tech sectors does not only do little to offset existing disparities but, actually, contributes to a significant widening of these gaps. Saublens (1988) presents the rate of participation of companies and research institutes from all Community regions and, particularly, from Objective 1 regions 31 in a number of Community R&D programmes. We have isolated the data for four cooperative schemes belonging to the context of the Framework Programme and re-arranged it in a more convenient way. Figure 2 demonstrates the absolute participation of enterprises from five Southern member states plus Ireland together with the separate figures for Objective 1 regions of Spain and Italy in Esprit, Comett, Brite and Sprint.

Figure 2: absolute participation rate of firms from member states with objective 1 regions in 4 European R&D programmes (1987 figures)

31 regions being eligible for objective 1 status of the reformed structural funds are: Spain-1 (Andalucia, Asturias, Castilla-Leon, Castilla-La Mancha, Comunidad Valenciana, Ceuta y Melilla, Galicia, Canarias, Murcia), Italy-1 (Abruzzi, Basilicata, Calabria, Campania, Molise, Puglia, Sardegna, Sicilia), Greece, Portugal and Ireland (whole country).

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Source: Saublens 1988

The total number of cooperative ventures for each scheme financed by the Community is given in the legend to the figure. Although only countries with minor shares in the four schemes have been included, significant differences emerge with regard to the participation of, e.g., Italian and Greek enterprises. While Italian firms participate in 89 Esprit projects, enterprises from the country's South are represented with only 7 participants and the overall number of Greek participants does not exceed 20 firms.

When one includes firms from all member states, the picture changes dramatically: French and UK firms have the highest share in terms of participation in the schemes, the former leading in the case of Brite (63 participants) and Sprint (29 participants), the latter in Esprit (164 participants) and Comett (83 participants). In relation to the UK, Italy obtains 54.3 and Portugal 7.9 points in Esprit while the ratio of the nine Spanish Objective 1 regions drops to 0.6. The maximum number of Greek, Irish and Portuguese firms participating in either of the four schemes does not exceed 28. Another important feature of the four programmes is the strong geographical concentration of participating firms in a small number of regions and, within these regions, in a limited number of agglomeration areas such as

specific provinces or departments. Most French participants have their headquarters in the Ile de France and, specifically, the Paris area, followed by Rhone-Alpes and Provence-Cote d'Azur, while the biggest number of British firms tends to come from the South East, especially the Greater London area, and from East Anglia. The same applies to Italy (Milano, Pisa, Rome) and Spain (Barcelona, Madrid).

With respect to an overall number of 50 different DG XII-managed cooperation programmes, Saublens calculates average participation rates per Community country of 135 projects in 1986 and 112 projects in 1987. Average participation of Objective 1 countries for both years oscillates between 16 and 37. A comparison of financial allocations from the Structural Funds with those coming under cooperative R&D programmes also reveals little complementarity between the actions. Community interventions in the high tech domain (DG XII) are proportionally more relevant for countries benefitting in only modest terms from Structural Fund allocations (DG XVI and XXII). Germany receives only 4 per cent of the total contributions of the Structural Funds but gets 22 per cent of the total contributions of the R&D programmes while Spain, which receives 16.5 per cent from the former source, gets only 1 per cent from the latter. The study concludes that

"keeping in mind that in the majority of the structurally backward regions ERDF interventions are essentially transport infrastructure investments, the disparities of the fallout of the R&D financing efforts might intensify more strongly the development gaps between the Community regions" (Saublens 1988:10).

A recent study of a more comprehensive set of Community programmes 32 carried out by the same organization (see Saublen 1989), points to the territorial concentration of project participants in the large metropolitan growth poles of seven member states. As demonstrated by figure 3, almost half of the French participants (42.5 per cent) of the fifteen cooperation projects under investigation have their headquarters in Ile de France, with 16.7 per cent directly being located in the Paris area. While in France, the UK and Germany 33 the contribution of leading provinces to the participation rate of leading regions ranges between 30 and 50 per cent, thus indicating a still quite acceptable distribution of participants across the regional territory; the picture changes the more one goes South. The share of Lazio, for example, in total Italian participation is 21.6 per cent, while the Rome area alone accounts for 20.9 per cent. The figures for Greece and Portugal show that considerably more than

32 the data set consists of the following fifteen Community-financed technology and innovation-related programmes: BAP, BC-NET, BIC, BRITE, ESPRIT, EUROTECHNET, HELIOS, IRIS, LEDA, PETRA, PAUVRETE, SPRINT, COMETT (regional), COMETT (sectoral), EURO-INFO CENTRES.

33 note with respect to Germany that this is the only country where the province with the highest relative share in national totals (Munich) does not belong to the region with the highest share (Nordrhein Westphalen). In all other cases, what is called here 'leading department', corresponds to the national capital of the respective member state. Total national participation figures and leading regions and departments per country are: Italy 263 (Lazio/Roma), Spain 188 (Madrid/Madrid), Germany 256 (NRW/Munich), UK 314 (South East/London), France 324 (Ile de France/Paris), Greece 77 (Anatoliki Sterea Kai Nisia/Athens) and Portugal 74 (Lisboa-Val de Tejo/Lisboa).

50 per cent of the participating firms are located in the respective national capital of these countries.

Figure 2: share of leading region and leading department per country in 15 European high-tech cooperation programmes (%)

.G.PROG15.DOC;13 cm;9.557 cm;HPGL

Source: Saublens 1989

With regard to Portugal, the high share of Lisboa-based enterprises leaves almost nothing for regions like Algarve (one participant) or Norte (four participants). The same applies to Athens in Greece where Thessalia and the Peloponnes are left with four participants each, while Macedonia and Ipeiros together have only two participants (i.e. roughly 3 per cent of the national total). In general, going beyond the limited data presented here, it appears that 50 to 75 per cent of the firms from one of the 99 regions studied are hosted by the leading town or metropolitan growth pole of the respective region. In less developed and peripheral zones, this figure reaches 100 per cent (Basilicata, Molise, Northern Ireland, Normandie, Algarve, etc.). With the above information in mind, it might be interesting to ask the extent to which territorial concentration, alone contributing to considerable increases in regional disparities across the regions of the Community, is matched by concentration in size and corporate power of participating firms.

4.2. The corporate structure of the EC's R&D network

The development of a European Technology Community is largely due to the activities of the big twelve leading European multinationals (Buda/Vogel 1989, Mytelka/Delapierre 1987, Shearman 1989) whose representatives have, since 1979, formed the European Business Roundtable, and to those of a second group of firms (the Gyllenhammer group), including many non-IT manufacturers like Volvo and other European car producers. The 'declaration of common intent' of 20 June 1985 (see Peterson 1990:12) issued by Philips, Siemens, GEC and Thompson in response to the Community's effort to counterbalance US offers to European partners to participate in the Strategic Defense Initiative (SDI), finally paved the way for the creation of the European Research Cooperation Agency (Eureka). For various reasons, large firms are systematically favoured in the capacity to steer and shape the predominantly industry-led schemes of the Technology Framework Programme. These relate to the critical nature of technical information as a source of power, to the oligopolistic structure of markets, to the political momentum at the Community level to restore competitiveness versus Japan and the US, to the institutional self-interest of the Commission to enlarge its influence and opportunity space for action and, finally, to the EC's democratic deficit and the insulation of technology scheme decision-making structures from normal channels of democratic accountability (ibid:7). This is important to mention because both the size of enterprises and the governance structure of existing schemes largely determine their degree of territorial concentration in particular areas of the Community. According to

DG XII and with respect to certain sectors covered by Esprit, the relatively modest size of firms in some countries (notably Italy) is one of the main causes of non-participation of these enterprises in the schemes. The Commission, indeed, continues to define as SME only those "independent firms with less than 500 employees whose fixed assets (net of depreciation) are less than 75 million ECU and in whose capital structure large enterprises hold no more than a one-third participation" (Aitken 1988:59). This practice continues to be used despite the fact that the official definition for this category of enterprises lies at a level of up to ten times below the EC definition in many member states of the South where they provide the bulk of value added and of productive capacity. The irresistible temptation for the Commission has been to identify successful industry with big firms, possibly because that is the institution's view of what makes the Japanese industry successful (Cawson 1990:20). If Community policies continue to follow these lines, we might have to re-read the literature on the 'second industrial divide' and on post-Fordist production patterns. The prospects for flexible specialization to acquire the status of a specific European accumulation model would be quite remote under such conditions (Amin/Robins 1990).

Generally, however, it is not only the relatively weak participation rates of SMEs in the exclusive, club-type EC-schemes in cooperative R&D which appear to be most startling. Not less peculiar are the modes of governance of this club itself which even tends to reinforce the already existing barriers to

entry resulting from official eligibility criteria. Contrary to the theory that, following "the complexity and multiplicity of the emerging telecommunications services, only the market can efficiently link the producer with the consumer ... (and that) economics knows of no other means of fulfilling this purpose and all attempts to replace it by something else have so far failed" (Ungerer/Costello 1988:100), the practice of restoring competitiveness falls far short of these normative statements. What Cawson (1990:29) says with regard to consumer electronics actually applies to the overall framework of Community R&D initiatives:

"The consumer electronics industry is ... increasingly governed by non-market means, such as state-producer networks and industry networks, and increasingly those hierarchical instruments of state influence are being refashioned at the European level."

With respect to the decision-making structures of programmes as Esprit, Race, Brite, Eureka, etc. we are, indeed, not merely confronted with a classic phenomenon of agency capture (Grote 1989 and 1990a) but, more precisely, with a phenomenon of 'agency creation' by a narrow distributive coalition of, in principal, not more than 12 enterprises. This can be shown surveying both Esprit, the 'flagship programme' of the Framework, and the territorially more encompassing - but with respect to its corporate structure equally narrow - example of Eureka. Before completely being absorbed by DG XIII, Esprit was managed by an IT Task Force (Stevens 1990:32) which, initially, consisted of ex-officials from DG III and by two subgroups of this Task Force, the Senior Officials Group of Telecommunications (SOGT) and the

Group d'Analyse et de Prevision (GAP). These three groupings were joined by business experts representing the leading European MNCs and by academics and were largely autonomous of government control. The fact that they were given "broad powers to choose which individual project proposals receive funding, how EC funds are distributed between participants, and which specific technologies are supported within broad technological sectors" (Peterson 1990:10) led to 70-80 per cent of all Esprit contracts between 1981 and 1983 being awarded to the big 12 European MNCs (Mytelka/Delapierre 1987:245).

Figure 4: share of the big 12 European MNCs and of SMEs in four R&D cooperation programmes and their national origin

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Source: van Tulder/Junne 1988: 226 and 229 (author's elaboration)

In the case of Eureka, industrial firms are entirely responsible for proposing projects for Eureka 'status' and a proposal has, so far, never been refused by Eureka's Council of Ministers (Peterson 1999:13). Although this programme does not possess a genuine public governing body to guide the general direction of policy or perform the sort of technology assessment required to determine whether funds are spent wisely, instances of a free market are difficult to detect here as well. What emerges with respect to the overall ensemble of these programmes is a hierarchically organized European MITI of the Japanese type

34 with enormous problems for democratic accountability. If the 5 billion ECU commitments by European firms and governments turn into hard cash, "it will be the second largest investment project in Europe after the Channel Tunnel" (Cawson 1990:23). The data in figure 4 allows one to check empirically what has been argued so far. Two types of data are overlayed in this figure. The columns represent the relative participation of the big 12 and of small and medium sized enterprises while three lines represent the aggregates in terms of national origin of enterprises for two geographical areas and, separately, for Italy. With regard to the second phase of Esprit (Esprit 2), the BIG 12 participate in 69 per cent of the projects while SMEs are involved in not more than 6 per cent. No wonder then that, on the average, enterprises from Northern member states (France, UK, Germany) participate in 67 per cent of Esprit 2's projects while Southern firms (Spain, Portugal, Greece with Ireland being included) participate in only 6 per cent of the scheme's cooperative ventures. Participation of Italian firms represents an intermediate category. It is markedly higher than that of firms from the EC-South group but lies considerably below that of firms from France, the UK and Germany (EC-North).

Differences are most pronounced in the first Esprit phase and less pronounced in Brite. In the latter programme, SMEs

34 "Un ulteriore sviluppo logico potrebbe essere la realizzazione di una struttura nella quale inserire tutti questi programmi (Brite, Sprint, Esprit, Jessi, Race, Eureka), cioe' una strategia industriale. In breve, il mercato unico e' destinato a far nascere una sorta di MITI europeo o alla giapponese per la meta' del prossimo decennio" (Curzon 1989:257).

participate without any presence of multinationals in the single projects, in about 30 per cent of the 117 cases. This may be due to the fact that, in contrast to the other programmes, Brite's problem definition and its general framework have not been formulated by the Big 12. As a consequence, the participation rate and the extent of control exerted by the latter is much lower in this programme which is also the only one where some, albeit indirect, European trade union participation has been achieved (van Tulder/Junne 1988). With respect to Esprit, many Community documents claim that the representation of small and medium sized enterprises would be representative. The relatively modest contribution of SMEs to R&D investments is held responsible for the fact that they participate in, on average, not more than 10 per cent of the programmes. What is mentioned with less frequency is the negligible portion of Esprit's public funds which actually are paid out to SMEs. Also, as noted by Peterson (1990:24), "the total proportion of innovations which originate from SMEs is higher than their share of total R&D expenditure." Innovations, of course, are less easily measured and thus fall out of the list of currently existing eligibility criteria. Generally, considering the innovative potential of SMEs together with their dominant share in national output in the South, and taking into account the combined effect of the official SME definition of the Commission and the hierarchical governance structures of existing R&D schemes, it becomes evident that small firms "despite apparent European Commission provisions

to the contrary, are gradually squeezed out of the market" (Shearman 1989:6).

5. Context regulation - a way out of the impasse?

As mentioned in the introduction to this chapter, traditional redistributive measures are unlikely to offset the combined effects of sectoral Community initiatives in a wide range of policy areas. Regulatory reforms are needed to combat a further drifting apart of the Community's regions in two increasingly divided blocks. These reforms are to address two targets: the first regards the Commission itself and relates to the institution's present incapacity to coordinate sectoral interventions in an adequate manner while the second concerns the disparate endowment of Community regions with contextual, non-market devices for economic activity. The reform of the Structural Funds may be seen as a first attempt to achieve something like a new distributive order, although primarily consisting in an internal redistribution of existing budgetary resources 35. Community interventions, however, are more than just financial transfers. While the size of non-regulatory, direct-expenditure programmes is constrained by budgetary appropriations, the costs of regulatory interventions are

35 for more wide-ranging aspects of these reforms as, e.g., enhanced monitoring by way of 'partnership' contracts with regional entrepreneurs and public institutions, etc. see Bianchi in this volume. Where the Integrated Mediterranean programmes, for instance, go beyond mere financial appropriations and aim at a restructuring of the entire institutional environment of their target regions, we speak of context regulation.

directly borne by firms, individuals, territories and the latter's representative institutions (Majone 1989). Given the financial constraints on the one hand and the, potentially, unlimited stock of regulatory instruments on the other, "the only way for the Commission to increase its role is to expand the scope of its regulatory activities" (ibid.)

Since the widely appreciated strategy of mutual recognition is "patently too weak ... (because) it cannot handle negative externalities that transcend national boundaries" (ibid.), we are likely to encounter a re-regulatory inflation of an unknown extent in all those domains for which the Community has acquired competences. If this activity continues to follow the established patterns of sectoral policies, the likely result would be a further increase in regional disparities. Following Majone, our suggestion, hence, consists in the demand for the creation of a 'regulatory clearing house' or 'regulatory budget' at the level of the Commission whose primary function would be to control the cost-effectiveness of different regulatory programmes as well as the latter's externalities. "Simultaneous consideration of all new regulations would permit one to assess their joint impact on particular industries" (ibid.) and, as might be added, on specific territories, and would contribute to considerable improvements in the Commission's capacity to coordinate its sectoral policies in the future.

The second reform envisaged here concerns the regions directly. One important property of many of the sectors studied in this article (especially energy, transport,

telecommunications) is that they provide major inputs into the endowment of regional economies with infrastructure, i.e. the contextual elements or productive environment necessary for any kind of economic activity. The notion of infrastructure - i.e. what kinds of resources are to be included in this category - varies of course from author to author. We subscribe to Joachimsen's (1966) broad definition and include both tangibles (called here hardware infrastructure) and intangibles (software infrastructure) as all types of public services, administrative capacities, institutional infrastructure and, as a more recent phenomenon, propensities of public and private actors to cooperate at regional level, i.e. consensus-oriented industrial relation systems, network-forms of production, cooperative R&D activities, etc. (Holland 1990). The problem with the second category is that its existence across regions is hard to measure (for suggestions see Grote 1991). In any case, context regulation of the regions' hardware and software infrastructures becomes both necessary and possible to the extent that large and economically relevant fractions of it are now subject to processes of privatization while, traditionally, having been characterized by high degrees of publicness and relative insulation from market forces. Telecommunications have been shown to represent the strategically most important part of the ensemble of infrastructures and as determining regional development more than any other single resource 36. Biehl (1990)

36 Ungerer and Costello (1988:83) call telecommunications "a general infrastructure for the 1992 market."

has measured the ensemble of hardware infrastructures for the first time across all functional Community regions. His results largely correspond to our's and, in a way, represent an overall affirmation of the state of disparities across the ramified sectors described in the foregoing sections (figure 5). The Benelux countries possess the best equipped regions in terms of infrastructure endowment. The least equipped regions are located in Ireland, Portugal and Greece and reach only 6-10% of the Hamburg endowment. The Spanish regions rank between the 34 and the 109 position. Madrid scores at rank 68 with 32.28 slightly below the EC average of 37.95. Because of the extraordinarily high provision with infrastructure of the German city states Hamburg (100), Bremen (80.02) and West Berlin (69.86), the Federal Republic exhibits the relatively strongest disparities, although its bottomline area, Giessen, almost hits the Community mean and exactly corresponds to the national average of Italy (31.0). The latter ranks below the Community mean and is only slightly above that of Spain (29.5) and Ireland (27.1). The only difference between Italy and Spain consists in the less pronounced disparities between the Spanish upper,- and bottomline regions (40.3 and 19.7) relative to those of their Italian counterparts (56.1 and 12.6).

Figure 5: infrastructure endowment of EC regions (hardware) 37

37 the data comprises, for 168 functional regions of the Community, normalized and correlation weighted indicators for the four directly productive infrastructure categories transportation (roads, railways, waterways, airports, harbours), communication (telephones, telexes), energy (electricity networks, power stations, oil pipelines, oil refineries, gas networks) and

.G.INFFIN.DOC;13 cm;9.557 cm;HPGL

for complete data see: Biehl 1990, 36-39

Biehl, of course, has only included into the telecommunications fraction of hardware infrastructures such basic service networks as telephones and telexes. Telephone services are still subject to general monopoly provision in all member states except the UK, while telex equipment is only partly liberalized in about 50 per cent of the cases (Ungerer/Costello 1988:80-81). Including the whole range of, meanwhile, completely privatized terminal equipment (supply and maintenance) and public as well as private investments and activities in R&D, would allow the drawing of more precise conclusions. Private expenditure in R&D, since in many cases contingent on publicly induced cooperative networks between enterprises on the one hand and private firms and public authorities on the other (Cooke/Morgan 1990, Streeck 1989) might reflect existing levels of infrastructure endowment in the regions of the EC to similar extents as do figures on transport networks or energy supply. In

education (university education, vocational training) for the year 1980. The best equipped region is Hamburg obtaining a value of 100, whereas all other regions are expressed in terms of percentages of the Hamburg endowment. The regions of single member states occupying positions at the upper,- and bottomlines respectively are for Germany (Hamburg; Giessen), the Netherlands (Groningen; Drenthe), Belgium (Antwerpen; West Vlaanderen), France (Ile de France; Picardie), Denmark (Hovestads Regionen; Ringkøbing Amt), the UK (the North; Northern Ireland), Italy (Liguria; Molise), Spain (Aragon; Navarra), Ireland (South West; North West/Donegal), Greece (Eastern Cont./Greece Isl.; Thrace), and for Portugal (Lisboa; Evora). For all figures see Biehl (1990:36-39).

figure 6, intensity of private business R&D expenditure is presented in the same manner as are the figures for infrastructure endowment in figure 5. The national means of the total level of R&D expenditure, which include both public (universities, non-profit research institutes, etc.) and private investments, oscillate slightly above the average values of figure 6 and are not demonstrated here (see for that CEC 1987:99-102). While the relation of overall to private investments appears to be rather stable in most regions of the Community, in some regions the fraction of privately generated R&D resources lies considerably below the total aggregates of which they form part.

Figure 6: intensity of private (business firm) expenditure on R&D across EC member states and their regions 38

.G.BERD.DOC;13 cm;9.557 cm;HPGL

Source: CEC 1987, 103-106

38 as in the preceeding figure, we have mapped for each of the member states, the respective leading and most backward regions in terms of private R&D expenditure. For the UK, Denmark, Ireland and Greece, regional data is lacking (the sample, therefore comprises only 134 out of the total of 168 functional regions). The upper,- and bottomline values for these four countries are estimates while only the national averages reflect relyable values. For the remaining countries the regions moving on the top- and bottomlines and their respective rankings are the following: Germany (Oberbayern=1; Trier=94), France (Ile de France=3; Champagne-Ardenne=93), Netherlands (Utrecht=5; Groningen=91), Belgium (Antwerpen=22; Oost Vlaanderen=85), Italy (Piemonte=28; Molise=120), Portugal (Coastal Lisbon=84; Madeira, Algarve, Alentejo and Acores all with zero values), Spain (Madrid=86; Rioja=127).

This applies particularly to regions such as Languedoc Roussillon which ranks at the forth position of all Community regions with an astonishingly high value for R&D total expenditure of 183.0 (the French and German averages for total R&D expenditure being 113.4 and 134.0 respectively) while occupying a modest 69th position (with a value of 44.7) with regard to private R&D investments 39. The high discrepancy between overall R&D activity of the region on the one hand and private investments being undertaken in this domain on the other, might be due to the fact that Montpellier's "technopolis" has relatively recent origins and that considerable time lags seem to occur between even heavy public infrastructure procurement and appropriate responses of the private sector. Another reason might be that high tech facilities are, as in this case, perversely concentrated in only one area (Montpellier) while much of the area's hinterland belongs to the least developed zones in France. Private investment in such a narrow space cannot offset the combined expenditure levels of enterprises from less disparate areas as Oberbayern, Baden-Wuerttemberg, Ile de France, etc.

39 other regions belonging to this category are Lazio, Bretagne and Aquitaine (see CEC 1987c: 109). Although less pronounced, also Emilia Romagna forms part of this group. This might seem astonishing since the region's development potential and innovative capacity has received widespread international recognition in recent years. Yet, as demonstrated by Garmise and Grote (1990), Emilia Romagna still ranks around the mean in European comparisons which is due to its above average share of agricultural production, to the minuscule size of many of its enterprises, and to a leftist variant of the classic Italian disease of localist parochialism.

In no way can the Languedoc-Roussillon case be taken as an example against our argument that a high infrastructure endowment of regions is likely to instigate relatively high levels of private investment and activity, propensities for cooperative strategies and capabilities for diversified quality production. On the contrary, it shows that those regions possessing a sufficient degree of institutional decentralization, considerable regulatory authority and complex devices for the generation of collective and non-economic production inputs perform much better than their centralized, "technocratic" 40 and less regulated counterparts. Baden-Wuerttemberg, for example, which has been characterized as the model case of a networked regional economy (Cooke and Morgan, 1989) ranks close to Languedoc-Roussillon with respect to the overall level of expenditure in R&D but, in contrast to its French companion, occupies a leading position in private procurement of technological resources (rank 13).

This, again, raises the issue as to whether context regulation by the EC might not be an appropriate tool for guaranteeing a more even endowment of Community regions with hardware and software infrastructures. Biehl has noted that among the four resources which determine regional development levels -

40 Fach and Grande (1989:172-73) mention an "engineering approach" (technological bias of innovation policy) which reduces innovation processes to their technical aspects and neglects the social and political components of technological adjustments. In reality, strategies of innovation management are always highly complex regimes of social regulation, i.e. different configurations of state, parties, interest associations, social institutions and markets which, altogether, are embedded in most diverse political cultures (ibid:181).

infrastructure, location, agglomeration and sectoral structure - only the former "represents a direct instrument of government policy" (Biehl 1990:30). There is no reason why interventions in this domain should continue to be managed by national authorities alone. As regards software devices, the Community could, for example, make the transfer of financial appropriations of its structural funds contingent on the existence or creation of regional collaborative networks among firms, interest associations, chambers of commerce, research institutes, etc. This would force regional public authorities especially of Southern member states to instigate, by way of imposing certain obligations on the often short-sighted behaviour of individual entrepreneurs, those "excess" investments in redundant capacities which Streeck (1989) has called the main characteristic of a proper European accumulation model. Contrary to the mega-networks represented by programmes as Esprit, Eureka, etc., social and political institutions at the regional level would impose constraints as well as provide opportunities for individual entrepreneurs. Both are necessary: the first to suspend competition so as "to protect profit-seeking individuals from the temptations of hyper-rationality" (ibid:44), the second for building up new kinds of meso-networks in regions which would provide support for the creation of those resources, i.e. software infrastructures, which, being left to the market, would continue to remain in short supply. The problem is that these institutions would have to be designed so as to achieve both simultaneously, in order to avoid either the emergence of narrow

rent-seeking distributional coalitions or the exploitation of the public by the private sector in form of firms shopping around for subsidies. The current activities by the Community in the high tech domain, unfortunately, not only dismiss social, territorial and political aspects of technological innovation but, moreover, provide a limited number of dominant European multinationals with considerable opportunities for skimming public funds. There is no evidence for trade-offs between constraints and opportunities promoting territorial cohesion across the Community regions and strengthening the autonomy and action capacity of transnational institutions.

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