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The path of reform in Central and Eastern Europe

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- 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.
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Abbreviations and symbols used

Countries

D	DI
В	Belgium
DK	Denmark
D	Federal Republic of Germany
GR	Greece
E	Spain
F	France
IRL	Ireland
I	Italy
L	Luxembourg
NL	The Netherlands
Р	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
CSFR	Czech and Slovak Federal Republic

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Currencies

ECU	European currency unit
BFR	Belgian franc
DKR	Danish krone
DM	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
CSK	Czechoslovak koruna
FT	Hungarian forint
L	Romanian lei
LV	Bulgarian lev
R	Russian rouble
ZL	Polish zloty

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

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Preface

After the Phare programme of assistance to Poland and Hungary was launched in July 1989, the Directorate-General for Economic and Financial Affairs decided to commission a group of independent experts to undertake a collection of studies on economic transformation in Hungary and Poland, which were published in March 1990 in *European Economy* No 43. Although these studies dealt specifically with two countries, many aspects of the analysis they contained were applicable to the transformation process that was by then getting under way in other formerly centrally planned economies.

When, in July 1990, the Phare programme was extended to Bulgaria, the CSFR and Yugoslavia, and, in January 1991, to Romania, the Phare operational service decided to support a second collection of studies whose scope would extend to these other countries and which would explore further the transformation process in the light of experience gained during its early stages. The second group of experts, like the first, was coordinated by Richard Portes. It met in Brussels under the joint chairmanship of Jorge Braga de Macedo and Mario Nuti on three occasions (13 September and 21 November 1990 and 6 February 1991). As well as enabling the experts to comment on each other's papers, these meetings provided opportunities to review developments in Central and Eastern Europe and in particular the evolution of the transition process.

Our knowledge and understanding of the transformation process has advanced since the publication of *European Economy* No 43, though most of the conclusions of that volume have stood the test of time. Further analysis is needed, and several of the papers in this volume represent work in progress. Such investigations will continue to be actively supported through the Phare programme, notably through the Community action for cooperation in the field of economics (ACE), which has recently been expanded.

Analysis of the sort presented in this volume provides an essential contribution to policy-making. As the situation unfolds, the Community's policy needs to respond appropriately. The Community took an early lead in the assistance to change, with emergency food and medical aid, direct grants and loans, funding of research, and technical assistance. The guiding principles of this assistance have been to help the recipient countries to help themselves and to pave the way for private foreign investment to become the major source of external financing. In response to the request made at the economic summit in Paris in July 1989, the Commission of the European Communities also took on the role of coordinating assistance from the Group of 24 — the industrialized countries that are members of the OECD. In this capacity it has sought to ensure consistency among the technical assistance programmes of the G-24 and, in particular, has complemented IMF programmes by organizing external financing packages for Central and East European countries.

The assistance provided so far has helped to secure the irreversibility of the transition to a market economy. The Phare programme and the coordinated efforts of the G-24 have provided practical support for the change of regime. Moreover, by applying political and economic conditions, these assistance programmes have reinforced the commitment to democracy and the market economy. Irreversibility is essential, but alone it is not enough to sustain the progress of these countries towards successful fully-fledged market economies. The Community is now concentrating its efforts on this task.

All the countries of Eastern Europe, with the exception of Romania, have launched comprehensive stabilization programmes. In Poland, the austerity introduced by the Balcerowicz plan from the beginning of 1990 turned out to be much more severe than anticipated, and was followed by excessive monetary and wage relaxation in the autumn. A similar package had been introduced in Yugoslavia at the end of 1989. Initially more successful than the Polish programme, it fell apart in the second half of 1990 chiefly because of republics' insistence on autonomy and flouting of federal discipline. After some initial measures during 1990 Czechoslovakia introduced, at the beginning of 1991, a comprehensive plan along Polish lines. Since Czechoslovakia has no macroeconomic disequilibria to contend with, the costs of stabilization should be lower than in Poland, though so far both inflation and the decline in output have been greater than expected. Bulgaria followed Czechoslovakia by launching a Polish-style programme in February 1991, but in a much less favourable economic context. To date Romania's attempts at stabilization have been partial and largely unsuccessful, but there are signs of a possible rapid move in the same direction as Bulgaria. Hungary, which had taken small steps towards reform over a number of years, adopted a more gradualist approach and consequently appears to have incurred smaller, albeit significant, costs in terms of output losses and unemployment. The programme launched by Mr Kupa, the Finance Minister, in March 1991 indicated that steps rapidly achieved, or at least attempted, in other countries will be spread over the next four years in Hungary.

Stabilization will continue to be a preoccupation. External financing requirements will remain substantial, though as

the economic situation improves and the transition to a market economy progresses, more private financing should be attracted and the need for official financing should diminish. Successful stabilization will also require sound macroeconomic policies. This will not be easy because of the many problems facing these economies and the inexperience of policy-makers. Moreover, these countries have yet to introduce the instruments necessary to apply budgetary discipline, ascertain the budgetary stance and ensure the transparency of fiscal operations. Lasting macroeconomic stabilization will also require mitigating the burden of debt service.

The interdependence of stabilization and liberalization was evident in all the stabilization programmes, which included various measures of liberalization. Price liberalization is of central importance to removing distortions and establishing competition in goods markets. Substantial progress has been made in freeing prices: in Yugoslavia and Poland most prices are now free, as are between 75% and 85% of prices in Czechoslovakia, Hungary and Bulgaria; and in Romania about 50% of prices have been liberalized.

Trade liberalization and convertibility are both essential to establishing competitive conditions, integrating the economies into the world economy and hence helping to reinforce the transition. There has been progress — outstanding in some cases — on both. Poland liberalized its trade, either suspending tariffs or reducing them to 5% in January 1990. All but 10% of Hungary's imports have been liberalized, though 30% of domestic output is protected by some form of licensing or other trade restriction. Czechoslovakia greatly liberalized trade at the beginning of 1991, though at the same time it introduced a temporary 20% import surcharge on food and consumer goods. In Bulgaria, in February 1991, import licensing requirements were largely abolished and some tariffs were reduced, while additional excise duties were imposed on luxury goods.

Convertibility for current-account transactions by residents was introduced in Yugoslavia at the end of 1989 and in Poland in January 1990, though it had to be partially suspended in Yugoslavia early in 1991. Hungary has introduced partial current-account convertibility (enterprises are still subject to some licensing and households are excluded), though full convertibility is planned only for 1994. Currentaccount convertibility for enterprises was brought into effect in Czechoslovakia in January 1991. In Bulgaria convertibility for all current-account transactions is planned for early 1992, and many restrictions were already removed in February 1991.

Compared with stabilization and liberalization, restructuring has received less attention. Important though macro-

economic stabilization is, particularly when hyperinflation threatens, disproportionate emphasis may have been placed on securing a sound macroeconomic base. Partly this reflects reliance on Latin American countries' experience as a guide for the transition of East European countries, which led people to overlook the differences between them. Particularly significant was the absence of markets in Eastern Europe over several decades, which had resulted in vast and pervasive distortions and ruled out a supply-side response to macroeconomic measures.

Restructuring in its broadest sense entails adapting the productive structure of the economy so that it functions as a market economy. This necessitates developing a private sector, creating institutions appropriate to market relations and changing the behaviour of enterprises. Restructuring clearly will take time to accomplish. None the less, progress so far has been inadequate.

The creation of a substantial private sector is fundamental to establishing a market economy. It entails both setting up new private firms and privatizing existing State-owned enterprises. Privatization of small undertakings is under way in Hungary, Poland, Czechoslovakia and Bulgaria. Privatization of large enterprises, however, is proceeding very slowly, because of the huge size of the task and the uncertainties generated by potential claims from former owners. The most progress has been made in Hungary, where privatized assets represented 15% of the total assets of industrial enterprises at the end of 1990. The first five privatizations of State enterprises in Poland did not take place until early 1991; and the process should begin later this year in Czechoslovakia. Laws passed in mid-1990 in Yugoslavia made it possible to convert workers' selfmanagement rights into the privileged purchase of company shares, but such privatizations have yet to be implemented. Bulgaria and Romania have not yet embarked on privatization of large enterprises.

Even under the most favourable conditions, privatization of large enterprises will take time to accomplish, so it is important to promote new private firms. Many features of the prevailing environment in Eastern Europe, however, deter domestic and particularly foreign investors. Many property rights remain unsettled, notably because of proposals to restore property to former owners. Legal frameworks are ill-adapted to private activity and undergoing change which is sometimes erratic; and the financial infrastructure is underdeveloped. Also, a source of some reservations is the delays in privatization and in dismantling the tutelage system. Of special concern to potential foreign investors are uncertainty about the extent of access to the European Community and other Western markets and the excessive debt burdens of Poland, Hungary and Bulgaria. Policymakers in Eastern Europe and, where appropriate, in the Community and G-24 need to focus on removing these impediments to investment.

Building market institutions is essential to ensure that the private sector, both new firms and formerly State-owned firms, flourish. Without appropriate laws, regulations, rules and standards there is uncertainty and instability. Investment is deterred and short-term attitudes, profit-taking, etc., are encouraged. Most countries have begun to draw up the necessary legislation and to train, for example, lawyers, accountants and regulators. But the process is too piecemeal and is moving much too slowly. A more comprehensive approach is needed.

Tax reform is an important and time-consuming element of such institution-building. Establishing a modern, broadly based tax system (including, e.g., corporation tax and VAT) is essential to set the fiscal rules of the game for firms and individuals. Some progress has been made, particularly in Hungary, which had already begun to reform its tax system in the early 1980s.

Without demonopolization and adequate competition policy the risk remains that distortions will persist and private initiative will be thwarted. Little has been done to restructure State-owned enterprises, and privatization by itself will not ensure that monopolies are broken up. Governments need to tackle existing monopolies; to introduce appropriate competition policy; and to make entry easier and more attractive for new, particularly small and medium-sized, enterprises. This is another area where institution-building is important.

The inevitably slow pace of privatization means that large parts of the economy will continue to be State-owned for some time. To ensure that these enterprises do not impede the transition it is important to abolish outright the tutelage system, large parts of which survive. This pattern of relationships and procedures interlocking ministries and the enterprises for which they were responsible needs to be replaced by new mechanisms of corporate control that promote enterprise and facilitate investment. Those enterprises that can remain viable only if they are bolstered by subsidies and other distortions should be wound up. To date, there have been very few bankruptcies of large enterprises. In some instances bankruptcy law is inadequate or courts are unwilling to apply it. A more fundamental problem is that banks are not yet able to exercise external financial control on enterprises. In most countries the monobank has been replaced by a two-tier banking system comprising the central bank and independent commercial banks. Further steps are necessary if banks are to be in a position to force bankruptcy; these include tackling the problem of inter-enterprise credit and training bank staff.

The restructuring of these economies will necessitate extensive reallocation of labour. Consequently it is important that labour become more mobile. Occupational mobility requires provision for retraining and employment agencies, as well as appropriate wage policy, while geographical mobility entails reforming the housing market. Also necessary is a 'social safety net' to cope with open unemployment. These are major tasks, to which labour market policies have so far been unequal.

Adequate financial flows are necessary for liberalization and restructuring. Also important will be the establishment of an appropriate institutional framework at home and an external environment conducive to the development of the economies of Eastern Europe. The Community can help on both counts. Indeed, much is already being done under the Phare programme and also by the G-24 in, for instance, the fields of training and financial infrastructure. Two areas on which the Community now needs to focus more attention are the legal and regulatory framework and market access.

The countries of Eastern Europe would do well to import Community legal and regulatory frameworks. The advantages of a ready-made framework are clear: it has been tried and tested in a modern market economy; it is compatible with Community legislation and regulation; it ensures a degree of consistency among the East European countries; and it can be adopted with minimum delay, averting the enormous amount of administrative and parliamentary time required to prepare and process new laws and enabling legislation.

The Community has already proposed that the European agreements now being negotiated with the CSFR, Hungary and Poland should provide for approximation of laws on a number of matters (company law, company accounts and taxation, financial services, competition rules, health and safety at work, consumer protection, the environment, indirect taxation, technical rules and standards, transport, intellectual property) so that the associated countries could eventually enjoy all the economic advantages of the single market. In areas where Community law does not exist the East European countries should be encouraged to adopt, where possible, the legislation of an appropriate Member State, or even a non-member country, such as Austria, much of whose relevant legislation is modelled on legislation in the Community.

This initiative should be reinforced with legal and related assistance to the legislators. Such assistance will vary among countries. In Hungary and Poland it would probably focus on training and developing implementing institutions. Romania and Bulgaria have engaged in hectic legislative activity but are still some way behind. For the CSFR, where the socialist law system is still largely in place, a more comprehensive approach would be needed. In Yugoslavia the situation differs in the various republics, and it may be necessary to concentrate first on creating a new constitutional setting.

There are compelling reasons why the Community should liberalize trade with Eastern Europe. It would be an important signal reinforcing the case for the East European countries to liberalize. Furthermore, it would promote foreign investment. The internal market of most East European countries is too small to attract large-scale investment. Improved access to a large market close by would be an important incentive for foreign investors. The European Community could also provide a market for East European producers who have seen both their home markets and CMEA markets, particularly the Soviet Union, contract sharply.

While maintaining its commitment to multilateral liberalization the European Community should concentrate its efforts on regional liberalization. Eastern Europe needs to have the freest possible access to the Community, which, because of its size and proximity, is the natural market for Eastern Europe. Moreover, it is important that this access be gained as quickly as possible, and a regional trade agreement can, probably, be concluded much faster than a multilateral agreement.

The extent of increased competition that would result from an opening to the East is difficult to assess. These countries may turn out to have comparative advantages in areas that cannot now be foreseen. For this reason the Community should undertake not to resort to general safeguards. Uncertainty regarding the possibility of safeguards or anti-dumping actions by the Community would be inimical to foreign investment. Overall the European Community is likely to gain from increased trade with its Eastern neighbours. To the extent that it is necessary to compensate losers, this should be tackled by structural adjustment measures within the European Community.

By promoting the convergence of institutions and the integration of markets in Western and Eastern Europe, the Community can also encourage the East European countries to re-establish on a new footing their relations with one another. The closed system of the CMEA generated trade relationships that could not be expected to survive once these economies were opened up, but the disintegration of CMEA trade that has occurred since 1989 has obliterated not only these but also many trade flows that should have been retained, at least for the time being. Mutually beneficial trade needs to be restored to give each country a larger 'home' market. The creation of a free trade or customs area could be enhanced by mechanisms to facilitate payments.

Both the setting up of an appropriate legislative and regulatory framework and broad market access are key elements in creating a favourable and settled business environment, without which investment will be deterred. They are particularly important in relation to foreign investment, which the Phare programme recognized from the outset is essential to establishing competitive markets and providing adequate inflows of capital.

The revolutions of 1989 generated a wave of euphoria which encouraged high hopes of economic advance. The reality has been somewhat different, with deteriorating economic performance and limited progress in some aspects of reform. But the deep pessimism that has emerged in some quarters is not justified, for several reasons. Despite the disappointments and the inadequate progress in some areas, much has been achieved:

- (i) The great emphasis placed on macroeconomic stabilization has caused the decline in output to be steeper than expected, which, however, has had the effect of alleviating pressures on the balance of payments, so that external financing requirements have been less than they would have been otherwise. The contraction in output has meant that inflation has not been as difficult to contain as had been feared, though it has yet to be brought under control. In the absence of significant restructuring, open unemployment in most countries is still at levels that equate to full employment in market economies, though they are now high by the standards of centrally planned economies.
- (ii) In several respects liberalization has progressed more rapidly than expected. Extensive liberalization of domestic and external trade has been implemented, and current-account convertibility has been introduced sooner than had been envisaged. These advances have been instrumental in securing the irreversibility of the regime change, which has also occurred sooner than anticipated.
- (iii) Restructuring has advanced more slowly than was hoped, partly because efforts were concentrated on stabilization and also because the size of some tasks, such as privatization and developing an appropriate institutional framework, was underestimated by all concerned.
- (iv) It should be borne in mind that the statistics may present an excessively gloomy picture, because in the past they

were manipulated to make economic performance appear better than it was and because data collection has not yet been adapted to take account of private-sector activity, which, though small, has been far more dynamic than the State sector in most countries.

- (v) In 1989 the deterioration in the international environment was not foreseen. The countries of Eastern Europe have been adversely affected by the economic collapse of the Soviet Union and by the Gulf conflict, and also by the slowing down of the world economy.
- (vi) It was probably inevitable that there would be some policy errors, both on the part of policy-makers in Eastern Europe, e.g. overly tight monetary policy in Poland and Czechoslovakia, and on the part of the international community, e.g. undue emphasis on

macroeconomic stabilization to the detriment of restructuring. Neither complacency nor despondency is an appropriate response to such mistakes; rather we should seek to learn from them and to avoid them in the future.

The countries of Eastern Europe are tackling an unprecedented challenge. The experience of countries in Latin America and elsewhere in the developing world offers some parallels and is instructive, but other countries have not faced simultaneously such profound political and economic change. The potential advantage of the East European countries is their proximity to the Community and their strong desire to integrate with it. The Community can make this advantage real by serving as an anchor for the reform process in Eastern Europe. Involvement in institution-building and provision of market access would be the two most effective ways for the Community to help ensure the success of the reform efforts of these countries.

Introduction

Richard Portes¹

Birkbeck College (University of London) and Centre for Economic Policy Research, United Kingdom

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1. The initial analysis: key themes

Assessing the problems of economic transformation in Hungary and Poland at the beginning of 1990, the Introduction to *European Economy* No 43 stressed several key conclusions from the analysis conducted for the Phare programme of the European Commission:

- (i) The importance of establishing a regime change a definitive exit from the socialist planned economy and its irreversibility.
- (ii) The requirement of robust sequencing in the programme of economic transformation and the credibility of the sequenced programme. Credibility will not last if the sequence is not robust to shocks and policy errors, for adjustments will then be seen as policy changes. The best long-term strategy may lack credibility because it is 'time-inconsistent': forward-looking households and firms see that policy-makers will have incentives to change such policies — to make 'U-turns'. The strategy must then build in ways of committing the authorities not to deviate from their basic policies, so that economic agents behave accordingly from the outset.
- (iii) The exceptional pervasiveness, magnitude and long history of distortions in these economies.
- (iv) The key differences from conventional sequencing required by the special characteristics of Eastern Europe, in particular the high priority for labour market liberalization (both labour mobility and the 'safety net') and for privatization, the major obstacles to which were already evident. At that time, however, the importance and feasibility of early convertibility were not fully appreciated.
- (v) The need to break the 'tutelage' relationships between enterprises and their supervising ministries, to establish enterprise independence even before privatization. Here we saw a key role for tax reform.
- (vi) The overriding importance of banks in creating functioning capital markets for these economies quickly, as opposed to the likely secondary role of stock markets.
- (vii) A somewhat sceptical approach to proposals for an East European Payments Union.
- (viii) Strong support for debt reduction.
- (ix) The potential role of conditionality that might be exercised by the European Community, in areas and ways complementary to the conditionality of IMF programmes.

This paper will consider what we have learned since about regime change and sequencing in the transformation process in Eastern Europe. It will draw on much of the rapidly growing literature, with particular attention to the papers in this volume of *European Economy* and its predecessor a year ago. This volume switches the country focus to Czechoslovakia (the Czech and Slovak Federal Republic, CSFR), with three papers specifically on that country (Hrnčiř and Klacek, Charemza, and Landesmann) and three comparative papers involving it (Burda on labour markets, Grosfeld and Hare on privatization, and Hughes and Hare on industrial restructuring). But the range is broadened further to include country papers on Bulgaria (Hughes), Romania (Montias), and Yugoslavia (Uvalic), as well as issue papers on convertibility (Asselain, Bofinger), and debt (Cohen).

2. The new Europessimism: Is it exaggerated?

In little over a year, the prevailing mood among East Europeans themselves as well as the Western analytical and policy community has shifted from optimism and enthusiasm for the transformation to a pessimism that is most depressing in its scope and depth.

Doubtless too much was expected, too quickly. Yet this was understandable, and perhaps only the practitioners of the dismal science could have counselled restraint. Even we, however, might reasonably have expected that if the initial situation was anywhere near so bad as it appeared — if the distortions were so great and these economies so mismanaged — there must be some programmes that would clearly make everyone better off.

But so far, even talk of a 'J-curve' of economic transformation — in which the economy first goes downhill, then recovers to a higher level than the initial position — seems to be assuming too much. The picture from autumn 1989 to spring 1991 and the immediate prospects look rather more like an 'L-curve'. World Bank projections now say that these economies will not get back to their 1989 output levels until 1996. Such projections may seem extreme, but others are even more pessimistic.

Could the output collapses have been avoided? Will recovery be so long delayed, or even indefinitely postponed? Does the J-curve reflect a temporary dislocation, a necessary transition from the maximum achievable under socialist central planning to the higher levels possible in a capitalist market system (from the top of a hill through a valley to a nearby higher peak)? Or is it a sudden depreciation of organizational and human capital so great as to push these countries way down the league table of economic development? Perhaps the initial decline is a statistical illusion, reflecting the distortions and pervasive overestimation of performance in the old Soviet-type economies, a sign of our inadequate knowledge of the realities of Eastern Europe. Or if real, perhaps it is unnecessary, as some claim to be the major lesson of reform in China since 1978 (see Hussain and Stern, 1991)? On the other hand, if the J-curve is a normal phenomenon, how do we speed it up?

To analyse what has gone wrong, we must distinguish the effects of exogenous demand and supply shocks; adjustment costs, broadly interpreted; misjudged sequencing; and other policy errors, especially in the initial macroeconomic stabilization programmes.

2.1. Shocks

The external shocks are well known. The overall world economic slowdown with continued high real interest rates has presented an unfavourable environment. The collapse of the Council for Mutual Economic Assistance (CMEA) trade, especially both Soviet markets and Soviet supplies, has been dramatic: earlier and deeper than expected. It has forced acceleration of the transformation process and thereby harmed the coherence of reform programmes, as seen in some of the policy errors discussed below. It has been followed at the beginning of 1991 by a price shock, as trade in the region shifted to 'world market prices' (and, supposedly, 'convertible currency settlement', although it is not yet clear what is happening in practice). That price shock was at least expected — it is fortunate that the unanticipated oil price increase in the second half of 1990 was shortlived. But Czechoslovakia, Bulgaria and Poland were not so fortunate, since Iraq owed them substantial sums that were to be repaid with oil. Overall, the CSFR may have been hardest hit by the trade shocks (Landesmann, this volume).

For East Germany, there has also been the open border shock: not just monetary unification, but unhindered migration, radical shifts of preferences away from East German products to goods made in the West, and importing all West German institutions, including strong trade unions (Burda, this volume).

2.2. Adjustment costs

The central feature of economic liberalization is a drastic change in relative prices, which is supposed to bring restructuring. But there will be adjustment costs. These will be lower, the greater is factor mobility. But deep-rooted problems in both capital and labour markets have substantially raised these costs of adjustment.

2.2.1. Capital market problems

Massive investment is necessary to replace the obsolescent existing capital stock. But domestic as well as foreign direct investment has been discouraged by pressures for restitution of property to previous owners ('re-privatization'), with attendant uncertainty of title; more generally, a legal framework ill-suited to private investment and evidently in transition; a totally inadequate financial infrastructure; regrettably justified uncertainties about access for exports to Western markets, in particular those of the Community; and the debt overhang in Poland, Hungary and Bulgaria. Delays in privatization and commercialization ('désétatisation') of State-owned enterprises have also depressed investment.

Some of these factors have lowered the expected return from investment. All raised the option value of waiting: even if an investment is expected to be profitable, uncertainty makes it economically rational to wait and see how conditions may change (this is an explanation of hysteresis, which supports the existing position). But the past year has lowered this barrier to action: a year later, potential investors observe that reforms are a durable process, that the economic regime does seem to have changed (Section 3). On this count, there may be some optimism that investment will pick up soon.

2.2.2. Labour market errors

Labour market policies have been quite inadequate to encourage and channel the labour mobility necessary for economic restructuring. Both the magnitude of the required reallocation — not just from old or failing enterprises to new or flourishing ones, but also from industry and agriculture to services — and the institutional requirements are daunting: training, employment agencies, housing market reform (Burda, this volume). In Eastern Germany, the problems are compounded by a real wage too high for production and investment, though no higher than needed to limit migration. This is a clear case for a wage subsidy, but instead the authorities have chosen misguided intervention in the capital market (investment subsidies) and elsewhere (export credits). West German trade unions have contributed to wage push in Eastern Germany, but it is not clear how policy could have resisted this, nor whether the greater influence of 'Austrian corporatism' will moderate this pressure in the CSFR.

2.3. Sequencing errors

It is much harder to change the expectations and behaviour of firms than of households. But the theory of welfare economics tells us that productive efficiency is prior to distributive efficiency: with limited administrative capacities for implementing change, we should move first towards a more rational allocation of resources in production, then worry about how to improve the pricing and allocation of consumer goods. Thus policy should initially have put less emphasis on the 'monetary overhang' and household behaviour, much more on the necessary changes in corporate control and the financial environment for State firms and on transforming the banking system.

It might be considered a mistake in sequencing that no rule has been specified for exchange rate adjustment in either Poland or Czechoslovakia. Such adjustment will doubtless become inevitable, and the danger now is that however carefully it is handled, the credibility of macroeconomic policy will be impaired because the move will appear to be *ad hoc* accommodation. This could be just as damaging as if a rule had been specified that the authorities could not subsequently follow.

2.4. Other policy errors

It is hardly surprising that macroeconomic policy in the transforming economies shows signs of inexperience, on the part of both the domestic authorities and the international institutions. The former simply are not accustomed to manipulating these instruments, the latter may not have appreciated how different the environment was even from a heavily distorted Latin American country.

Thus in the CSFR in the autumn of 1990, announcements of the likelihood of exchange rate depreciation encouraged the exploitation of leads and lags that forced devaluation. Even in West European democracies, political openness has never required that the monetary authorities openly discuss when and how far the exchange rate peg might be adjusted. Many observers have concluded that domestic credit policy in Poland was excessively tight last year (Calvo and Coricelli, 1990). In the CSFR, too, both monetary and fiscal policy may have been too tight (Begg, 1991). The initial devaluation in Poland went too far (Kolodko, 1991; Rosati, 1990), as the devaluation of January 1991 in the CSFR did too. In both cases, there was undue attention to the free market rate before convertibility, and in Czechoslovakia, the authorities had again led households and firms to believe there would be a further devaluation on 1 January 1991 - which was then probably unavoidable.

Conversely, many observers have claimed that the main source of the East German problems was the overvaluation of the Ostmark in the monetary conversion. These arguments are unconvincing (Sinn, 1991). There is no evidence that households ended up with excessive monetary assets. More important, real wages have risen substantially *after* German economic and monetary union (GEMU). This was required to limit migration, and it was actively promoted by the West German trade unions. The fundamental issue, however, is that for both political and economic reasons, living standards in the Eastern *Länder* must exceed productivity until productivity in the East catches up. The result so far is a real wage so high that production and investment are unprofitable. This would have happened regardless of the conversion rate.

Although macroeconomic stabilization takes absolute priority in pathological conditions like incipient hyperinflation, we may have paid too much attention to macroeconomic instruments and performance as such. An important consequence was the failure of outside analysts, the international institutions and domestic political leaders to press for wideranging importing of relevant European Community legal and regulatory frameworks. This might be thought politically unrealistic — each country is proud of its historical specificity, and there would be domestic political resistance to such an approach. That attitude is understandable, but a luxury; there has been too little effort to overcome it. It is an appropriate element of European Community (EC) conditionality that the country adopt, where possible, the legislation of the EC or a representative member country, with the EC Commission's participation in drawing up the laws; and the Community could offer legal and other assistance to the legislators to this end. There are qualifications - as experience in Eastern Germany suggests, not all West German laws, regulations and economic institutions are market-friendly.

Similarly, although we cannot expect politicians and the public always to follow economists in saying 'bygones are bygones', we can expect anyone who understands the imperatives of investment to recognize that restitution is an economic disaster.

'Ordnungspolitik' — creating the right institutional environment for markets but not intervening in them — is necessary, even prior. But it is not sufficient; nor would have been, even in Eastern Germany, absent the problems of restitution, migration, and trade unions. The authorities cannot just 'accept market outcomes' because in Eastern Europe, much more so than in fully functioning market economies, economic policies will affect the market institutions themselves as well as the determinants of supply and demand.

2.5. After the shock

There is a somewhat technical explanation of the initial decline in output following major reforms (Newbery, 1991). This rests on how the consistency of expectations among households and firms underlies the coherence and sustainability of economic activity. It is not just conventional adjustment costs that block a quick move to one of the many Pareto-much-superior allocations. The transformation process will require time to establish a credible new framework for economic decision-making. It is essential to coordinate expectations around a relative price structure radically different from the old. Investment and trade rely heavily on the rules of a repeated game, in which participants learn over time about other participants' behaviour, and the expectations that process creates. The transformation will change both. A repeated game can support multiple outcomes, of which the initial conditions are one, determined by history. That outcome underlies the initial expectations. Discontinuities in history - overriding hysteresis - however positive, may create a serious disequilibrium while a new set of consistent expectations evolves.

3. Regime change

A comprehensive regime change occurs when expectations and real economic variables shift in mutually reinforcing patterns to establish a new economic environment that alters the economy's dynamic path *(European Economy* No 44, Section 9.4.3). If the regime change is perceived to be credible and irreversible, economic behaviour too will change irreversibly.

3.1. Early examples

The regime change in Eastern Germany is obvious. It would seem clear in Hungary and Poland as well (see *European Economy* No 43), and these appear irreversible unless there is dramatic political change.

Achieving irreversibility does not ensure that economic performance will steadily improve thereafter. In Poland, after the initial jump in prices, inertia seemed almost overcome, but then inflation came back. There are many causes: catchup to the initially undervalued exchange rate; monopoly power; ineffective corporate control; further shocks; no privatization, and no behavioural change in State-owned enterprises. There have been financial successes — conquering hyperinflation, balancing the government budget, eliminating excess demand, maintaining (so far) the exchange rate and reserves — that have counterparts in real failures: output, inflation, restructuring. They cannot easily be separated (Rosati, 1990).

In Hungary, despite the best efforts of the Blue Ribbon Commission, there was no radical 'hundred days' programme after the spring 1990 elections. This may at least have the advantage that gradualism will get a full and fair try. It may yet prevail (see the forthcoming European Commission 'Country report on Hungary').

3.2. The CSFR

In Czechoslovakia, macroeconomic policy has been tight from early 1990, although mitigated by trade credit (see below); output did not fall significantly before the January 1991 reforms, despite major external shocks. The 1991 policy shock has hit output hard already, however, and the initial price level jump was twice what had been expected. Still, the regime change is probably durable (Hrnčíř and Klacek, this volume; Charap and Dyba, 1991, Dyba and Svejnar, 1991; Begg, 1991).

3.3. South-Eastern Europe

Yugoslavia has been on a path similar to that of Hungary, and Uvalic (this volume) argues we should view it as more similar to the former centrally planned economies than we have hitherto. It is subject, however, to strong political centripetal forces. And Bulgaria and Romania have not reversed — on the contrary, there has been a surprising degree of forward political movement in the past few months. Nevertheless, Hughes (this volume) and Montias (this volume) make clear the immense economic problems and backwardness that beset these countries. Both currently suffer from serious macroeconomic disequilibrium; Bulgaria also from its debt overhang, Romania from its debt repayment of the 1980s and consequent decapitalization.

4. Order, speed and the 'minimum conditions'

4.1. Order versus speed and the 'minimum conditions' for transformation

Sequence and timing are to some extent substitutes. The order of reforms does not matter as much if you can do a great deal at once. There is already a substantial literature reasoning a priori or generalizing from less developed countries' experience, especially that of Latin America, on both speed and order. The shock-versus-gradualism debate focuses on the question of how much the economic and political system can take and implement simultaneously. Is this as much as required for a minimum consistent package — a critical mass of reform measures? We note that it is impossible to test the desirability of the pure Big Bang, simply because of administrative and institutional constraints. It will therefore always be possible to claim that a given package, though brilliantly planned, was totally undermined by the omission of some key measure. Nevertheless, a coherent strategy requires specifying the **minimum conditions** needed to launch the transformation process.

The literature of the past year on the order of reforms is impressive: Fischer and Gelb (1990), Hinds (1990), Nuti (1990), Genberg (1990), Roland (1990), Newbery (1991), Rosati (1990), Dornbusch (1991), and Edwards (1990). Order matters because of second best (the consequence of removing one distortion depends on precisely which others are still there) and hysteresis (the outcome depends on the path).

Analysts appear to agree on the principles, but not always on the conclusions they imply. For example, the place of convertibility in the order: Portes (1991) and Williamson (1991) put it higher than most of those listed, as do Bofinger and Asselain in this volume. Similarly, there is disagreement over the sequencing of demonopolization and associated restructuring of industry, domestic liberalization (free prices), trade liberalization (shifting from explicit or implicit quantity restrictions into tariffs), and privatization. Here we could contrast Newbery's (1991) priority for deconcentration with the insistence of Sachs (1991) on privatization as an urgent precondition of any progress. In this volume, Grosfeld and Hare emphasize the key role of privatization, but Charemza as well as Hrnčíř and Klacek stress the importance of demonopolization in the Czechoslovakian context. The minimum conditions may differ among countries.

4.2. Macro and micro

The main difference between Eastern Europe and Latin America was the initial absence of markets, hence huge distortions and supply-side failure. The Latin American experience and analogy, though instructive, has brought undue emphasis on macroeconomics for Eastern Europe. We are all supply-siders now, but since macro-variables are more easily monitored and 'controlled', they may still take undue attention. Nevertheless, macro remains important if it undermines micro, i.e. weakens the supply response.

Although we have now learned a great deal about sequencing in the particular circumstances of transforming planned into market economies, this paper does not evaluate individual programmes. Such evaluation is very difficult. Consider Polish trade performance: it was initially claimed that there was a USD 4 billion surplus in convertible currency trade in 1990, but then the estimate was halved, and now Poland is in deficit. How much of the 1990 export boom was distress selling, liquidating stocks? How much of the import reduction was just a consequence of the fall in output?

We also need data we do not have, e.g. on income distribution. It is claimed that the 'statistical' fall in 'real incomes' (money incomes deflated by price level) vastly overstates the 'true' reduction, because goods are now available whereas before they were not (Lipton and Sachs, 1990). But it may be quite misleading to go by the welfare of the representative individual when there are major distributional effects — queues may be gone, but what can the poor afford? The authorities should also make more use of the micro-data they do have, as in Poland (where the performance of all large firms is extremely well documented).

4.3. Initial conditions

It is wrong to advocate 'global shock' or 'gradualism', or any particular ordering, independent of initial conditions. Here we reject the simple chess metaphor: It is not correct that guiding economic transformation, like playing chess, requires only understanding the moves and a sense of strategy. There are alternative set openings that are chosen on the basis of knowledge of the opponent and lengthy preparation, and there are alternative models of the transition, as evident in the differences among Germany, Poland, the CSFR and Hungary.

Thus, the specific initial conditions are important, and the minimum conditions for transformation will depend on them: e.g. Czechoslovakian macroeconomic policy did not have to focus on liquidating excess demand, stopping open high inflation, closing a huge budget deficit, or dealing with a crippling debt.

How much policy-makers can do simultaneously depends on how much preparation time they have and how they use it. The Polish 'shock' was really only stabilization, and the focus in early 1990 on the macroeconomic aftermath diverted attention from microeconomic restructuring. Czechoslovakia might have done more with the time it took and might have learned more from Hungary and Poland. But in the CSFR, reform was not as urgent; and there was and is more to lose than in Poland and elsewhere. Moreover, even reforms with no losers can be delayed if the distribution of gains is unpredictable or even unobservable, so there is room for conflict over who gets what.

4.4. Gradualism

Gradualist programmes assume the policy-makers can finetune the sequence and avoid the inconsistencies of partial reforms; and that they can maintain their political base.

The political element is central here (Roland, 1990). Political constraints imply the need for both a minimum speed and gradualism in a strategy designed to create constituencies for reform. The distribution of situation rents in employment and consumption — the advantages of those with positions above their abilities or privileged access to goods — is not well known, except to those who have them. This asymmetry of information hinders reforms intended to eliminate such rents. The prescription, then, is to do first the things that clearly benefit a majority, hurting only lesser interests but changing the balance of power so it will then permit measures hurting more important interests. The strategy must move fast to exploit shifts in the balance of power — momentum is important, delay signals weakness and gives those who fear losing the time to form coalitions.

But gradualism encounters mounting resistance from vested interests and the broader population. Following lines of least resistance takes too long. It does not give the coherent, credible model needed to change expectations; and it does not create constituencies for reform. Gradualism may require more administrative capacity than 'let it rip'. Differentiation according to political strength may be dangerous, too; one merit of the Polish programme was that it hurt virtually everyone simultaneously. In this volume, Asselain argues that the gradualist Hungarian approach to convertibility has not brought significant advantages; but over a broader range of microeconomic and macroeconomic measures, Charemza supports a more gradual approach than the CSFR has actually taken.

4.5. Robustness

The quite different paths taken by Poland, the CSFR and Hungary do appear robust so far — there certainly have been shocks, but no reversals, and credibility appears actually to have increased. Whatever one's views on the Polish programme, it is encouraging that the election outcome and its sequel in Poland show it is indeed possible to precommit subsequent governments, to 'create facts' — partly through international ties. It helps to make commitments that are easily monitored, like convertibility. But for robustness, they may need to be both time- and state-contingent (see below).

5. Households and expectations

Not surprisingly, there has proved to be no problem of dealing with the monetary overhang in the early reforming countries. This is partly because of initial conditions: in Hungary and the CSFR there was no overhang (Bokros, 1991; Hrnčíř and Klacek, this volume; but see Charemza, this volume). Moreover, there was a credible change in conditions on the goods market and a credible new threat of unemployment. In Poland, the real money supply fell sharply, velocity too (desired money balances rose), and goods' hoarding was liquidated. Here as elsewhere, excess liquidity was overestimated (partly, claims Rosati (1990), because of the 'disequilibrium syndrome' criticized by Portes (1989)). Both households and firms are simply responding to the lifting of quantity constraints (not changing their preferences) and showing well-developed expectational reactions — as in the CSFR 'leads and lags' speculation on devaluation.

6. Enterprises and structural inertia

It is much more difficult to change the behaviour of firms than of households. Whatever the intended sequencing, in all countries there has been little progress with industrial restructuring from the centre — i.e. deconcentration. Privatization will not cure that, so it will be necessary to improve conditions for entry and encourage new small and mediumsized enterprises (not just one-person service establishments).

6.1. The delay of institutional change

Domestic firms have cut investment and foreign direct investment has been much less than hoped, in good part because of uncertainty about the future rules of the game. Tax reform is difficult and takes considerable time (Tanzi, 1991), and here Hungary has the major advantage of the early starter (Newbery, 1990). It will still take a while to consolidate this advantage so as to eliminate the system uncertainty.

Other legislation has been delayed. It is common to attribute this not only to political conflicts, but also to the Parliamentary bottleneck — insufficient Parliamentary time to process the multitude of necessary new statutes and directives. The required time could be much reduced, however, if Parliaments could be convinced they need not — indeed, should not — try to adapt adequate general legislation, already operational elsewhere, to various supposed local special characteristics. Why should the CSFR have to exhume prewar legislation, just because it is Czech, when there are much better examples elsewhere that will be immediately compatible with foreign custom and practice? The answer sometimes heard, that there are inadequate resources to translate into Czech the relevant legislation, is simply not serious — and if it were, surely the EC could provide. The lawyers — and some politicians — may say that this approach would not work, that such foreign transplants could not be implemented, that there must be a lengthy process of adaptation. That view is unrealistic — there is no time for such luxuries.

These countries should simply take over in their entirety applicable legislation from the EC, where appropriate, or a representative EC country. Austria would also do well, because it has made considerable efforts to adapt its own laws to those of the Community. Here international obligations and pressures could help greatly to overcome local resistance. Of course, there are areas such as environmental standards and social legislation where this approach would not be sensible. But in areas like competition policy, this would be an appropriate condition for the EC to require for its aid (Portes, 1990b). At the same time, the Community should offer ample technical assistance in writing and implementing the laws.

6.2. Enterprise autonomy, corporate control and privatization

The transformation still has not established enterprise autonomy. 'Tutelage' was a form of agents without principals, hence without responsibility or monitoring. But it is proving hard to substitute in large firms new mechanisms of corporate control that do permit initiative, reward risk-taking, and encourage investment.

Privatization of large firms has been delayed. It is technically difficult, but there has also been policy hesitation, which some argue may lead to political paralysis (Sachs, 1991). Most of the obstacles were predictable and predicted (Grosfeld, 1990a; Portes 1990a), and this is one area where it is not obvious that the optimal policy was full-speed ahead regardless (Grosfeld and Hare, this volume). It is clear, however, that we did not recognize how dangerous restitution would be as an obstacle to privatization and foreign direct investment. Moreover, the problems of legal framework, monopoly, and the difficulty of valuation under distortions have hindered conventional privatization and, in the absence of alternatives, have led to give-away schemes. We foresaw the obstacles but not the outcome (although see Grosfeld, 1990b), which could have the advantages of speed and popularity — at a potentially significant cost to the budget.

It may be too late to influence significantly the outcome of the restitution debate in those countries where it has become a key issue. That and the other obstacles to privatization and what will have to be done after privatization — suggest we should give higher priority now to 'désétatisation' (commercialization).

The principles underlying any approach to this problem of corporate control are clear (Grosfeld and Hare, 1991; Aghion and Grosfeld, 1990; Begg, 1991). Eliminate tutelage and the mechanisms and administrative hierarchies that supported it. Establish joint stock status for firms, and initially let the government appoint independent boards. Commit to non-intervention — difficult without privatization, but essential. There will still be monitoring problems: regulatory capture (influence of the regulatees on the regulators); the danger that if large State holding companies are used for control, they will become quangos, or even new State ministries. Some regulation is needed: especially if in the short run the authorities cannot change industrial structure (demonopolize), they must control conduct. But this requires a clear market test of efficiency, a level playing field (taxes and enterprise debts, see below), and transparency (regular monitoring of enterprise accounts, especially items like supplier credit, tax arrears - Cordoba, 1990).

6.3. Financial restructuring

Stock markets are not the last thing these countries need, but they should not be high on the sequencing list. On the other hand, the banks have not proved able to take the roles that Corbett (1990) suggested, partly because of the delay of financial restructuring. This lag is especially damaging because it vitiates external financial control, an aspect of creating enterprise independence that got insufficient emphasis in *European Economy* No 43 (but see Szekely, 1990) and in this issue of *European Economy* (but see Hrnčíř and Klacek).

This problem of financial control is illustrated in the discussion of inter-enterprise credit. This problem is not merely a phenomenon of the transition (firms reverting to normal settlement terms rather than payment within seven days); rather, it dates back to the 1950s in Eastern Europe. Then as now, it was a response by the enterprises to avoid tougher State credit controls; even then, they succeeded in evading strict rules against trade credit because the monobank was simply unable to act.

Why can the banking system not control this problem now? Some of the debts can be 'cancelled' (i.e. netted out within the enterprise sector), but some correspond to an increase in the enterprises' net debt to banks — and hence the monetary targets are bypassed by trade credit. If A does not pay B, then B does not pay bank interest on existing loans, so although the banks do not increase credit (they keep within monetary targets), non-performing loans go up, although new loans do not.

But the authorities cannot close off this outlet if the banks themselves will not survive the squeeze. The banks do not have a capital base that could withstand significant bankruptcies. The authorities must clean out enterprise balance sheets to give transparency — to show which activities, as well as firms, are viable — and so the banks are strong enough to force bankruptcy. Past debts are poor guides to future performance, hence tight money may give a bad restructuring (Begg, 1991).

How should this be done? There are previous examples, such as Portugal, from which the following suggestions can be drawn (Braga de Macedo, 1990). In the Polish case, of course, inflation got rid of much of the enterprise debt, but I would still include Polish firms in a programme of immediately forgiving all enterprise debt taken on before a certain date. Those bank assets would have to be replaced on the balance sheets of the banks by (low real) interestbearing government debt. This is simply a transfer within (at this stage) the State sector. It should have no inflationary effect. It would raise the public debt - as recorded, but not really. It should be sufficiently clear that this is once-off for the danger of moral hazard to be minimal; the whole point is to make firms and the banks forward- rather than backwardlooking. The capital structure of enterprises will be rather odd for a while — all equity, no debt — but this will change.

Financial clearing out is one of the minimum conditions, but this measure will not suffice. The banks cannot yet provide start-up finance for new industrial firms. Bank staff are unable to implement selective bankruptcy or evaluate loan risk. Both need training and experience. Meanwhile, we have gone from subsidies through negative real interest rates to the taxes implicit in excessive intermediation margins. There are dangers here of moral hazard and adverse selection: banks lending at high rates to risky firms and projects in the expectation of bail-outs. Poorly qualified staff will be unable to cope. Moreover, the banking system in all these countries would benefit from much more competition, with appropriate regulation. All this suggests bringing in foreign banks on a large scale, with appropriate regulation (which should in any case be set up on the EC model). Foreign banks wanting to enter could be required to absorb non-competitive domestic banks. None of this resolves, however, the question of how the domestic commercial banks raise new capital. Privatization of those banks seems highly unpromising in the short run.

6.4. Distortions and restructuring

Financial weakness is not the only obstacle to sensible restructuring and the implementation of bankruptcy laws. It is hard to stop throwing good money after bad if you cannot specify where the bad money is. Hughes and Hare (this volume) reveal, for the first time in disaggregated detail, the extent of distortions in industry in the CSFR, Hungary and Poland. They calculate value-added at world market prices for industrial branches. They find it poorly correlated with value-added at domestic prices, and 20-25% of manufacturing in each country operates at negative value-added. The protection of those industries could continue (though not through exchange rate depreciation), but this is simply wasteful; yet there is also the question of what to do with the very low value-added activities.

This evidence both highlights the problem of how to restructure and gives some clues. First, a credit squeeze and forced bankruptcies will catch the wrong firms unless there is a financial cleanout beforehand. This is one aspect of the distinction between short- and long-term viability, in parallel with that between illiquidity and insolvency (Portes, 1990a). Exchange rate undervaluation and maintaining a low real wage can give time for those that are not 'value subtractors', but that time must be used.

Begg (1991) suggests that this evaluation at world market prices shows (i) which loss-making State-owned enterprises to support; and (ii) which to privatize first (where divergence from domestic market value is least). In answer to the question whether there should be temporary assistance or protection to any negative value-added activities, as McKinnon (1991) proposes, Newbery (1991) responds that if firms are not viable with an undervalued exchange rate (low real wage) and low opportunity cost of capital, they should go.

But there must be some period of adjustment allowed. Automatic bankruptcy rules immediately after price reform will create unnecessary unemployment and be politically dangerous. Roland (1990) therefore suggests the authorities should 'start with "selective" bankruptcies ... imposed from above in the case of enterprises where most indicators show and predict economic failure'. The Hughes-Hare calculations could be extremely valuable in this regard, if extended to the enterprise level.

7. The macroeconomic environment

Especially with strong inflationary pressures, stabilization policy requires tying down the price level to clearly defined targets. It is arguable whether these should be nominal variables like the nominal exchange rate or the money supply, or real variables like the real exchange rate or the real wage; and whether there should be a single such 'anchor' or more than one. It is clear, however, that if multiple anchors are used, they must be consistent *ex ante*. And if errors or shocks make them diverge, there must be some order of priority as targets among them. For example, if there are several and all are implemented rigorously, the effective policy will be that enforced by the most restrictive target, which is likely to involve overshooting on the side of deflation (Rosati (1990) suggests this was the case in Poland in 1990).

The discussion of real variables as anchors immediately leads to indexation — for example, making wage increases depend on previous price increases, according to some rule, thereby specifying the evolution of the real wage. Nuti (1990) argues for greater stress on real anchors. But indexation evidently restricts the adjustment of real variables and builds in some degree of inertia — which may be inertial inflation. Both aspects are undesirable. On the other hand, because nominal targets can easily become unrealistic, putting targets in real terms can make policy more credible. Hence it may be useful to have some degree of indexation, though perhaps quite limited.

But the timing of how wages or nominal interest rates (say) are adjusted to prices is extremely important, because if not appropriately lagged it can be a source of instability. Moreover, the indices can be manipulated; there are usually some discretionary elements, especially if one wants to permit real shocks to affect real variables (for example, real wages should normally fall if the terms of trade deteriorate); and especially in the East European context, one wants to encourage forward-looking rather than backward-looking behaviour (Edwards, 1990; Cordoba, 1990). All these argue for limiting indexation. It is essential, however, to index the tax system so as to protect budgetary equilibrium (in 1990 in Poland, the lump-sum tax on firms, fixed in nominal terms, eroded rapidly).

An additional nominal anchor could be direct controls over wages or prices or both. They can help to limit monopoly power and coordinate the expectations of wage- and pricesetters. They might be needed until competition is effective and an anti-inflationary macroeconomic policy has become fully credible. The tax on wage increases in Poland and the CSFR is a mechanism of partial indexation with these objectives. But the authorities must resist the temptation to use such controls as a microeconomic intervention mechanism. This may not be easy if, as in the CSFR, there remains a substantial administrative bureaucracy that has legal authority to enforce detailed price controls.

8. Convertibility and credibility

Convertibility is more a microeconomic than a macroeconomic policy. It appears here because it is so closely linked to the issues of exchange-rate policy, but it can be a powerful mechanism for liberalizing the domestic economy in the process of transformation. Domestic reform and opening up the economy are strongly complementary. On the macroeconomic side, convertibility permits the exchange rate, if pegged, to function fully as a nominal anchor for the economy. And it can be a central element in a strategy to establish the credibility of policy-makers, by committing them to a highly visible and unambiguous target.

I have elsewhere set out the case for establishing convertibility for residents on current account transactions early in the sequence of reforms (Portes, 1991), and the issues are explored in more detail by Asselain and Bofinger in this volume. The key arguments can be set out briefly:

- macroeconomic: with large and rapid shifts of asset stocks and drastic changes in the structure of financial institutions, the money supply would not be a good target for monetary policy, which should therefore take the exchange rate as a nominal target; and if a realistic pegged rate is established, this will quickly bring down inflation expectations;
- (ii) microeconomic: convertibility permits liberalizing the domestic economy at a stroke, by simply importing competitive pressure and a rational price structure; it would be unnecessarily costly to go first to 'rationalized' cost-plus prices, then to a closed economy equilibrium price structure, and only then to the open economy equilibrium, with many misdirected decisions along the way;
- (iii) delaying convertibility favours economically irrational and distorting half-way solutions, like favouring exporters by permitting them to retain some part of their foreign currency revenues;
- (iv) and early convertibility raises the stakes for policymakers, making it more costly for them to renege on their commitments to macroeconomic stability and microeconomic restructuring.

Conversely, policy credibility will be greatly harmed if convertibility proves to be unsustainable. This is one reason why the international community has a stake in supporting financially policy packages that include convertibility.

9. Exchange rate policy

9.1. The rate

If the programme does include convertibility, there are strong arguments for pegging the exchange rate rather than floating. The peg will not only serve as a nominal anchor, but by giving relatively stable prices for tradables, it will also speed up the process of coordinating expectations and arriving at a rational price structure (Portes, 1991; Bofinger in this volume). But at what level and for how long should the peg be set?

There is a considerable danger of 'overshooting', in the sense of choosing a seriously undervalued rate. Whatever marginal auction, 'black' or legal free market for foreign currency may be operating in the pre-reform economy, it will always and everywhere undervalue the domestic currency by reference to any 'fundamental equilibrium exchange rate' (FEER). Buyers of foreign currency in an economy with pervasive micro-level shortages will want it in order to buy the goods in greatest excess demand, like 'luxury' consumer goods, bottleneck inputs, and foreign travel; and they will be on the upper tail of the income (or liquid asset) distributions of households and firms. The market will therefore be heavily distorted in a predictable direction.

Excessive devaluation will bring cost-push inflation and a strong negative supply shock to import-dependent firms. It will vitiate one of the most important reasons for convertibility: with a severely undervalued currency, there will be no competitive pressure on domestic firms, or sufficient influence of the world price structure on domestic relative prices, since without competition prices may move to clear home markets but not approach world relative prices.

Nevertheless, it will be necessary to set the rate below the FEER that would yield a current account surplus or deficit equal to an estimated 'exogenous' capital account outflow or inflow. Some degree of overshooting is required as insurance against negative external shocks or policy errors, bearing in mind also that the assumptions on 'exogenous' capital flows will be especially uncertain. This is ensuring the credibility of price liberalization, trade liberalization and convertibility itself — speculation against an overvalued rate could threaten the entire programme. Moreover, the FEER is likely to be further below purchasing power parity than for a comparable less developed country, because of the low quality of output and lack of market orientation (Oblath, 1991). But it is unrealistic and damaging to try to eliminate

any such downside risk, as shown by the excessive devaluation in Poland.

The rate set by Poland on 1 January 1990 did overshoot, with the negative consequences indicated above. After the initial jump in the price level, it did appear that inertial inflation had been cut radically. Subsequently, however, the inflation rate picked up despite the switch to budget surplus and a tough monetary policy. Much of this must be interpreted as catching up to the undervalued exchange rate, in a process in which the monopoly power of domestic firms was not checked by competitive pressure from abroad. Even the elimination of the monetary overhang by the initial price jump went too far.

It has been argued that the massive devaluation at least brought many firms into exporting for the first time; but the rise in convertible currency exports may have been primarily a consequence of the collapse of domestic and CMEA markets. In any case, the real exchange rate appreciation since 1 January 1990 has already pushed the convertible currency trade balance into deficit.

9.2. The rule

Credibility of exchange-rate policy and convertibility itself, and hence robustness of the entire sequence, requires specifying *ex ante* the rule by which the exchange rate peg will be adjusted if it is driven out of line (in particular, by inflation). Not setting a rule for parity changes is likely to generate uncertainty and speculation in due course. More important, economic agents will recognize that it is unrealistic to maintain that the peg will hold indefinitely. In the absence of further information about policy, they are likely to conclude that eventually the authorities will be forced to devalue sufficiently to accommodate inflation fully. This will vitiate the *ex ante* pressure for adaptation and delay credibility.

The authorities should therefore state a minimum duration for the initially fixed parity and a rule for revising it. An infrequently adjustable peg could reconcile the need for a nominal anchor and stability (in thin foreign exchange markets) with the flexibility needed in the face of major relative price changes and real sector shocks. The EMS experience comes to mind — infrequent adjustments that did not fully accommodate the differential inflation rates of France, Italy and others vis- \dot{a} -vis Germany. A crawling peg without full accommodation (like the Mexican tablita) might also work well.

10. International economic policies

10.1. Trade

The cautious approach in *European Economy* No 43 to proposals for an East European Payments Union (EEPU) was correct. The East European countries themselves resisted such suggestions. It is difficult to see what function an EEPU would perform if intra-regional settlements will in any case be in convertible currency; and full current account convertibility surely makes a payments union otiose (Kenen, 1990; Kirman and Reichlin, 1990; and *CEPR Bulletin* No 40, June 1990 all come to negative evaluations of EEPU proposals).

We did not, however, foresee the speed and extent of collapse of intra-CMEA trade. Much, if not most of this, is attributable to economic chaos in the Soviet Union and to GEMU. Nevertheless, the disintegration of this trade has gone far beyond elimination of that part of it without any short-term economic justification. Many of the cooperative relationships and input-output links could and should survive at least for the medium term. Innovative policies are needed to re-establish mutually beneficial trade. They should not be limited to a customs union or free trade area, but might also include mechanisms to facilitate payments.

10.2. Debt

Cohen's paper in this volume calculates that Hungary is the region's most heavily indebted country in 'debt-per-effectivecapita' terms. Using an innovative methodology, he finds Hungary even worse off relatively in 'growth-adjusted debt' — comparable to Argentina, while Poland and Bulgaria on this criterion appear more like Turkey and the Philippines. Moreover, by reference to the estimates of Cohen and Portes (1990), he finds that the secondary market for less developed country debt substantially overprices Hungarian debt (at 85 cents on the US dollar) and underprices Polish debt (at 15). These results rest on simulations and econometric estimates, but they are indicative of the magnitude of Hungary's debt problem. Since the paper was written, Poland has been accorded a minimum of 50% debt reduction by the Paris Club.

The new Europessimism is exaggerated, but the path of reform in Eastern Europe will be longer and more difficult than we first thought. We must work cooperatively to ease it. For the outcome does depend on the path, and the outcome is immensely important.

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Stabilization policies and currency convertibility in Czechoslovakia

Miroslav Hrnčíř and Jan Klacek¹

Institute of Economics of the Czechoslovak Academy of Sciences, Prague

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1. Introduction

The next two years will be critical in the post-war history of the Czech and Slovak Federal Republic (CSFR). The unprecedentedly quick privatization of the greater part of State-owned fixed capital combined with price liberalization and currency convertibility schemes will set the foundations for the new economic, social and political development described as the return of the CSFR to Europe.

The economic transformation that has begun in 1991 will involve far-reaching changes, creating a new framework both for domestic private firms and for foreign companies. The goal of the economic changes is to accomplish the transition from a centrally planned economy to a market economy. In contrast to the previous attempts at reform, the issue of the day is not the improvement of the existing economic system, but its complete transformation.

Economically and politically, the CSFR will be oriented to the European Economic Community, although the process of its entry into the EEC may take a decade. The first years of the transition towards a market-type economy, when the impact of economic disruptions in the Soviet Union will be combined with reshaping the whole economic system, will be particularly difficult.

The institutional and systemic changes are coupled with a macroeconomic stabilization policy, policies for industrial restructuring and reallocation of resources, as well as with programmes in the social and environmental spheres and the establishment of a social safety net. This makes the transition extremely complex.

The main components of the economic reform package are the following:

- (i) price liberalization, liberalization of imports and convertibility of the currency, promotion of growth in the private sector, a macroeconomic anti-inflationary policy and a policy of social guarantees and social protection;
- (ii) stability-oriented financial, budgetary and monetary policies;
- (iii) a new tax system and budgetary rules.

The private entrepreneurial activities are being created through 'minor privatization' (this applies in particular to small and medium-sized private enterprises) and through 'large privatization' of State-owned enterprises (factories and some utilities). The risks of this transformation reside precisely in its depth, radical character and the resultant growth in inflation and unemployment. Experiences gathered by the East European economies currently undergoing reform indicate that an equally formidable danger is the impaired integrity of the national economy and its existing output potential. Another danger is the growth of external indebtedness. The issues that may determine the fate of the reforms are the external conditions and the social impacts of inflation, unemployment and retraining, which will be painful, especially in the transition period of the next two to three years.

This paper concentrates both on those features of the stabilization programme that are common to the countries undergoing a similar transition, such as Poland, Yugoslavia, some countries of Latin America, and on the features specific to the CSFR.

It is argued that macroeconomic stabilization in the CSFR ought to be oriented more to preventing inflationary processes in the transition period than to stabilizing initial hyperinflation, as in the case of Poland. The success of the reform package, including macroeconomic stabilization policy, depends on the speed and the extent of the supply response and the resulting pro-reform social climate. It is shown that the attainment of a surplus in the State budget may be precluded both because of the high costs of a social safety net and because of the declining powers of the federal government to enforce the surplus in the budgets of the national governments. As regards the sequencing of policy measures, stress is put on early moves to demonopolize the economy, to secure the conditions for free entry and for competitive markets to operate, and to create the social safety net to help the most affected groups.

2. Initial conditions and macroeconomic stabilization

Macroeconomic stabilization is an integral part of the transition 'package' in all the previously centrally planned economies, including the CSFR. Moreover, it is generally recognized that institutional and systemic changes and in particular progress in altering the behaviour of economic agents are conditioned through the degree of success achieved in macroeconomic stabilization. It is certainly one of the few general-principles of proper sequencing in the transition that the stabilization efforts should be developed from the very beginning and address the inherited disequilibria and accumulated inflationary potential from the past as a precondition for further steps. A pronounced anti-inflationary orientation (particularly through restrictive aggregate demand policies) is therefore unavoidable in the first phase of the transition. This applies in the case of the CSFR, too. Both the transition scenario as well as its implementation seem to reflect that principle.

2.1. The relatively favourable macroeconomic 'stock' situation

The extent and forms of the inflationary potential (the rates of open, hidden and repressed inflation) differ widely from country to country. Thanks to traditionally prudent monetary, fiscal and wage policies, the CSFR maintained a relatively satisfactory level of domestic macroeconomic stability along with a low level of foreign indebtedness.

Consequently, stabilization policies starting from the beginning of 1990 did not have to cope with an already evolving hyperinflation (as in Poland and Yugoslavia). The goal was rather to avoid such a development in the course of the transition. The CSFR is thus a case of a country where the pressure of the initial stock problem (monetary overhang in the traditional concept) seemed to be relatively manageable.

2.2. Constraints in the 'flow' dimension

On the other hand, as the experience of other reforming countries also suggests, there are various disequilibrating factors arising in the course of the transition process itself: these derive from the existing structural rigidities, external shocks, biased expectations and changing preferences as well as from the policy mistakes and improper sequencing of the reform steps.

At least some of those factors are of particular importance in the case of the CSFR. Various kinds of **structural rigidities and external shocks** are likely to constrain, especially the first phase of the transition process.

- (i) Even if some partial reform steps were taken under the previous communist government in the second half of the 1980s, the institutional and socio-political framework of the CSFR still corresponded more closely to the traditional type of centrally planned economy than that of Hungary and Poland.
- (ii) In contrast to those countries, the extent of the private sector in the CSFR was negligible, even in agriculture and services. Market institutions and instruments were mostly lacking, particularly in the case of the money, capital and labour markets.

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Table 1

Wholesale and consumer price indices

(January 1977 = 100)

	1980	1985	1989
Wholesale prices			
Industry	102,3	126,9	126,1
Construction	100,0	123,6	120,9
Agriculture	109,8	126,7	162,2
Consumer prices			
Goods and services	109,5	120,9	123,5

(iii) The CSFR was also an extreme example of an unbalanced pattern in the size of enterprises, even in comparison with the other socialist countries: big units, mostly administratively created, overwhelmingly prevailed while small enterprises were almost entirely absent (see Table 3). Despite a deliberate policy in the direction of dismantling the artificial big units and supporting new entries by private businesses, which resulted in an increased number of enterprise units being registered in the course of 1990, the basic features of this biased pattern towards big units continued to dominate.

Table 2

A comparison of the external debt of Czechoslovakia in 1989 with selected countries

	Billion USD	Percentage of exports of goods and services for convertible currencies
Czechoslovakia	7,9	104
Bulgaria	9,2	227
Hungary	20,6	319
Poland	40,6	486
Yugoslavia	16,7	96

Source: Czechoslovakia, Transition to a Market Economy, World Bank 1990.

Along with those institutional and systemic constraints, there were also deep-rooted rigidities in the existing production and foreign trade structure:

- (i) The CSFR maintained a large proportion of heavy industry branches with an extensive but mostly rather obsolete stock of productive capital, with a neglected infrastructure and inadequate investment in environmental protection.
- (ii) While in Hungary and Poland there was a gradual restructuring of both foreign trade patterns and institutions developing over many years, the CSFR pursued a one-sided orientation in trade within the CMEA region, petrifying the existing productive structure and diminishing its capacity to adjust to the changing pattern of demand in world markets. As a result, the CSFR experienced a declining share of exports in world markets along with an increasing substitution in convertible currency markets of exports with lower value-added, such as raw materials, intermediate products and standard consumer goods, for those with higher valueadded. The CSFR was thus in a situation of 'regressive specialization'.

Besides, a number of exogenous shocks coincided unfavourably with the implementation of the critical steps in the transition process. The turning point for the CSFR on the way towards a market economy was — along with the implementation of privatization — associated with the liberalization of prices, foreign exchange and foreign trade effected at the beginning of 1991. These shocks included:

- (i) the Gulf conflict, a sizeable increase in the world market oil price combined with substantial cuts in oil supplies from the USSR;
- (ii) the collapse of the CMEA institutions and of regional trade along with a growing uncertainty as to the future economic development in the region, particularly in the USSR;
- (iii) a change in the payments system towards the use of convertible currencies among the countries of Central and Eastern Europe;
- (iv) the onset of economic recession in the West.

To sum up, the initial conditions for transition in the CSFR were mixed. On the one hand, there was certainly a 'comparative advantage' in a relatively stabilized macroeconomic situation. As for the 'stock' dimension, there was not the necessity for an abrupt restriction to cope with galloping inflation as was the case in Poland and Yugoslavia.

On the other hand, the CSFR lacked the gradual adjustment both in institutional and economic spheres which developed in the reforming economies of Hungary and Poland. The inherited structural, institutional and social rigidities inevi-

Table 3

The number and size of State and cooperative organizations in the CSFR

	Organizations as of 31 December 1989		Organizations as of 30 September 1990	
	Number	Average size (by number of employees)	Number	Average size (by number of employees)
State and cooperative sectors in total	8 856	872	10 413	724
(1) State organizations of which:	2 586	2 019	5 567	1 414
Industry	814	3 453	1 373	1 947
Construction	231	2 267	428	1 107
(2) Cooperative organizations of which:	2 581	445	2 995	363
Agriculture	1 861	385	1 916	337
(3) Joint venture enterprises	30	56	55	72

Source: Federal Statistical Office, The development of the CSFR economy in 1990.

tably affected both the speed and the costs of the transition. Combined with severe external shocks, they were likely to complicate the 'flow' problem arising in the first phases of the transition.

2.3. Speed and sequencing — Why the 'fast' option?

What should be the proper strategy with respect to the speed and sequencing of transition policies, given these initial conditions?

In the transition process we see 'fast' and 'slow' movers, often contrasted as a 'shock therapy' approach as opposed to a step-by-step, gradualistic or evolutionary type of approach.

The approach chosen in Czechoslovakia implied as quick a transition as was feasible, entailing some parallel features with the 'fast' movers, in particular a one-off simultaneous liberalization of domestic prices, foreign trade and foreign exchange, with the introduction of current-account convertibility at the very beginning of the transition process.

The initial conditions in the CSFR differed, however, from those of countries where the shock therapy approach was devised and followed in stabilization programmes. The reason behind it in some countries of Latin America, as well as in Poland or Yugoslavia, was confined to the pressing and urgent need to cope with hyperinflation. The dominant target of economic policy was to stabilize the economy as much and as fast as possible. The success achieved in that respect justified the costs involved, however high they might be. In the case of the CSFR there was no need to deal with existing galloping inflation.

If in hyperinflationary countries the shock therapy was to achieve quick macroeconomic stabilization, in the case of the CSFR the aim of fast, abrupt changes was to cut off **the routine behaviour patterns** of economic agents as quickly as was feasible, to change their regime and — in a positive sense — to 'destabilize' them. Such an approach reflected the specific features of the initial conditions.

The main argument for a quick and radical approach in the first phases of the transition of the previously centrally planned economies asserts that system replacement could hardly be achieved without a sufficient initial 'shock'. Given that the argument is justified in general, it seems even more true for the CSFR, where the 'inherited' institutional framework and structure of the economy did not undergo at least an adjustment like that developing in, say, Hungary for a number of years. Without an initial 'shock' the gradualist or evolutionary approach is likely to result in the amendment or improvement of the existing system, but hardly in its entire replacement. It seems to be even more so, if this approach is implemented step-by-step, so as to arouse the least resistance in economic and social spheres.

Moreover, with rapidly changing external as well as internal conditions, with changing preferences and expectations of economic agents, the time factor became important. The CSFR, being a relative late-comer to the transition, could simply not afford to lose more time in the 'race'. There was an increasing risk of sizeable losses if the old system of instruments and incentives was dismantled and, at the very least, the necessary components of the new one were not yet sufficiently established to make its functioning feasible.

It may be concluded that some elements of the shock therapy measures applied in the stabilization programmes of Poland and some other countries were adopted in the CSFR in different conditions, and for different reasons; and with different effects, at least in the short run.

The measures applied in Poland at the beginning of 1990 substantially reduced the previous inflation rates. The similar measures applied in the CSFR are likely to increase the rate of open inflation in the forthcoming period in comparison to the past. The hoped-for longer-term effects should be the same, however.

2.4. Stabilization — the issue for the whole transition

The stabilization issue has often been treated as an issue for the first phase of the transition only. In that context stabilization policies were required to create feasible starting conditions for institutional, systemic and social changes. Such a function is, of course, justified. Macroeconomic stabilization is certainly a necessary precondition if, for example, price and foreign exchange liberalization is to be successful, and even feasible.

The experience of the CSFR, as well as that of other countries, suggests, however, that there are various disequilibrating factors arising in the course of the transition itself and because of it, not to mention the external shocks.

However important and pressing the goals of the first phase of the transition might appear (which was particularly the case of countries with high inflation) the stabilization efforts should be devised and executed in such a way as to make
the whole transition process economically and socially feasible, and as smooth as possible.

The message of that conclusion for policy-making in the CSFR is that while the main aim should be non-inflationary development (i.e. to avoid galloping inflation), the desirable trade-offs with other macroeconomic targets are to be sought in each stage. It also implies that unnecessary costs, depression, mass bankruptcies, high unemployment and an intolerable decrease in real wages should be avoided. The extent and forms of the restrictive anti-inflationary policies in the first phase should be devised with regard to the needs and feasibility of the following phases of the transition as well.

2.5. The effectiveness of stabilization efforts

There are, however, serious constraints on the stabilization policies in the first phase of the transition. Stabilization being a precondition for further steps in the other spheres, it has to develop within the 'inherited' institutional framework. In the CSFR in 1990, a clear identification of ownership and property rights, as well as most market institutions, were still lacking, with resulting low financial discipline and responsiveness of enterprises to restrictive monetary, credit and fiscal policies.

To cope with those limitations, the instruments which are traditionally elements of orthodox stabilization programmes — elimination of budget deficits, money supply and/or exchange rate as nominal anchors — were in Poland and Yugoslavia accompanied in a pragmatic way by the instruments of wage, personal income and price controls (i.e. with elements of the heterodox approach). A comparable pragmatic way is being followed in the CSFR.^{2a}

The restrictive measures, if sufficiently tight, could be effective, even under the unchanged framework, in coping with gross imbalances in the financial sphere. At the same time, the costs implied in the real sphere of the economy, in terms of real income, output and employment, are likely to be rather high.^{2b}

The important lesson is that however restrictive and tough the stabilization policies applied might be, a significant change in the behaviour of economic agents cannot be expected to follow automatically. The implication of the above conclusion in the approach to policy implementation is to accompany the stabilization efforts as quickly as possible with institutional and systemic changes and with deliberate policies for restructuring and for supply response, to change the regime and behaviour patterns of economic agents. Unless this is achieved, the more effective the restrictive policies are in the financial sphere, the higher tend to be the costs incurred in the real sphere.

It follows that without early restructuring and a change of behaviour by economic agents, the restrictive stabilization policies could be hardly sustainable in the longer run, because of economic constraints and social resistance. Even if the stabilization policies were relatively successful in dampening aggregate demand overhang, they could be hardly effective in coping with the structural rigidities and structural factors of inflation.³

Moreover, given the structural rigidities and underdevelopment of the money, capital, labour and foreign-exchange markets in the first phases of the transition, the set of various control instruments used for restrictive purposes (including regulation of wages and personal incomes) are likely to have a rather controversial impact on the behaviour and potential supply response of economic agents.

The degree and timing of the restructuring and of the supply response are determined not only by increased financial discipline and efficiency of individual agents, but also by the **increased mobility of capital and labour resources** to more profitable options. The continuation of tight restrictive measures, in particular those interfering with the development of factor markets and with a flexible flow of resources, would thus work against the speed and success of the transition.

The Czechoslovak approach represented an attempt to proceed with institutional and systemic changes from the very beginning of the transition, trying to make progress in various spheres more consistent and to shorten the time-lags involved. As a result, that approach did not make such a clear-cut distinction between the phases of macroeconomic stabilization, institutional and systemic changes and the policies for restructuring as was the case in some other countries. Despite substantial efforts to adhere to the projected scenario, a number of constraints and delays were experienced already in the course of 1990 which complicated the initial conditions for institutional reforms.

^{2a} For a more detailed discussion see Section 3.

^{2b} The Polish example seems to be conclusive in that respect. The evident success in the financial sphere in 1990 was achieved and paid for by a substantial drop in real output, real wages and mass unemployment. See Rosati (1990).

The recent experience of Poland and Yugoslavia is again quite revealing

2.6. The economic situation at the start of reforms

The fundamental institutional reforms of 1991 have come into effect in a rather risky economic environment which is not comparable to the relatively favourable situation of the second half of the 1980s. Since economic performance gradually deteriorated in 1990, the conditions for transition to a market-type economy are more constrained.

The most pronounced **destabilizing impacts on the economy have stemmed from several external shocks** and from changes in the consumer goods market. The enormous changes in external conditions and distinctly different behavioural patterns, brought about by economic policy measures (including those that were only announced or anticipated for 1991), have exerted a decisive impact on the dynamic processes of production and product allocation. The magnitude and the extent of changes in both external and internal economic, social and political conditions, as well as in reactions of economic agents to these changes, predetermined the economic prospects for at least six months ahead.

The economy may be destabilized further by possible cuts in the supplies of oil and other imported raw materials from the Soviet Union. In 1990, oil supplies from the USSR were cut by 18% and the prospects for 1991 are even worse; the oil supplies contracted amount to only 50% of the 1989 level. Even the lower quantities of oil from the Soviet Union may not be supplied, however, either because of the chaotic situation in the oil industry or because of technical reasons (inadequate pipeline network). Besides, financial constraints will arise for the oil bill. Then, a further decline in economic activity in the medium term — that is, after the reforms are effected — can be expected.

The economic deterioration of the Comecon countries and primarily the economic decline of the Soviet Union significantly affect the performance of the Czechoslovak economy; the implications of these destructive tendencies are in the short term beyond the scope of influence of the Czechoslovak authorities, since the economic reforms may yield positive outcomes in the longer term only. This implies significantly lower imports of energy and raw materials into the CSFR and at the same time lower Czechoslovak exports to these countries (the trade balance for 1990 showed a deficit of CSK (Czechoslovak koruna) 30 billion, of which CSK 13 billion is with the CMEA countries).

Behavioural patterns have been strongly affected by a series of price changes, by widespread and quickly deepening disequilibria in the consumer goods market, and by the timing of institutional changes on 1 January 1991 (price liberalization, currency convertibility).

The reaction of economic agents seems to be based on rational expectations. In 1990, one could observe a decline in the propensity to save, an increase in imports from and a stagnation in exports to the countries with convertible currencies and a record accumulation of inventories. On the aggregate level, the increments of domestic absorption have substantially surpassed the estimated incremental gross national income (see Table 4).

The recession, which in 1990 reached a decline of 3.5% in gross national income, might have been twice as great had additional resources not come in through the trade deficit. As a result, however, Czechoslovakia's net foreign indebtedness in convertible currency has inevitably increased.

Table 4

(Constant prices - estimates)

Gross national income: change over 1989 and its allocations in 1990

		(billio	on C	'SK)
Gross national income	-18	Total domestic absorption	+	13
		of which:		
		Gross investments	_	9
		Inventories	+	20
		Private consumption	_	5
		Public consumption	+	7
		Net exports	_	30
Total	- 18		_	17
Source: Own calculations.			-	

Quantitatively, the most significant change is represented by the current-account deficit in the balance of payments. The unfavourable impact of the 'run for imports' had to be mitigated by a devaluation of the koruna by 55% in October 1990.

Besides, enterprises have invested a lot in inventories in order to protect themselves in terms of physical assets when supplies become uncertain, and to reduce their vulnerable financial assets. Similarly, households not only have minimized new savings but have also drawn excessively from their savings accounts, so that negative net new savings appeared for the first time since the monetary reform of 1953. This change in the behaviour of households has added to a 'shopping fever'. The classical instruments of monetary policy, like higher (real) interest rates and limits imposed on bank credits were applied too late and proved ineffective. These trends have given rise in 1991 to some questionable price regulations by the Ministry of Finance (maximum prices for basic foodstuffs and administered prices for energy and imported raw materials).

The process of privatization, in spite of the non-standard (voucher) method and the first auctions in the framework of 'small scale' privatization effectively taking place in January 1991, is proving to be much slower than expected. The politicized issue of the extent of 'restitution' is likely to have a negative impact both on the speed of privatization and on the early participation of potential foreign investors. Foreign trade liberalization was 'nominally' effected as scheduled, but its real effects are likely to be both delayed and only modest, given the existing constraints.

Despite the external disturbances and internal trends towards destabilization of the economy, the starting position of Czechoslovakia is still better than that of the other East European countries. The monetary overhang is relatively low,⁴ foreign indebtedness is still manageable and the country may use its comparative advantage of technically skilled, low-paid labour.

3. Macroeconomic stabilization policies

3.1. Fiscal policy in the transition period

There seems to be a general consensus among economists that fiscal policy in the transition period ought to be restrictive, targeted at achieving a State budget surplus while refraining from previous excessive income redistribution. Important as such a goal is for macroeconomic stabilization, we will show that both on the expenditure side and on the revenue side of the State budget there are strong pressures operating in the opposite direction. Economic depression and a necessity to develop a social safety net may prevent a budget surplus. In the case of the CSFR the argument for a restrictive fiscal policy ensues from an analytical assessment of recent trends. Although both fiscal and monetary policies have been traditionally prudent and in some periods perhaps even conservative, the trends in the late 1980s set some potentially destabilizing starting conditions for the transition period (see Table 5). Similarly, in the late 1980s the redistributive properties of the State budget became more pronounced (see Table 6).

Together with an egalitarian wage and income policy, these redistributions resulted in an income distribution that is one of the most even in the industrialized countries — see Table 7 and the Lorenz curve diagram (Graph 1).

The budgetary expenditures in 1990 were therefore reduced (especially military expenditures and subsidies for foodstuffs) and parliament passed the State budget with a surplus of CSK 5.3 billion, which amounts to 0,8% of NMP (1,5% of the total budget revenues). The State budget for 1991 was prepared with a surplus reaching CSK 11 billion (1,8% of NMP and 3% of the total budget revenues). The argument behind a more restrictive fiscal policy is the danger of inflation. The rate of inflation in 1990 (index of retail prices) was 10% and it accelerated, so the year-on-year figure for December 1990 was 18,4%. In 1991, after the bulk of prices have been liberalized, inflation may climb to a rate of 30 to 40% a year.

The tight fiscal policy is based on increases in revenue and cuts in expenditure. The State budget is expected to benefit from the centrally administered price increases introduced in 1990 (foodstuffs, public transport, petrol, etc.) and those scheduled for 1991 (energy and housing rents). At the same time, in 1991 subsidies for State enterprises, for agricultural cooperatives and for local governments' budgets are to be decreased further by CSK 4.5 billion (i.e. by 11%).

But there are many unknowns in the State budget. On the revenue side, the corporate, payroll and wage tax revenues may decrease sizeably as a consequence of the depression in economic activity, caused both by numerous closures of bankrupt firms and by a lower level of demand, at home as well as abroad. The rise of the private sector may at least partially offset the losses in tax revenues. But the tax reforms are lagging behind, and a general overhaul of the tax system is scheduled only for 1993, when a VAT system is to be introduced. The present tax system is not capable of auditing the private sector activities and the likely balance in terms of budget revenues will be a negative one.

As to expenditures, they will bear the costs of redesigning, and partly of setting up a new social safety net. An inevitable

⁴ There is some econometric evidence indicating either a balanced consumer goods market — see, for example, Portes and Winter (1980) or showing some excess demand of up to 10% — see, for example, Charemza (this volume). Indirectly, the extent of the decline in households' savings in 1990, amounting to 3% of their stock, is consistent with these findings.

Table 5

Deficit of the State budget, financial assets and liabilities of the State

						(billion CSK)
	1985	1986	1987	1988	1989	1990
The State budget	-3,5	- 5,7	-3,8	-18,1	-9,6	5,3
As a percentage of net material product	-0,6	-1,0	-0,7	-3,0	-1,6	0,8
Financial assets of the State	96	89	88	74	67	:
Financial liabilities of the State	4	5	5	6	7	:
Source: Time series of financial indicators, Ministry of Finance, Prague.						

Table 6

Total expenditures of the State budget and total budgetary subsidies

						(% of NMP)
	1985	1986	1987	1988	1989	Budget 1990
Expenditures of the State budget	70	70	71	74	77	74
of which:						
Budgetary subsidies	14	15	15	16	17	16
Sources: Statistical Yearbook of Czechoslovakia: Czechoslovakia Tra	nsition to a Market Economy Wo	rld Bank 1990.				

dislocation of a significant part of the economic capacities during the transition period will require new assistance schemes to individuals and families whose incomes will be affected by the transformation process.

But not only income transfers, such as unemployment benefit, will be necessary. The closures of inefficient and bankrupt firms will be distributed unevenly across the country. A high concentration of closures may be expected in a few regions and agglomerations, where the traditional manufacturing sector (especially the metallurgy, heavy machinery and chemical industries) is located. New employment opportunities, mainly in the private sector, cannot absorb all the labour dismissed. The social safety net must, therefore, contain training and retraining of unemployed or dismissed labour, an information system about job opportunities and administration of unemployment benefits. State and local budgets will have to devote some direct and indirect expenditures to the overall restructuring of these 'rust spots'. Under certain assumptions, the impact in terms of the losses of budgetary revenues and the additional expenditures could be projected (see Table 8).

The two scenarios in Table 8 are based on model-generated projections of restructuring in the Czechoslovak economy. The unemployment rate in the transition period is assumed to reach alternatively 7 or 12%. For simplicity, the figures are yearly averages of 1991-93, and they correspond to optimistic and pessimistic variants of the process of restructuring. In comparison with recent developments in Poland and, especially, in Eastern Germany, even a 12% rate of unemployment may not be too high.

The average monthly unemployment benefit is assumed to be CSK 2 400. This represents 70% of the average monthly wage in 1990.

Budgetary expenditures are expected to rise 5% a year and unemployment is considered to last 6 or 12 months. In calculating the losses in budgetary revenues, the present rates are employed, i.e. a 50% payroll tax rate and a 17% wage tax rate.

Although the unemployment rate reached only 1% by the end of 1990, the rate of 12%, corresponding for the next

Table 7

Distribution of household income per head in the CSFR, 1988

Number of income group	Upper limit of income group (in CSK)	Number of households	% of total	Average net income per head of household (in CSK)	Additiona imputed income ¹ (in CSK)
1	9,600	45 551	0.8	8 421	355
1.	10 800	45 551	0,0	10 200	564
2.	12 000	100 800	1,5	10 290	140
5.	12 000	177 077	5,0	12 629	440
4. 5	13 200	232 380	4,2	12 030	442
5.	14 400	270 494	4,7	15 045	445
0.	15 600	320 343	5,8	15 050	4/3
7.	10 800	309 443	0,7	10 227	504
8.	18 000	399 619	7,3	17 420	550
9.	19 200	402 577	7,4	18 610	568
10.	20 400	350 384	6,4	19 814	583
11.	21 600	316 230	5,7	21 008	608
12.	22 800	286 044	5,2	22 203	644
13.	24 000	249 669	4,5	23 406	663
14.	25 200	231 203	4,2	24 603	671
15.	26 400	209 721	3,8	25 810	743
16.	27 600	186 177	3,4	26 998	722
17.	28 800	171 005	3,1	28 217	751
18.	30 000	151 918	2,8	29 419	807
19.	31 200	137 058	2,5	30 616	784
20.	32 400	124 140	2,3	31 804	821
21.	33 600	112 512	2,0	32 976	835
22.	34 800	98 560	1,8	34 176	778
23.	36 000	81 296	1,5	35 418	930
24.	38 400	131 764	2,4	37 154	870
25.		351 001	6,4	46 338	846

¹ Corresponds to consumption of foodstuffs produced by household Source: Microcensus, Federal Statistical Office, Prague 1990.

pessimistic scenario. three years may to а represent — depending on the duration of unemployment - 4 and 8% alternatively of total budget expenditures. However, the total costs of unemployment for the State budget are higher than unemployment benefits. The total revenues will be ceteris paribus reduced, and the loss will be composed of lower payroll tax and wage tax (the costs of retraining are not accounted for).

Thus the process of restructuring of the economy may pose severe limits on the fiscal policy aimed at a surplus in the State budget. The success of this policy will depend a lot on the size and the speed of the response on the supply side of the economy to institutional reforms. An adequate tax system, auditing the emerging private sector, may represent a missing link in the scenario of economic reforms. The efficiency of the instruments of fiscal policy will also be influenced by a significant decentralization of powers from the federal government to the governments of the Czech Republic and the Slovak Republic. Starting from 1991, the revenues and the expenditures of the federal State budget are lower than the revenues and the expenditures of both the Czech and the Slovak republic governments. The federal government disposes of only less than one-third of budgetary resources in Czechoslovakia, and the bulk of budgetary expenditure is decided at the national level. The extent of decentralization may make the shaping of coordinated fiscal policy rather difficult and politically complicated. One may expect a permanent tendency towards deficit financing in Slovakia, where a relatively small portion of the production of goods for final use is located and where the impact of economic reforms and restructuring will be more painful than in the Czech lands.



Table 8

Estimated costs of unemployment for the State budget

(yearly averages 1991-93)

		(billion 1990 CSK)
Scenario	Unemployr	nent benefits
	6 months	12 months
I 7 % unemployment	9	18
II 12 % unemployment	14	28
	Losses in bud	getary revenues
I	6,5	13
II	10	20
	Unemployment benefits as a perce of total expenditure	
I	2,7	5,5
II	4,2	8,4

3.2. Wages and incomes policy

The price increases of 1990 and the liberalization of prices in 1991 may result in a 30 to 40% rise in price levels in comparison with the beginning of 1990. The role of macroeconomic policy is to prevent this once-and-for-all jump in the price level from starting an inflationary process, affecting the overall stability of the economy and causing possible social unrest. To fulfil this aim, macroeconomic policy must address wage and income setting.

One cannot overemphasize the fact that during the transition period, markets and especially labour markets can hardly be relied upon as fully fledged and efficiently operating markets. In this context, the issue of indexation of wages⁵ and of other fixed incomes is a particularly sensitive one; wages and incomes policy may be considered to provide an anchor to a stabilization policy.

⁵ The role of wage indexation in the process of hyperinflation in Poland is stressed by Nuti (1990).

Recently, a tripartite commission has been formed representing government, trade unions and managers, empowered to set guidelines and limits on wages and incomes policy, including schemes for unemployment benefits. A bargaining process resulted in agreement on the principles of wage indexation, minimum wage rates and unemployment benefits in 1991. Wages can be raised in March 1991 by 5% to cover the higher cost of living in 1990 and in the first quarter of the year. Besides, if the price index in the first quarter increases by more than 25%, which is very likely, nominal wages will be allowed to rise sufficiently to ensure that the decline in real wages is at most 12%.

In the case of an inflation rate of 25%, the minimum value of an implicit coefficient for wage indexation is thus fixed: it is 0,52. But the value of the coefficient is not constant; the higher the rate of increase of the price level, the higher is the implicit value of the wage indexation coefficient, and vice versa (for an inflation rate of 40% the value of the coefficient reaches 0,7). Moreover, starting from the second quarter of the year, a further maximum decline of real wages is set at 10%.

The higher cost of living of pensioners and families with children will be compensated to a larger extent than wages and salaries and the compensation schemes will also depend on the patterns of their expenditures. Unemployment benefits for the first six months of unemployment are determined at a rate of 65% of the last net salary, and the rate is lowered to 60% in the second six months of unemployment. Finally, the minimum wage rates are set at CSK 2 000 per month (60% of the average wage at present) and CSK 10,8 per hour.

As is evident, the potential for a cost-push inflationary process may develop, depending on three main factors: the extent of the initial rise in the price level in the first months of 1991, the value of the coefficient of wage indexation, and the speed of the formation of efficiently operating markets and the resulting supply response. It seems to us that in the case of Czechoslovakia the first two factors need not produce dynamic inflationary processes, although the costs of the social safety net may be much higher than expected. The risks consist of a slow and inadequate supply response because of both remaining administrative and monopolistic obstacles to free entry for new private firms, and a lack of entrepreneurial and managerial skills. The government agencies should monitor individual markets in the transition period, intervene if competitive conditions are not met and help new firms to enter the market.

3.3. Monetary and credit policies

In the sphere of monetary and credit policies the government opted for maintaining the nominal money supply virtually constant in the year 1990. The target was within the range of -2 to +1% of the end-1989 level. It was undoubtedly a demanding target, expressing the intention of the authorities to follow tight monetary and credit policies and to discontinue the accommodative character of the money supply. Being fixed for the year 1990, the nominal money supply was in fact conceived as **a nominal anchor** in the stabilization process.

This monetary target was adhered to in the first half of the year. Maintaining it in the second half of the year appeared not to be feasible, however, particularly under the substantial price increases, which in that period resulted from the cut in price subsidies (particularly for foodstuffs) and a number of price ratio corrections implemented by the authorities.

Table 9

Enterprise credits from banks, 1980-90

(in billion CSK, end of period)

	1980	1985	1988	1989	November 1990
Total credits	412,8	502,5	543,8	530,8	543,0
Operating credits	280,6	353,9	387,3	372,1	385,2
Investment credits	132,3	148,7	156,5	158,7	157,8
C. Eleveristic disease Mi	·				

Source: Financial indicator, Ministry of Finance.

Table 10

Consumer price index — Goods and services

(the same period of the previous year = 100)

-	I	II	III	IV	Yearly average
1989	101,1	101,4	101,5	101,5	101,4
1990	103,4	103,9	114,1	118,4	110,1

Source: Statistical Yearbook of Czechoslovakia.

Consequently, the monetary target was relaxed, the upper limit being changed from +1% to +2.6% until the end of 1990. This experience proved that it is highly disputable whether the nominal money supply should be used as an anchor in a period of profound price adjustments.

Moreover, in assessing the real extent of the restrictive policies and their impact, the nominal data on money supply must be corrected for the amount of **enterprise indebtedness**, a phenomenon which developed under the institutional and ownership framework of the centrally planned economies as a 'way out' for enterprises in financial difficulties.

The volume of enterprise indebtedness (including both the 'primary' and 'secondary' form, i.e. induced inter-enterprise credits) has been increasing with some ups and downs since the early 1970s, when it amounted to only CSK 1 to 2 billion. Sharp increases were registered in 1981-82 and again in 1987, i.e. when the monetary authorities tried to tighten credit policies.

After 1987 this amount of enterprise indebtedness was substantially reduced through the use of the State budget funds and also through repeated administratively effected balancing of the mutual outstanding obligations of the enterprises.

Under the pressure of tighter monetary and credit policies, with increasing demand constraints on both the external and domestic markets and also biased expectations of producers (expectations of inflation and devaluation resulting in hoarding of inputs and deliberate postponement of deliveries), an unprecedentedly sharp increase in enterprise indebtedness developed again in the course of 1990, particularly after August (see Table 11).

The implied consequences are of considerable importance:

- (i) The amount of enterprise indebtedness (at the end of 1990 it amounted to 14% of the operating credits and to 10% of all the credits extended from banks to enterprises) and its sharply increasing trend may seriously destabilize the whole network of fund and resource flows within the domestic economy;
- (ii) The phenomenon of enterprise indebtedness constrains and even undermines the effectiveness of monetary and credit policies. In view of its growth in 1990, the real impact of the restrictive credit policies followed is at the very least rather ambiguous.

The sensitivity of the phenomenon of enterprise indebtedness is intertwined with the issue of saving. As mentioned in Section 2.6, in 1990 the saving rate of households consider-

Table 11

Enterprise indebtedness, 1982-90

(in billion CSK, end of period)

Year		Monthly da	ata for 1990
1982	14,0	Ι	7,1
1983	8,2	II	8,4
1984	7,3	III	10,6
1985	12,4	IV	13,8
1986	31,7	v	15,5
1987	45,8	VI	13,8
1988	26,7	VII	15,5
1989	6,2	VIII	19,1
1990	53,9	IX	27,8
January 1991	67,4	Х	35,9
		XI	44,7
		XII	53,9

Table 12

The bank rate and interest rates in 1990

Change effected	Bank rate	Upper limit of interest rates for bank credits
1 January	4	_
5 April	5	
1 October	7	13
21 November	8 1	$22\frac{1}{2}$
28 December	10	24

ably decreased in comparison with the same period of the previous year.⁶ Moreover, an absolute decrease in household deposits denominated in koruna developed, amounting to

⁶ The 'traditional' rate of savings (i.e. one calculated as the rate of increase of the stock of savings with respect to the volume of households' income) decreased from 2,9 to 0,3%. Including deposits on foreign exchange accounts and purchases of bonds, the ratio changed from 3,0 in 1989 to 1,7 in 1990.

CSK 7 billion. This is a phenomenon not registered since the 1950s (and only partly compensated by the increase in deposits on foreign-exchange accounts and purchases of bonds). At the same time there was a pronounced tendency to transfer fixed-term and savings deposits to demand deposits and/or to foreign exchange. This raises the issue of incentives to save: expanding the variety of attractive options and achieving positive real interest rates. Even the relatively frequent changes in the bank rate in the course of 1990 (see Table 12) were evidently delayed and insufficient.

Table 13

Monetary survey, 1989-90

					(billion CSK)
	31.12.1989	31.3.1990	30.6.1990	30.9.1990	31.10.1990
Money	311,1	287,7	303,3	292,9	285,0
Currency	68,0	70,0	72,4	73,2	71,7
Households	62,8	64,3	66,4	69,1	67,3
Enterprises	5,2	5,7	6,0	4,1	4,4
Demand deposits	243,1	217,7	230,9	219,7	213,3
Households	107,5	109,9	112,2	113,2	110,2
Enterprises	135,6	103,7	115,2	100,8	98,4
Insurance companies	0,0	4,1	3,5	5,7	4,7
Quasi-money	236,7	247,0	243,4	244,8	252,3
Time and savings deposits in CSK	232,5	240,3	233,7	233,4	232,8
Households	170,2	170,1	168,8	166,9	165,0
Enterprises	6,6	12,9	14,6	13,8	14,0
Insurance companies	55,7	57,3	50,3	52,7	53,8
Foreign currency deposits	4,2	6,7	9,7	11,4	19,5
Households	1,7	2,7	3,5	4,1	7,0
Enterprises	2,5	4,0	6,2	7,3	12,5
Broad money	547,8	534,7	546,7	537,7	537,3
Source: Cracheslovakia Transition to a Market Francewy World B	ank 1000				

Source: Czechoslovakia, Transition to a Market Economy, World Bank 1990.

4. Currency convertibility

Currency convertibility — along with privatization — is the key element in the transition process. Privatization implies the move from a communist centrally planned economy to a capitalist market economy, convertibility implies the move from an essentially closed economy to an open one. It is no surprise, therefore, that both issues were the subject of heated discussion while the transition strategy for the CSFR was being elaborated. Although there was a fairly general consensus about the desirability and necessity of both privatization and currency convertibility, views differed widely as to the approaches, time horizon and methods to be applied in their implementation.

4.1. Alternative options

With reference to currency convertibility the issue was:

- (i) what type and what degree of convertibility, and, more controversially,
- (ii) how and, particularly, when: should at least limited currency convertibility be introduced at the very beginning of the transition process (to follow the Polish approach) or should it be conceived only as an element in a longerterm gradual adjustment (the concept followed in Western Europe in the 1950s and to some extent now in Hungary)?

In the case of the CSFR there were powerful arguments for an early move to currency convertibility, however limited. Given the distortions inherited from the centrally planned economy framework, such a move was expected to facilitate and to speed up the whole transition, particularly by:

- (i) providing the discipline of foreign competition and countervailing power to the monopoly power of domestic producers and traders;
- (ii) 'importing' foreign price ratios and making them effective for the decision-making of domestic agents;
- (iii) initiating a reallocation of resources that would reflect the conditions of an open economy. The liberalized domestic prices should thus tend to the market-clearing prices of an open economy directly and not via the equilibrium values of a closed economy.

The controversial issue was, however, whether those expected effects were not likely to be outweighed by the costs and risks and/or to what extent they could be realized at all under the existing circumstances.

The opponents claimed that such a quick introduction of convertibility and liberalization of foreign trade would be inflationary. A large devaluation, abrupt liberalization of foreign trade and the introduction of currency convertibility would generate too much inflationary cost-push and termsof-trade losses, particularly given the rigidities constraining potential supply and export response. Gradual absorption of the impact of domestic liberalization and the forthcoming exogenous shocks would avoid an inflationary spiral. At the same time, economic agents, including firms with a low and even negative value-added in terms of world market prices (see the paper by Hughes and Hare in this volume), would be given a desirable 'breathing' space and a chance for restructuring. This would limit the danger of mass bankruptcies of firms that might be temporarily uneconomic but in the medium run potentially competitive.

The government strategy opted for simultaneous liberalization in the domestic and external spheres. Limited currency convertibility (on the current account, for registered domestic businesses), along with foreign trade liberalization, was introduced at the beginning of 1991.

The alternative option was to give priority to domestic liberalization and to proceed with the loosening of the administrative regulations in the external sphere step by step, within a time horizon of a few years.

Both options evidently have their own benefits and costs. Both are also feasible, as the experience of Poland and Hungary suggests. The assessment of their advantages and disadvantages seems to show that the issue of convertibility is closely intertwined with the concept of the transition strategy and represents one of its keystones. In the case of the CSFR and of other transition economies it is therefore not only a monetary phenomenon *per se*.⁷

In comparison with Western Europe in the 1950s, the arguments for an early introduction of currency convertibility in the previously centrally planned economies seem to be much stronger: it should contribute to making the market function. Given the strategy followed by the CSFR, aiming at 'catching up' and at a fast transition process, the introduction of at least some degree of currency convertibility at the very beginning of the transition process appeared even more important.

In view of the inherited rigidities and the distorted allocation of resources and price ratios in the domestic economy, the bringing of domestic prices closer to foreign price ratios, unifying the exchange rate and reallocating resources for an open economy framework, was likely to be at best a rather prolonged process unless there was also currency convertibility to influence the behaviour of economic agents. An early move to convertibility was therefore not an option, but rather a necessity; not in spite of the existing rigidities, but just because of them.

4.2. Conditions for sustainability

This does not imply, however, that the issue of the conditions for introducing currency convertibility and, even more, for sustaining it was of less importance in the CSFR. Just the opposite; the commitment to early convertibility requires that it be **credible**, and any failure in that respect would thus be quite detrimental.

Currency convertibility should be introduced only if the conditions for sustaining it are likely to be met. These conditions apply to both the macro and the micro level.⁸ On the micro level a satisfactory standard of financial discipline is particularly required. On the macro level aggregate demand must be under control and there must be a reasonable balance in foreign trade flows and in foreign exchange pay-

⁷ 'For the East European countries undergoing radical transformation, convertibility is not simply a question of international macroeconomics, nor a monetary issue. It is central to the process of transformation and must be situated within that process in a way appropriate to the particular country concerned'. Portes (1991).
8 Set Williemerg (1909)

⁸ See Williamson (1990).

ments at least in the medium term (the flow issue) and with sufficient reserves (the stock issue).

Constrained by the given initial conditions and many uncertainties, the convertibility introduced in the CSFR was rather limited. It applied only to registered businesses,⁹ enabling free decisions on imports, while the proceeds from exports must be transferred to the authorized banks at the current rate of exchange.

In order to satisfy the conditions for sustainability and to extend convertibility subsequently, substantial support has been offered by international institutions, particularly the IMF,¹⁰ and by the European Community.

To monitor developments on the macro level a set of four basic indicators was elaborated in cooperation with the IMF for 1991. Two of these indicators are intended to limit the growth of aggregate demand through fiscal and monetary and credit policies; the other two refer to the external sector, imposing limits on the change in international reserves in convertible currencies and on the accumulation of new foreign debt.

(i) Net credit to government

Fiscal policy is assigned an important role in controlling and restricting aggregate demand. The target set for the overall government budget (including federation, republics and local authorities), is planned to show a surplus amounting to almost 1% of GDP in 1991. To reflect this aim, quarterly ceilings have been set on the net credit from the banking system to the government under the assumption that there will be no financing of the government outside the banking system (in the case of foreign borrowing the respective ceilings would be adjusted accordingly).

(ii) Net domestic assets of the banking system

This indicator is defined as the difference between the liabilities of the banking system (in the concept of broad money, money and quasi-money) and the net international reserves. The quarterly cumulative limits for the change in the domestic assets of the banking system reflect the projected macroeconomic development in 1991 (the envisaged rate of inflation and decline in output as well as objectives in the balance of payments) and are designed to control the money supply accordingly. The monetary restraint implied for 1991 aims at preventing an inflationary spiral following on the price jump arising from price liberalization and from higher import costs caused by devaluation.

(iii) Change in net international reserves in convertible currencies

Net international reserves consist of gross official reserves net of reserve liabilities. Gross official reserves include holdings of convertible currencies by the central bank and commercial banks, monetary gold, reserve position in the IMF, and holdings of SDRs, while reserve liabilities are those of the banking system to non-residents. As the external position of the CSFR is expected to deteriorate in 1991 owing to trade liberalization, exogenous shocks and terms-of-trade losses (the projected current account deficit amounts to USD 2,5 billion), targets for the cumulative change (decline) in the net international reserves of the banking system should provide a guideline for necessary adjustment measures.

(iv) Limits for new external borrowing

According to the projections, the external indebtedness of the CSFR was likely to increase in 1991 to USD 11 billion with the share of debt servicing amounting to 11% of the expected total receipts (including non-convertible currencies) on the current account. The limits set for new external debt should prevent higher drawing on external resources than considered necessary.

The indicators identified to define the path of desirable macroeconomic development both in the domestic and external sectors of the economy, turned in fact into **implied anchors of the entire macroeconomic stabilization and policies followed in the current year.**

4.3. Foreign exchange-rate regime

A realistically competitive foreign exchange rate is a major factor conditioning a sustainable balance-of-payments development (given that convertibility is conceived for trade flows and for residents only, interest-rate parity is of minor importance). With the wide range of uncertainties involved at the beginning of the transition in the CSFR, policy-makers faced the difficult issue of the selection of a proper foreign exchange-rate regime for the first phase of transition. The

⁹ Citizens have the right to maintain private foreign exchange accounts, but they are entitled to buy only a limited amount of foreign exchange per year at the current rate of exchange. For 1991 that amount was set at the equivalent of CSK 5 000, i.e. about USD 178 at the present rate.

¹⁰ The IMF approved in January 1991 a loan amounting to USD 170 million. The support by the EC is expected to amount to USD 670 million, and the restructuring loan from the World Bank will be about USD 500 million.

option of a **floating exchange rate** for the interim period was suggested. It seemed attractive as a means to avoid the potential foreign-exchange constraint as well as the risks of either an undervalued or an overvalued rate.

There were, however, strong arguments against such an approach:

- (i) Given the unstable situation and a rather thin foreignexchange market, the foreign exchange-rate misalignments and fluctuations were likely to be substantial;
- (ii) It would be hardly feasible both for the central bank to identify and follow an autonomous monetary policy¹¹ and for economic agents to cope with the fluctuations implied;
- (iii) The instability of a key price the exchange rate would undermine the main aim of currency convertibility: to import rational price ratios and to discipline domestic agents, enterprises, households, and also the central authorities.

On the other hand, under the conditions of the CSFR there was neither such a compelling necessity for stabilization reasons (as in the hyperinflationary Polish situation) nor the willingness to commit to the **fixed exchange rate as a nominal anchor** for a specified period. The government and central bank declared their intention to maintain the exchange rate, while not committing themselves to any specific period nor excluding the possibility of adjustments.

This approach was conditioned on the one hand by the policy guidelines for 1991 as to the levels of international reserves and foreign indebtedness acceptable, and on the other by the determination of the authorities to avoid any retreat to multiple exchange-rate practices again. There were thus some features similar to an adjustable peg regime. The compromise solution adopted was expected to combine the elements of both the stabilized 'norm' and flexibility of adjustment, if necessary. Since the intention was to make the adjustments as infrequent as possible, the initial level of the exchange rate was of critical importance.

The level of the foreign exchange rate

There was a wide range of proposals for the proper initial level of the foreign exchange rate, from CSK 16 to CSK 35 per dollar. The aim followed by the authorities was to avoid both undervaluation, which would imply inflationary pressures and mitigate the disciplining function of the external environment, and overvaluation, which would result in an intolerable balance-of-payments deficit and successive devaluations. Such reasoning was also behind avoiding a commitment to a fixed exchange rate as a nominal anchor for a preannounced period, which would require a substantial undervaluation of the currency, particularly given the uncertainties involved at the start of the transition.

The exchange rate adopted at the beginning of 1991 was set at CSK 28 per dollar, while the exchange rate of the koruna has continued to be pegged to a basket of five currencies.¹² Compared with the rates applied towards the end of 1989, the new rate of exchange represents a substantial depreciation of the koruna. In the commercial sphere it amounts to 49%, in the non-commercial sphere to 67%. To dampen import demand further in the interim period, a special surcharge of 20% of the customs value of imports was introduced on consumer goods and foodstuffs, to accompany the exchange-rate devaluation.

The exchange rate introduced with respect to convertible currencies was the result of three successive devaluations of the koruna during 1990 (see Table 14). At the same time as the first devaluation at the beginning of 1990 the previously differentiated commercial and non-commercial rates were unified. As the non-commercial rate was CSK 9,26 = USD 1 at the end of 1989, the devaluation amounted to 46%.

The second devaluation was originally scheduled for the beginning of 1991 as a component of the liberalization package. Since this was more or less a preannounced policy,

Table 14

Devaluations of the koruna in 1990

Date	The rate per dollar ¹	Percentage change ²
8 January	CSK 17	15,9
15 October	CSK 24	29,2
28 December	CSK 28	14,3

The commercial rate at the end of 1989 amounted to CSK 14,29 per dollar.
 The respective rates of devaluation of the koruna are calculated against the basket of currencies, but expressed in terms of dollars.

¹¹ That argument was stressed by P. Bofinger (1990).

² The composition of the monetary basket of the koruna as of 28 December 1990 (percentage shares): DM 45,52, USD 31,34, ÖS 12,35, SFR 6,55, UKL 4,24.

enterprises and households started to behave accordingly. Under the scheme of convertibility on the current account, the forthcoming devaluation was for the enterprises connected with the cancellation of their foreign exchange accounts (retention quotas). Consequently, devaluation expectations generated by the authorities in fact contributed to a dramatic increase in imports and to growing pressure on the liquidity of the banking sector. In an attempt to cope with the situation, the authorities decided to devalue substantially in October 1990.

When the third devaluation was effected towards the end of 1990, a special tourist rate that had existed since January 1990 was abolished by integrating it into a unified rate of exchange. That move implied, however, a revaluation of the tourist rate of the koruna by 12%. This may seem strange, in view of the sizeable increase in the retail price level that occurred at this time, with more envisaged. The move should be interpreted, however, as a desirable correction of the previous 'marginal rate' policy in the tourist sphere.

The exchange rate adopted at the beginning of 1991, in spite of its heavy depreciation, is to be seen as a **compromise solution.** On the one hand, the cost-push impact implied in the forthcoming period is likely to be substantial; on the other hand, estimates of the current-account deficit for 1991 run up to USD 2,5 billion.

Assessment of the viability and effectiveness of the policy adopted seems premature. The figures for the balance-oftrade and current-account developments in 1990 indicate stagnation of the export volume and increased imports in comparison with the previous year, while a notable reallocation of trade to the convertible currency area was achieved. It should be taken into account that the first two devaluations of 1990 represented administrative corrections of the given exchange ratios only, rather than proper devaluations, being isolated acts without price liberalization. Moreover, there are always time-lags in the impact of devaluation on foreign trade flows.

There is certainly a dilemma of conflicting requirements and constraints on the sustainability of the currency convertibility introduced. Short-term requirements call for a cautious approach and adoption of various 'safety' measures to secure 'liquidity' of the national economy. But the disciplining effects of foreign trade liberalization and currency convertibility on economic agents should be made as effective as possible from the very beginning. This is an indispensable basis for the sustainability of currency convertibility in the medium term. This requires, on the contrary, elimination of the various 'cushions' and corrective instruments. It would be highly detrimental if the short-run considerations would be followed at the cost of restructuring.

5. Mobility of resources — The case for an effective banking system

Successful macroeconomic stabilization is necessary for the success of the whole transition process. The ultimate aim is, however, neither stabilization nor transition itself. It is to create conditions for generating self-sustained economic growth, based on a positive supply response and productivity growth.

An important component of such conditions is mobility of economic resources, particularly of labour and capital, to more productive alternatives. If there is so far no case of evident success in Central and Eastern Europe, the reasons are likely to be the delays in developing labour, money, capital and foreign-exchange markets. Without flexible and efficient allocation and reallocation of financial and labour resources the pay-off from stabilization and reform measures could hardly be satisfactory.

In the financial sphere an increasing role in the future is likely to be played by markets for bonds and equities. In the short and medium term, however, an efficiently functioning banking system will be of utmost importance.¹³

5.1. Institutional barriers

The CSFR departed from the traditional 'monobank' of the centrally planned economic framework and introduced a two-tier banking system consisting of a central bank and a number of commercial banks at the beginning of 1990. The initially rather limited number of newly established commercial banks¹⁴ increased significantly in the course of 1990. When price as well as foreign trade and foreign exchange liberalization was initiated at the beginning of 1991,

¹³ Revealing experience from the role of banking and financial systems in the West as a lesson for countries in transition is discussed by Corbett (1990).

⁴ Two general-purpose banks, Komercni Banka in the Czech Republic and Vseobecna Uverova Banka in the Slovak Republic, were formed by transferring existing loans from the portfolio of the State bank to the new institutions. The special-purpose banks included two savings banks, Ceska Statni Sporitelna and Slovenska Statni Sporitelna dealing with households' savings and credits. Two other banks concentrated on foreign financial activities and intermediation, Ceskoslovenska Obchodni Banka and Zivnobanka. The revitalized Investicni Banka developed its activities in the sphere of longer-term credits.

the banking system was already more diversified¹⁵ and more capable of assisting in the transition process.

However desirable and important the institutional change proved to be, a number of substantial constraints on the effectiveness of the banking system remained. The banking sector continued to be considerably understaffed in comparison with international standards, lacking, in particular, qualified and experienced personnel, but also basic technical means and know-how. With the exception of the Komercni Banka and the Vseobecna Uverova Banka, which inherited subsidiaries of the previous State bank, most of the newly established banks had only a limited branch network or none at all. These deficiencies impeded the achievement of a desirable balance between general- and special-purpose banks. Most of the newly established banks remained oriented to specific activities, a certain type of client or a given region, even if the legal framework allowed for diversification of their banking activities.¹⁶ Moreover, there was a rather uneven distribution of the credit market shares. The credit extended by Komercni banka and Vseobecna Uverova Banka amounted to CSK 412 billion at the end of October 1990, reaching 70% of all outstanding credits.

Even if the situation has been gradually changing¹⁷ and there are some positive signs of an increasingly competitive environment, to close the gap between 'nominal' and 'real' institutional changes in the banking sphere will evidently require a prolonged process of learning and adjustment.

¹⁷ Along with personnel changes the volume of credits extended by the largest commercial bank, Komercni Banka, decreased not only in relative terms, but also in absolute figures by 10%.

	The amount of credit extended	Share in the total volume of banking credits (in %)
January 1990	CSK 324 billion	54
December 1990	CSK 291 billion	48

5.2. Financial constraints

There were other limits severely constraining the banking system, mostly inherited from the past. Almost all the commercial banks in the CSFR were under-capitalized. The capital/asset ratio even in the largest commercial banks was in the range of 1 to 1,25% at the beginning of 1990 (the target was set to increase it to at least 1,5% by the end of 1990), while in the developed market economies the respective ratio is generally above 6% (the Bank for International Settlements recommends 8%).

The under-capitalization of the commercial banks is intertwined with the phenomenon of bad loans in their portfolios. They were mostly extended in the past and transferred without any evaluation of their market value. As a result, the quality of bank collateral is far from satisfactory.

The existence of a substantial proportion of bad, non-performing loans in the banks' portfolios is not peculiar to the CSFR. It is a more or less common feature in all the previously centrally planned economies. A specific controversial feature in the Czechoslovak case, however, is that sizeable sums on the credit accounts were hardly credits at all: they were extended to the enterprises at the beginning of the 1970s to compensate them for the budgetary confiscation of part of their own monetary assets, covering their working capital. Extended at a fixed preferentially low interest rate and with no time-limit at all, they represented at best 'quasi-credits'. Those quasi-credits were, however, quite substantial. They amounted to CSK 200 billion in 1990, i.e. to more than one-third of the whole nominal volume of credits extended.

These features of the banking system — if not overcome — will have continuous detrimental effects on the financial discipline of both the banks and non-banking agents.

5.3. The causes of weakness

The reasons behind the existing state of affairs are both within and outside the banking sphere. Given the institutional, economic and legal conditions in the CSFR in 1990, the commercial banks could still exercise only a rather limited leverage over the borrowers. In a market economy, commercial banks generally have three options in dealing with loss-making borrowers: liquidation, take-over or continuation of credit support, either through refinancing or debt reduction. In the CSFR those options are limited for several reasons:

(i) Because of the previous socialization of the economy and delay experienced in the effective implementation

¹⁵ In the course of 1990 the licences for banking services were extended to seven more cases, including one private bank. Since the beginning of 1991 the number of operating banks has continued to increase; beside domestic banks there have also been established joint venture banks (Komercni Banka and Société générale, Inter Bank Praha) as well as the first subsidiary of a foreign bank in the case of Cithank.

¹⁶ In spite of the discernible progress in the widening and diversification of banking services there are still substantial bottlenecks and shortcomings, particularly with respect to foreign-exchange transactions. Under the previous State foreign-trade and foreign-exchange monopolies the number of entities involved in those activities was limited and they were serviced through two specialized banks, Ceskoslovenska obchodni Banka acting for enterprises and Zivnobanka for citizens. With the dismantling of the monopolies and liberalization, the demand for banking services in the foreign-exchange sphere increased substantially. The corresponding supply was, however, constrained by lack of qualified personnel, experience and know-how.

of the privatization process, most of the enterprises continued to be State-owned, with only minor progress in their destatization (particularly establishment of joint-stock companies).

- (ii) A comprehensive legal framework of bankruptcy procedure was still lacking.
- (iii) Commercial banks, given the rather low ratio of their own capital to the volume of assets, depended themselves on the 'survival' of their clients. As a result they tolerated defaults, did not initiate legal steps to recover their money and were ready as a rule to extend new loans to cover the interest due.
- (iv) Owing to the rather disorderly state of their portfolios, the commercial banks could not in fact identify their real financial position. That seems, however, a necessary condition for them to act as proper commercial banks, developing their independent judgment and endeavouring to protect their own financial position.
- (v) The expectations of government bail-outs for the troubled enterprises continued to dominate the decision-making of both enterprises and banks. In fact there was no major example of a bankruptcy experienced, although on the macro level the volume of economic activity decreased significantly in 1990.

It should be observed, however, that even the dismantling of evidently unviable activities proved to be effectively hampered through non-economic arguments and resisted by various power groups. Those arguments included the sensitive issue of Czech-Slovak relations and a federation scheme.¹⁸

Thus there was a strong bias from the previous period for commercial banks to refinance their troubled borrowers. The situation has been changing dramatically, however, since the beginning of 1991.

The commercial banks themselves came under growing pressure both because of their lack of resources and because

of the restrictive measures applied. Given the existing rigidities and inefficiency of the banking sector, there was a risk of a credit crunch developing, which could hit even those businesses with a real chance of becoming profitable, at least in the medium term.

It follows that a restructuring of the banking sector is of utmost importance. The commercial banks should be placed in a financial and a regulatory environment that would not permit them to continue to make bad loans and, at the same time, would make them properly independent and responsible. For that purpose it is necessary to clean up the banks' balance sheets, writing off troubled, non-performing loans, to inject new capital into the banking sector, to develop control rights of the banks over their borrowers, making the threat of bankruptcy a real one. A parallel environment of independence and responsibility is necessary for the central bank and for its effective control of the money supply.

6. Concluding remarks

As a result of the traditionally prudent monetary policy and tough wage controls that the CSFR has maintained — in spite of recent destabilizing tendencies — relatively good conditions prevailed for the transformation of the economy, both in terms of the extent of domestic excess demand and in terms of the level of foreign indebtedness. Consequently, the stabilization policies need not address hyperinflation, as was the case of Poland and Yugoslavia, but rather must prevent the inflationary process from starting during the transition period after price liberalization and currency convertibility are implemented. The fast, abrupt changes are dictated not so much by the need for macroeconomic stabilization as by the necessity to break the routine behaviour patterns of economic agents and to minimize the costs of transition.

The responsiveness of enterprises and households to the instruments of macroeconomic stabilization policies is in fact a precondition for these policies to be effective. A tight monetary policy and restrictive fiscal policy coupled with wage and income controls in the first phase of the transition may succeed in keeping inflation under control only if an adequate and relatively quick supply response is achieved. Policy measures must be targeted to eliminate administrative obstacles to free entry for new enterprises, and to demonopolize the majority of industries. The individual markets and segments of the economy should be monitored, and the authorities should intervene if competitive conditions are violated.

¹⁸ As an example, a big aluminium works in Ziar nad Hronom, central Slovakia, may be mentioned. The enterprise demanded credit of CSK 500 billion for its 'restructuring'. Commercial banks were not ready to extend such a credit, at least not without a corresponding guarantee. The issue arose in the second half of 1990, just when the discussion on the future type of a Czechoslovak federation and on the division of national republics was going on. It seems beyond doubt that no aluminium enterprise can be viable in the CSFR, given its extraordinary high energy intensity. Moreover, this works is supplied from a local power plant based on coal of a rather poor quality and produced with extremely high mining costs. As well as not being economically viable, the enterprise is thus a source of detrimental environmental impacts. Nevertheless, the government authorities gave in to pressure and provided a State guarantee for the loan.

At the same time a social safety net must be set up in order that the pronounced impact of economic depression, unemployment and a higher cost of living is partially counteracted for the groups of the population affected most. This aim may be rather costly and may thus preclude a State budget surplus. But the goal of a pro-reform social climate seems to be of primary importance. On the other hand, the tight monetary policy designed to affect traditional behaviour of economic agents cannot be compromised. Fiscal policy in general will face the issue of a relatively weak federal government and the powerful national governments. Some support of the position of the federal government by international organizations and institutions is necessary. A similar financial support, partly already provided, will be conducive to maintaining convertibility of the currency and will help to keep the exchange rate relatively stable during the transition period.

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Alternative paths to macroeconomic stability in Czechoslovakia¹

Wojciech W. Charemza

University of Leicester, United Kingdom

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1. Introduction

The Czechoslovak economy, in common with other East European countries, is currently facing important decisions concerning its future in the post-communist era. As elsewhere in the region, there is an urgent need to reconstruct the economy in order to make it more efficient, but there is also a danger of developing negative phenomena like open inflation, unemployment and permanent recession. At first sight, the Czechoslovak economy seems to be in much better shape than the other East European countries experiencing the removal of a central planning system. Table 1 gives a summary of the economic performance of Czechoslovakia, Hungary and Poland in 1989. The disparities are drastic and, at first sight, clearly favour Czechoslovakia, which had the highest national product (in terms of both nominal GDP and real GNP, i.e. adjusted for purchasing power parity), lowest inflation and a manageable debt service/export ratio. Nevertheless, it also had the highest suppressed foreign exchange rate. Since Hungary and, especially, Poland are in advance of Czechoslovakia in terms of restructuring and implementing new economic policies oriented to the West, the immediate question arises whether the eventual Czechoslovak perestroika will have negative effects similar to those experienced by the Hungarian and Polish economies.

Table 1

Czechoslovakia, Hungary and Poland: some indicators of economic performance in 1989

	Czechoslovakia	Hungary	Poland
Open inflation	1,2 %	20,0 %	650 %
Open and hidden inflation	3,2 %	n.a.	n.a.
Real GNP (USD) per capita	7 900	6 100	4 600
Debt service/export ratio	16 %	60 %	470 %
Black-market foreign exchange premium	180 %	50 %	0 %

Sources: Open inflation: official statistical publications; Hidden inflation: PlanEcon; Real GNP: PlanEcon (CIA estimates); Debt service/export ratio: publications of the Wharton Econometric Forecasting Association; Black-market rate: Currency alert.

n.a. = not available

There are numerous recently published economic programmes and manifestos for Czechoslovakia, either in the form of pro-government documents and papers (see Charap and Dyba (1991), Document 1 (1990)), alternative reports and scenarios (e.g. Document 2 (1990), Janáček et al. (1990a), Klacek et al. (1990), Document 3 (1990)), or independent, outside evaluations (e.g. Svejnar (1989)). It is not the purpose of this study to evaluate any particular propositions. Rather, its aim is to establish whether the measures generally agreed and corresponding to a rather vague concept of a 'full' or 'radical' economic reform (although there is no agreement on the scale, sequence and pace of these measures) will generate similar effects to that of the Polish and, to some extent, Hungarian economic reform.

For the sake of clarity of presentation, the main stream of the analysis is concerned with instabilities which may occur as the result of implementing a hypothetical 'full economic reform'. It will be convenient to assume that such a full reform consists of the following measures:

- (i) abolition of central planning;
- (ii) privatization of State enterprises (i.e. that after the privatization they are going to perform on a profit-maximizing basis);
- (iii) trade liberalization, both in domestic and foreign markets, so that the exchange rate and domestic prices are not directly controlled.

The paper concentrates on evaluating the sources of inflationary pressures which may result from the process of the reform defined above to generate substantial price increases and destabilize the economy. This in turn may help to identify the principal causes of inflation in the process of reform and consequently in relaxing, altering or abolishing some of the postulates of full economic reform. Three main sources of such pressure are distinguished:

- (i) Domestic imbalances, accumulated over time because of suppressed prices and supply-distorted preferences.
- (ii) External imbalances caused by distorted exchange rates and purchasing power parity disparities.
- (iii) Pareto-inefficient early market structures, which normally develop in the early stages of a privatization process.

The first two of the inflationary pressures above are of a historical type and relate mainly to what happened within the Czechoslovak economy in the past, which the full economic reform may only help to unleash. The last one, however, also reflects the economic inheritance of centrally planned abnormalities, and results mainly from the microeconomic and macroeconomic inflationary mechanisms which might appear during the process of economic reform.

2. Domestic imbalances

It is widely argued that one of the most prominent features of the traditional centrally planned economy is suppressed consumer prices, which, in the long run, generate pressures on the consumer goods market, resulting in the systematic appearance of excess demand or, in Kornai's terminology, shortages. On the financial side, aggregate excess demand is represented by a 'monetary gap', i.e. the amount of money unspent because of constraints on the supply side (see Nuti (1986)). It is not generally disputed that any attempt to equilibrate the consumption market when such excess demand is present would result in stimulating open inflation. The excess demand approach to the problem of suppressed prices is essentially of a neo-Keynesian nature. It is implicitly assumed that a consumer does not develop any type of expectations concerning shortages. These expectations result in an appearance of the 'discouraged consumers effect' (see Burkett (1988), Portes (1989)) which negatively affects demand. If such expectations are of the rational expectations type, i.e. are unbiased predictions of shortages conditional on all information available, a consumer facing shortages would rather alter his preferences than accumulate excess demand. This argument, much in line with the 'Lucas critique' of neo-Keynesian macroeconomic policy analysis, explains, to some extent, the difficulties faced by empirical researchers trying to quantify consumers' excess demand. An intermediate situation is also possible. Consumers may develop their expectations concerning expected quantity constraints and, at the same time, they may accumulate excess demand. In this case, since expectations concerning shortages 'discourage' consumers, the amount of excess demand transferred into the 'monetary gap' would be smaller than in the case where no such expectations are developed.

Various studies have been undertaken to evaluate the extent of aggregate excess demand for East European countries and thereby to quantify inflationary pressure. For Czechoslovakia, most econometric and descriptive studies maintain that disequilibrium in the Czechoslovak economy was meaningless, and that for the period of central planning in this country covered by their studies the consumer market was in a state close to equilibrium (see the seminal study of Portes and Winter (1980) in which results of estimation of consumer excess demand for the period 1955-75 have been given, followed by Klaus and Rudlovčák (1982), Viktorinová (1986), Burkett (1988), Dlouhý (1989a), (1989b), but with a notable exception of Janáček (1990)). One may conclude that if this is the case, internal inflationary pressure due to accumulated excess demand does not exist in the Czechoslovak market in the periods investigated.

The claim that the consumer goods market was in equilibrium is not confirmed by the empirical study presented in this paper. In previous studies, annual data were used and the consumption demand function was assumed to be of the Houthakker-Taylor type. In this paper, disequilibrium econometrics has been applied for a consumption demand model derived using the general-to-specific methodology (see Appendix A1) with an error-correction mechanism, accompanied by a stochastic supply equation, where supply is assumed to be generated by a random walk with drift. Also, the data used herein were quarterly rather than annual. The results of estimating excess demand given in Appendix A3 contrast with those previously obtained. Annual averages of quarterly estimates of excess demand are always positive, ranging from 2% in 1985 to over 10% in 1981. Moreover, estimated probabilities of excess demand are close to unity. Consequently, it can be concluded that systematic excess demand prevailed on the consumption goods market in Czechoslovakia in the 1970s and 1980s. Although the absolute amount of this aggregate excess demand was significantly lower than that for either Hungary or Poland (see Charemza (1990)), nevertheless it is substantial enough not to be ignored.

A similar conclusion can be drawn from a comparison of the estimates computed herein with those obtained in previous studies by Dlouhý (1989b) and Janáček *et al.* (1990b), shown in Graph 1. The estimates are in percentages, and those denoted as ED% correspond to the results given in Table 1 in the Appendix, while the Dlouhý (1989b) figures are computed with the use of the Portes and Winter (1980) disequilibrium econometric model and those of Janáček *et al.* (1990b) result from systematic surveys of salesmen conducted by the Trade Research Institute in Prague.² Despite substantial discrepancies, especially for 1989 and 1990, the data show a similar pattern. A positive consumer excess demand can be clearly identified for the periods before and after 1985.

As has been stated above, another potential source of inflationary pressure is distorted consumer behaviour. Suppose that the process of supply in the Czechoslovak economy resembled that in other centrally planned economies, i.e. it was driven, in general terms, by maximization of the 'importance' of particular enterprises, constrained by the planned allocation of resources. There is no reason to believe that in Czechoslovakia such processes would generate supply which is better adjusted towards financially constrained consumer preferences than that in other European centrally planned economies. On the contrary, one might expect that in the highly centralized and monopolized Czechoslovak economy with virtually no private sector, the discrepancies

² I wish to express my thanks to Dr Kamil Janáček for making these data available to me.



between aggregate demand and price-inelastic supply should be huge. An empirical analysis of the goodness of fit and bias of plans with respect to realizations shows that for Czechoslovakia in the period 1960-85, plans for consumption fit worse and were more biased than plans for Hungary and Poland (see Charemza and Király (1990)). Hence, even if planning was perfect in the sense that the planned structure of supply matched consumer preferences, the realizations were not. However, as is shown in Appendix A3 and has been discussed above, the empirical evidence indicates that in magnitude these discrepancies were not large, and definitely smaller than for Hungary and Poland. One of the possible explanations is that Czechoslovak consumers developed persistent expectations concerning prospective shortages and adjusted their behaviour accordingly.

This constitutes a testable hypothesis. It is possible to test whether the structure of an econometric demand function which does not contain variables representing expected consumer shortages is invariant, or whether it depends on such expectations (for a detailed description, see Charemza and Király (1991)). On the assumption that consumers developed rational expectations concerning shortages, it is shown (see Appendix A2) that the structure of a consumer demand function is not invariant with respect to expected shortages. Consequently, it can be argued that consumer behaviour is distorted because of quantity constraints. Removing these constraints, i.e. by the liberalization of prices, may stimulate inflation to an unpredictable extent.

To illustrate such an effect, it can be assumed that two goods are available, A and B. A consumer prefers B to A, and initially (i.e. before the reform) good B is in short supply. Let us also assume that consumers developed persistent expectations of further shortages of good B and that these expectations could alter their demand. The enforced change in demand causes the aggregate excess demand to disappear. In another words, it increases demand for good A and decreases demand for good B. For the sake of simplicity, let us further assume that there is no accumulated forced savings and that in the short run, supply is price inelastic. Hence, the liberalized price for B will rise and for A fall because of shifts in demand, since after the price liberalization the consumers will not expect shortages of B any more. In these circumstances (and where there are no cross-price effects) there will not be any inflationary effect only if price elasticity of demand for good A is equal to or greater than the price elasticity of demand for good B. This is highly unlikely since for the consumer the marginal utility of good B is greater than that of A.

3. External imbalances

The substantial black-market foreign exchange premium shown in Table 1 indicates the existence of a suppressed internal foreign exchange rate. In fact in Czechoslovakia, from the beginning of 1990 to October, the official (so-called commercial) rate of exchange was CSK 17,00 per USD, while the free (black) market exchange rate was falling from CSK 46 in January to CSK 30 in August. At the same time, the estimated purchasing power parity of the koruna was 6,26 per USD (Vanous (1990)). According to Vanous (1990), a long-run adjustment process towards purchasing power parity will cause the revaluation of the Koruna, and indeed that is what has happened on the free market. However, the movement of the official exchange rate after it is freed and foreign exchange transactions legalized, is likely to be opposite (i.e. towards the current free market rate rather than towards the purchasing power parity), since under the assumptions of full reform the speed of internal equilibrium adjustment would be much faster than that towards purchasing power parity. This will have an inflationary effect, countered to some extent by the long-run opposite drift of the free-market exchange rate towards purchasing power parity. In practice, however, the extent of this effect may vary according to the sequencing of the entire economic reform, and it may also depend on the general shape of the economy. The problem of exchange-rate liberalization or, more precisely, the relationship between domestic prices and the exchange rate is represented by Graph 2, which shows price/ exchange-rate trade-offs for particular situations on the goods market (positively sloped functions) and money market (negatively sloped functions) in the Dornbusch (1976) model. Functions GG and AA represent a target (ideal) situation after the process of economic reform is completed. The principal assumptions behind the target situation are the following:

- (i) the money market is in equilibrium;
- (ii) the goods market is in equilibrium in the long run;
- (iii) the Marshall-Lerner condition holds (see, for example, Stevenson, Muscatelli and Gregory (1988, p. 213)).

Assumption (i) is regarded here to be valid even for the prereformed economy. Since in Czechoslovakia, as in other centrally planned economies, the interest rate had no role in balancing the economy and was usually fixed for long periods of time without reflecting at all the actual economic situation, it is assumed that the expected returns on foreign currencies act as a kind of shadow interest rate and, as a result, demand for money is negatively elastic with respect to the exchange rate (see Charemza and Ghatak (1990)).

The price and exchange rate which simultaneously equilibrate the money and goods markets in an ideal situation, i.e. where assumptions (i), (ii) and (iii) hold, is represented by the point (e*, p*). Suppose now that, after fulfilling conditions (i), (ii) and (iii), but before exchange rate liberalization, the suppressed exchange rate is equal to \overline{e} and is below the equilibrium rate e*. Assuming fully flexible prices (i.e. a short-run equilibrium on the goods market), devaluation will cause e to move towards e* along the GG line. If, however, prices are sticky, (and the possible monetary effect of exchange rate liberalization is ignored) the liberalization of the exchange rate will initially push the goods market outside equilibrium at a price level p', and then equilibrate the goods market by shifting the GG function leftwards to GG'. This will cause overshooting of the equilibrium exchange rate to point e'. Subsequent delayed price adjustment is likely to force the price to the level above equilibrium, p', causing inflationary pressure.

For the analysis of full reform, assumptions (ii) and (iii) have to be relaxed. Although Czechoslovakia has been maintaining a convertible currency current-account surplus for the last nine years, a substantial current-account deficit appeared in 1990. Even with full reform, the Marshall-Lerner condition (iii) may not hold for the Czechoslovak economy for at least some time to come. It is likely that, after the euphoria and bargain-trading resulting from some trade liberalization is over, the low quality of Czechoslovak goods and inelastic industrial structures will cause low aggregate export demand and supply elasticities. Hence, external liberalization may not lead to an improvement in the current account. The negative effect could be even more severe if the main trading partners undertake a devaluation at the same time (see Benassy (1986, pp. 138-139)).

The inflationary effect of the violation of assumption (iii) is shown in Graph 2. If the conditions are not met the goods equilibrium function is steeper that the 45° line (GG"). By repeating the above exercise it can be shown that the possible inflationary effect is now greater, since the overshoot price is now at a higher level (p") than before. However, at least in theory, this effect may be lessened if the elasticity of demand with respect to the observed or shadow interest rate (expected foreign currency appreciation) is low. The 'Keynesian effect' works now in an opposite and undesirable direction, making the GG function steeper. In that case, reducing aggregate demand is not going to improve the balance of payments. Reducing the shadow interest rate is not possible, and even if it were, it would be undesirable, since it would affect capital flows. However, some improvement (i.e. some flattening of the GG function) can be achieved if the investment effect of the shadow interest rate on aggregate demand can be made small.

The consequences of removing assumption (ii) of the initial equilibration of the goods market is represented by Graph 3. For the sake of simplicity, it is now assumed that the condition (iii) holds and that the GG function is flatter than the 45° line. Initially, trading is at a fixed disequilibrium price \bar{p} and exchange rate \bar{e} . If the exchange rate is freed before price liberalization, the goods equilibrium curve shifts to GG' and the exchange rate moves from \bar{e} to e'. If, at this moment, prices are freed, the likely initial level of price will be p' (assuming delayed adjustment of the exchange rate). It can be noticed immediately that if prices are liberalized before the exchange rate is freed, the inflationary effect is smaller, since for the price \bar{p} the goods equilibrium function is now GG".

The picture is less clear, however, if the long-run gradual adjustment towards purchasing power parity is taken into account. This would act towards a revaluation of the koruna by decreasing price flexibility with respect to the increase in money stock. This counterinflation effect is especially important if currency devaluation is not going to improve the current account. The effect of revaluation will push the GG curve to the right, slowing down the inflationary process.

The above analysis suggests that the sequencing policy which would be likely to reduce inflationary pressures is: first, to





improve export competitiveness and influence export demand elasticity, i.e. by devising a policy directed at improving the quality of exported goods and, as a result, satisfying the condition (iii). In order to speed up the achievement of foreign trade competitiveness, some action towards reducing aggregate demand through an increase in its shadow interest rate elasticity would be of advantage. This would be difficult, since the shadow interest rate is not a policy instrument, and a straightforward diversification of interest rates for saving accounts and investors cannot be applied. Nevertheless, the role of expected gains on foreign currencies can be mitigated by applying a more active interest rate policy, introducing positive real deposit rates together with investment credit constraints. A similar effect could be achieved by the explicit introduction of a partial 'dual currency' economy, i.e. selling some domestically produced goods on the internal market for foreign currencies. Also, imposing import tariffs would act as a factor reducing the negative elasticity of aggregate demand with respect to real interest rates. This can run parallel to a liberalization of domestic prices and the exchange rate, to take advantage of the drift of the exchange rate towards purchasing power parity.

4. Market failure, monopolization and inflationary pressures

It is evident that in pre-reform Czechoslovakia, as in any other traditional centrally planned economy, the allocation of resources was far from efficient. This section discusses how to identify internal microeconomic causes of additional macroeconomic instability generated in the process of economic reform. Before the reform, the economy is seen as being in a Pareto-inferior but quasi-stable 'trap', and the entire concept of the reform consists in finding ways of escaping from the 'trap' and moving to the Pareto-superior (and, it is hoped, stable) equilibrium (see Bruno (1989)). During this process, some of the allocation mechanisms (however inefficient) may disappear, and before they are replaced by more effective ones, market failure may be likely and can be avoided only at a cost of substantial inflation. More generally, under the economic reform, the violation of the first fundamental theorem of welfare economics can be caused primarily by the non-competitive behaviour of economic agents and the appearance of missing markets rather than, as in a traditional centrally planned economy, by Pareto-inferior allocation of resources as a result of disequilibrium.

For Czechoslovakia, the first of the abovementioned causes of inefficiency, i.e. the non-competitive behaviour of agents, results mainly from the exceptionally high level of industrial monopolization and nearly total absence of the private sector in the pre-reformed centrally planned economy. In both respects the Czechoslovak economy was at the extreme. Empirical analysis by Zemplinerová (1989) revealed an exceptionally high level of monopolization of the Czechoslovak economy, much higher than in other European centrally planned economies. This is also illustrated by Graph 4, where the size of State enterprises measured in number of employees for Czechoslovakia and Poland at the end of the period of central planning are compared. The shapes of the distributions are different, with the concentration for Poland in the group of the smallest enterprises (employing less than 500 employees) and for Czechoslovakia in the group of enterprises employing more than 1 000 people. The average number of employees was equal to about 1 200 for a Polish State enterprise, and to over 2 000 for a Czechoslovak one. A typical large enterprise in Czechoslovakia, a so-called VHJ (výrobní hospodárska jednotka), was a result of tangled, horizontal and vertical integration, often made without much consistency. As the result, the output of VHJs was often heterogeneous, with some production regarded as being of primary importance and therefore developed at the expense of the remaining output. At the same time, the official private sector was virtually non-existent, employing in 1987 only 0.6% of the total number of employees. The importance of illegal private activities was also, according to occasional reports, rather marginal, at least in comparison with other East European countries.

It is assumed here that dismantling these monopolies either prior to economic reform or in its early stages is not possible. The huge structural unemployment this would create is not likely to be politically acceptable. Moreover, the current experiences of demonopolization, both in Western and Eastern Europe, are not very encouraging. Problems encountered by the British Monopolies and Mergers Commission and the dubious successes of Dlouhý's Antimonopolistic Commission in Czechoslovakia illustrate the difficulties.

In such an environment, the full economic reform of price liberalization and of introducing profit maximization as a principle of an economic activity would prompt the VHJs and similar large enterprises to set their prices in a monopolistic fashion, i.e. at a level where marginal revenue equals marginal costs. With subsidies being withdrawn at the same time, this means the bankruptcy of some of the VHJs and monopolistic pricing by others. It is unlikely that subsidies would be immediately withdrawn, since this would create unemployment at a level likely to be higher than the level of social tolerance. This would prolong the life of some scarcely-profitable VHJs which, however subsidized, would also implement a policy of charging monopolistic prices. Since before full reform the market was protected from substantial price shocks, introducing monopolistic pricing would substantially add to inflationary pressures.



However, at least in theory, there might exist a situation where monopolies would fix prices at a lower level. One of these theories, used for analysing the effects of privatization of monopolies, is the Baumol (1982) and Baumol, Panzar and Willig (1982) theory of contestable markets (for analysis of contestable markets in a context of privatization see Vickers and Yarrow (1988, pp. 54-57)). According to this theory, a market is vulnerable to a 'hit-and-run' entry of an outsider, if there are no sunk costs and no barriers to exit (see e.g. Tirole (1988, p. 308)). If incumbents in a market want to prevent 'hit-and-run' entry, they have to charge a contestable price related to a sustainable market configuration, i.e. such where an entrant cannot make a profit by undercutting the incumbents' price. The concept of sustainability is illustrated by Graph 5. The monopolistic price p^m is given by the intersection of the marginal cost (MC) and marginal revenue (MR) curves, at a corresponding level of demand (D). The pair $\{p^m, q^m\}$, where q stands for output, is not a sustainable configuration, since p^m can be undercut by an entrant having the same average cost and making profit by charging a price between p^c and p^m , i.e. above its average costs. Evidently, the configuration $\{p^c, q^c\}$ is sustainable for an entrant with an identical average cost curve, since it cannot be undercut without making a loss.

In the context of the Czechoslovak economy, the immediate problem is to find potential entrants who could create threats of entry serious enough to convince the monopolies to charge sustainable prices. It is unlikely that such entrants would come from the domestic private sector. Unlike other East European countries, the second economy has not developed sufficiently under the repressed inflation regime; retrading was not widespread in Czechoslovakia. In other words, there was a missing market in Czechoslovakia for some scarce goods with immediate delivery, i.e. with zero waiting and search costs. Because of its weakness, the private sector would not be able to undermine the monopolistic position of the monopolies, even if allowed to do so. On the contrary, in this situation monopolies would fill the missing market without much difficulty (see Butterworth (1988)).



The potential 'hit-and-run' entrants may come from abroad provided that economic reform allows for the increase in imports. This, generally, might be a dangerous practice since, considering the dated and cost-ineffective structure of Czechoslovak industry, such an entrant's average cost curve might well be below that of the existing incumbents. This might force domestic firms out of business, generating huge structural unemployment. This, as mentioned above, is a political constraint. One of the possible solutions would be to discriminate among foreign entrants. If a tariff barrier would help to equate the internal average cost (i.e. that inclusive of the tariff) across potential entrants from various countries with different external average costs, it would be possible to maintain the sustainable character of domestic markets and at the same time protect, at least to some extent, the domestic producers from competition. After some time, when structural changes in the domestic economy had created additional demand for labour, the discriminating tariffs would be abolished, which would speed up the process of dismantling the old and ineffective VHJs.

The second cause of inefficiency which might appear in the process of economic reform and be inflationary is the possible appearance of missing futures markets as a result of the abolition of central planning. One of the fundamental features of central planning is that it normally ensures the existence of an allocation mechanism, however inefficient this mechanism may be. No matter how inadequate and wasteful the planning practices, the futures markets always existed, because of the imperative nature of central planning. Put simply, if one factory was ordered to produce, another was ordered to buy. Repressed inflation on the consumption market effectively secured the existence of the only market of a non-imperative nature (apart from the 'third economy' markets, i.e. the informal transactions between the State enterprises in order to help fulfil the plan). Hence, there was no room for informational failure in the Scitovsky (1954) sense.3

With the rapid abolition of central planning, a gap may be created in the structure of markets which can be covered by the subsequent development of futures markets. The problem can be analysed by the adaptation of a simple Newbery and Stiglitz (1981) model (modified by Newbery (1987)), originally used for analysing future agricultural markets. In the context of abolished central planning, its role can be much wider and it might apply to any potential market in which the Scitovsky problem can appear.

Suppose that output when production starts in time t is expected to be available in time t+1. The output believed to be realized in time t+1 is q⁺¹. This is a random variable, which can be decomposed into its expected value \bar{q}^{+1} and a supply risk θ , so that $E(\theta) = 1$ and $q^{+1} = \bar{q}^{+1} \cdot \theta$. It is also

³ Scitovsky (1954) considered the example of the steel and railway industries. The steel industry will be profitable only if a railway industry decides to operate in the near future. A railway industry will be profitable only if a steel industry comes into operation prior to the expected beginning of operation of the railway industry. Consequently, if a futures market for steel does not emerge, there will be a market failure due to informational breakdown (see also Ledyard (1987)).

believed that in time t + 1 the market price will be p^{+1} , which is also a random variable. Production of the enterprise can be sold partially in time t+1 at a price which is currently unknown, or can be sold on the futures market in time t at a price f. If the quantity sold in the futures market is z, then the believed income from production, y^{+1} is:

$$y^{+1} = p^{+1} \cdot q^{+1} + z \cdot (f - p^{+1})$$

An enterprise which is producing q is maximizing its expected utility:

$$U(y^{+1}) = -k \cdot \exp\{-A \cdot y^{+1}\}$$

where k is the non-random component of the utility function and A is the absolute risk aversion. Newbery and Stiglitz (1981, p. 184) show that for $\{q^{+1}, p^{+1}\}$ being bivariate normal random variables, z which maximizes the expected utility is:

$$z = \frac{Cov(p^{+1}, p^{+1} \cdot q^{+1})}{Var(p^{+1})} - \frac{E(p^{+1}) - f}{A \cdot Var(p^{+1})}$$
(1)

Using the decomposition $q^{+1} = \overline{q}^{+1} \cdot \theta$, formula (1) can be expressed as

$$z = \overline{q}^{+1} \cdot (1 + r \cdot \frac{\sigma_{\theta}}{\sigma_{p}}) - \frac{E(p^{+1}) - f}{A \cdot Var(p^{+1})}$$
(2)

where r is the correlation coefficient between p^{+1} and q^{+1} and σ_p , σ_θ stand for the corresponding coefficients of variation. Generally, the first component in (2) is interpreted as income insurance for the selling enterprise, $A \cdot Var(p^{+1})$ is the cost of the risk and $E(p^{+1}) - f$ is the expected return to selling a future contract, or a risk premium (backwardation). A speculator will not normally enter the market if the expected return is below the cost of the risk, i.e. the necessary condition for the speculators to operate is

$$\mathbf{E}(\mathbf{p}^+\mathbf{1}) - \mathbf{f} > \mathbf{A} \cdot \operatorname{Var}(\mathbf{p}^+\mathbf{1})$$

Under perfect central planning there is no expected price variability $(Var(p^{+1}) = 1)$, no risk premium $(E(p^{+1}) - f = 0)$ and no correlation between prices and quantities, so that (2) becomes

$$z = E(q^{+1})$$

In other words, there is no speculation and the entire future production is hedged by a buyer. The above is also true if there is some price uncertainty, as long as there is no backwardation, i.e. as long as the risk premium is zero.

Suppose now that the full economic reform is introduced, i.e. prices are allowed to fluctuate and market institutions

replace central planning. With price inelastic supply, q^{+1} becomes negatively correlated with p^{+1} , and income insurance decreases with the increase of perceived price uncertainty and supply risk. This also means that the cost of risk increases, if the absolute risk premium remains constant. Hence, both terms in (2) may tend to zero, causing total market failure (i.e. that $z \rightarrow 0$). Both sellers and buyers might be better off by not transacting in futures markets. This total market failure does not happen only if backwardation is huge, i.e. if backwardation exceeds the cost of the risk. It may happen if substantial price increases are expected; otherwise there will be no futures transactions and, as in Scitovsky's example, there will be a total market failure.

The general conclusion is that one of the negative (but temporary) aspects of abolishing central planning would be increased market uncertainty. The abolition of planning and its replacement by markets in a 'cold start' fashion, i.e. without creating a sufficient informational structure, would cause this uncertainty to materialize as an additional risk, increasing inflationary pressure and reducing output. Such an effect would be more significant for economies where central planning had been more relevant and where other forms of allocation had been marginal, i.e. it would have more impact on the Czechoslovak than on the Polish economy.

Ironically, the fact that the Czechoslovak economy has been highly monopolized would act, in this context, as a counterinflationary factor. Within a monopoly the flow of information is likely to be better than on the outside, where the past information generated under central planning would be largely irrelevant.

5. Conclusions and policy implications

The problems faced by the Czechoslovak economy on its way to restructuring are not going to be the same as in Hungary and Poland. The different structure of its economy generates different problems and, as a consequence, leads to policy implications which are not likely to be generalized to other countries. It appears that, despite the low inflation rate in Czechoslovakia during the 1980s, there are potential inflationary sources which, if a full and rapid economic reform is to be implemented, will generate inflation on a substantial scale. The principal sources of such inflationary pressure identified herein are:

- consumer's excess demand, accumulated over time during the 1980s;
- (ii) distorted consumer's demand, resulting from developed persistent expectations of shortages;

- (iii) prospective external liberalization of the currency, leading, in the absence of the Marshall-Lerner conditions, towards a current-account deficit, with little prospect of positive capital flows;
- (iv) high degree of monopolization of the economy.

The above suggests that targets of the full economic reform can be achieved without inflicting heavy losses by a gradual rather than immediate reform. The general policy implications of such reform can be summarized as follows:

- (i) At the early stage export competitiveness should be improved in order to achieve sufficient price responsiveness at a later date, when the external convertibility of the currency is allowed. This could be achieved by, for example, subsidizing the foreign trade enterprises.
- (ii) Internal convertibility of the currency should be temporarily introduced. This should be accompanied by allowing for a partial dual-currency monetary system (i.e. sales in both domestic and foreign currencies but wages in the domestic currency only). This would stimulate transactional and asset demand for foreign currency, reducing pressure on the domestic money market and on the newly established and inexperienced banking

system. As a consequence, this would be an additional factor stabilizing the economy.

- (iii) Introducing a more active interest rate policy, with some credit constraints, which would also act towards stabilizing the domestic market.
- (iv) Demonopolization should not be regarded as a primary target at the early stages of the economic reform, since radical demonopolization would be a potential source of political instability and would be likely to generate substantial structural unemployment.
- (v) The existing monopolistic markets should be made sustainable by allowing for a threat of entry from internal (domestic private sector) and external (foreign) outsiders, free from the sunk and exit costs. However, if there was free competition from foreign outsiders, some of whom might have a lower average cost curve than that of the incumbents, there would be a danger of forcing domestic enterprises out of business. If this is to be prevented, discriminatory tariffs will have to be introduced.
- (vi) At a later stage of reform, when the private sector will be sufficiently developed and will create a substantial demand for labour, these discriminatory tariffs can be abolished.

Appendix

A.1. General to specific derivation of the consumption function

The postulated general model expressing the relation between aggregate consumption c_t and total households' income, y_t , is a fourth order autoregressive distributed lag equation

$$c_{t} = \sum_{i=1}^{4} \alpha_{i} c_{t-i} + \sum_{i=0}^{4} \beta_{i} y_{t-i} + \varepsilon_{1t}$$
(A.1)

Where α_i , β_i are parameters and e_{1t} stands for an error term. The model has been estimated with the use of 82 quarterly observations (including information on the lagged variables) from the period 1970, first quarter, to 1990, second quarter. The variable c_t is measured as retail sales of durables and y_t as total households' money income. Both variables are expressed in real terms, per capita and in natural logarithms. The source of the data is the official statistics of the Czechoslovak Statistical Office. As an alternative, the Vanous (1990) price index, which adjusts for hidden inflation, was also used but the results were not significantly different from those presented below. Some interpolations and adjustments of the series were necessary, especially for the consumer price index used as a deflator.

Seasonal integration and cointegration of the series has been tested. (A quarterly series which is stationary after applying fourth differences is understood to be seasonally integrated. Similarly, a linear combination of such series which is stationary after fourth differencing is said to be seasonally cointegrated. If first differences are applied, a series can be stationary in the ordinary sense.)

	Seasonal differences	First differences of seasonal differences
c _t	- 3,58	- 2,78
у _t	- 2,22	- 2,29
$c_t - y_t$	- 2,35	- 4,76

For testing seasonal integration and cointegration, the augmented Dickey-Hasza-Fuller statistic has been used (see Dickey, Hasza and Fuller (1984)) and for testing stationarity of the first differences of the seasonal differences, the augmented Dickey-Fuller test has been used (see Dickey and Fuller (1981)). Since for c_t and y_t , stationarity means also the absence of a deterministic trend, the statistics have been computed without a constant term. However, since for the error correction mechanism $(c_t - y_t)$ oscillations around a constant do not mean non-stationarity, a constant has been included. Critical values for the Hasza-Dickey-Fuller test are included in their paper, while tables of critical values for the Dickey-Fuller test are given by Guilkey and Schmidt (1989). For both c_t and y_t there is no clear evidence of seasonal integration (at the 5% level of significance, the Hasza-Dickey-Fuller statstic is marginally significant for ct and slightly insignificant for y_t). Similarly, it cannot be clearly concluded that the error correction mechanism is stationary. A possible slight non-stationarity can be a result of the presence of systematic, although small, excess demand, of expected quantity constraints (see Engle and Hendry (1990)), or of both. These explanations are in line with the general finding of this empirical study.

After estimation of the unrestricted model (A.1), the following Lagrange Multiplier LMF statistics for testing jointly the significance of the explanatory variables lagged from 1 to 4 have been computed:

	LMF
Lag 1	3,05
Lag 2	0,37
Lag 3	2,68
Lag 4	8,09

where each of the LMF statistics has the asymptotic F (2,73) distribution. Since only the variables lagged by four periods are statistically significant, this suggests a derivation of a model in seasonal differences and with an error-correction mechanism. This is a specific form of model (A.1), if the following restriction holds (see Charemza and Deadman (1991))

$$\alpha_4 - 1 = -(\beta_0 + \beta_4)$$

in addition to six zero restrictions imposed on the parameters of the variables lagged 1, 2, and 3. This gives the model

$$\Delta_4 c_t = \gamma_1 \Delta_4 y_t + \gamma_2 (c_{t-4} - y_{t-4}) + \varepsilon_{1t}$$
 (A.2)

where $\gamma_1 = \beta_0$ and γ_2 conforms to the restriction above. The ordinary least squares estimates are the following

$$\hat{\gamma}_1 = 0,278; \hat{\gamma}_2 = -0,026; \hat{\sigma} = 0,0451; (0,18) (0,013) DW = 1,62; F_{AR5} (5,71) = 8,39; F_{ARCH} (5,66) = 4,85; F_{HET} (4,70) = 8,24; F_{CHOW} (20,56) = 1,40; F_{RED} (7,69) = 3,00$$

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where standard errors of the estimated parameters are in brackets below the estimates. The meanings of the remaining statistic are: o: standard error of the residuals; DW: Durbin-Watson statistics for testing first order autocorrelation; FAR5 (5, 71): F statistic for testing jointly the presence of the first to fifth order autocorrelation; F_{ARCH} (5, 66): F statistic for testing autoregressive conditional heteroscedasticity of residuals up to the order of 5; F_{HET} (4, 70): F statistic for testing heteroscedasticity that is due to the omitted squares of variables; F _{CHOW} (20, 56): Chow test statistic for testing the constancy of the parameters in the forecasting period of 20 quarters, i.e. from the third quarter of 1985 to the second quarter of 1990; F_{RED} (7, 69): F statistic for testing restrictions imposed by model (A.2) with respect to model (A.1). In brackets after the F statistics the corresponding number of the degrees of freedom is given. All these statistics are satisfactory; especially important is the F_{RED} statistic, which, being below the critical value at the 10% significance level, gives some rationale for the claim that the specific model (A.2) is tested within the general (A.1) model.

A.2. Testing for structural invariance

The test suggested by Charemza and Király (1991) for detecting a non-random parameter variation, which in this case explains the structural invariance of (A.2) with respect to future constraints, has been applied. Firstly, the (A.2) model has been estimated by recursive least squares and the one-step standardized recursive residuals (see Harvey (1990, p. 55)),v_t, have been computed. Next, they have been regressed on the variable $\Delta_4 c_{t+4}$ alternatively by the instrumental variables method (if the consumers develop rational expectations with regard to quantity constraints, the variable $\Delta_4 c_{t+4}$ is likely to be correlated with the error term of this regression) and by the ordinary least squares method. For the instrumental variables method, the current and laggedby-one-period variables $\Delta_4 c_t$ and $\Delta_4 y_t$ have been used as the instruments. The following F (1, 50) statistics have been obtained. For the ordinary least squares regression: 21, 3; for the instrumental variables regression: 24, 14 (for the latter case the result of testing with the use of F test is only approximate). Both statistics are significant, which suggests rejecting the hypothesis that the consumption model is invariant with respect to future quantity constraints.

A.3. Disequilibrium modelling

The disequilibrium type model used for evaluating excess demand contains a consumption demand equation, which is a disequilibrium version of equation (A.2) (e.g. where c_t is replaced by c_t^d , which might be unobservable), and a stochas-

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tic supply equation, where supply, c_t^s , is assumed to be generated by a random walk process with drift

$$c_t^s = \gamma_0 + c_{t-4} + \varepsilon_{2t} \tag{A.3}$$

and the minimum condition for the quantity observed

$$c_t = \min \left\{ c_t^d, c_t^s \right\} \tag{A.4}$$

Parameters of the model (A.2), (A.3), (A.4) have been estimated with the use of the same maximum likelihood method which was used in the former disequilibrium studies of the Czechoslovak consumption market (Portes and Winter (1980), Viktorinová (1986), Dlouhý (1989b)). The statistical data used are the same as for the general-to-specific modelling, i.e. quarterly data from the period 1970-90. Results of estimation are as follows

$$\hat{\gamma}_0 = 0,00767; \, \hat{\gamma}_1 = 0,546, \, \hat{\gamma}_2 = 0,135, \, \sigma_1 = (0,00594) \quad (0,133) \quad (0,016) \\ 0,0026; \, \hat{\sigma}_2 = 0,0478; \, \log l = 124,4$$

where σ_1 , σ_2 stand for the maximum likelihood estimates of standard errors of the demand and supply equations and logl is the logarithm of the likelihood function. Table 1 contains annual averages of the quarterly estimates of excess demand, together with the estimated marginal and conditional probabilities of excess demand (see Burkett (1981)).

Table A.1

Estimates of excess demand, averaged from quarterly data

				(%)
Year	Excess demand (in %)	Marginal excess demand probability	Conditional excess demand probability	
1072	3 60	0.06	1.00	
1972	5,00	0,90	1,00	
1973	5,50	0,90	1,00	
1974	2,76	0,96	0,95	
1975	6,14	0,93	1,00	
1976	5,43	0,94	1,00	
1977	6,30	0,94	1,00	
1978	4,69	0,91	1,00	
1979	6,91	0,88	1,00	
1980	3,44	0,88	1,00	
1981	10,58	0,90	1,00	
1982	8,06	0,86	1,00	
1983	6,59	0,93	1,00	
1984	6,64	0,93	1,00	
1985	2,23	0,90	1,00	
1986	7,95	0,86	0,95	
1987	6,82	0,96	1,00	
1988	5,32	0,95	1,00	
1989	7,03	0,93	1,00	
1990	4,05	0,96	1,00	

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Industrial restructuring and the reorientation of trade in Czechoslovakia

Michael Landesmann

University of Cambridge, United Kingdom

written in collaboration with

Alena Nešporová

Institute for Forecasting of the Czechoslovak Academy of Sciences, Prague

and

Istvan Szekely

Trinity College, Cambridge, United Kingdom

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1. Introduction

Among all the Eastern and Central European economies rapidly embarking upon the transition to a market economy, Czechoslovakia has a particularly contradictory historical legacy. Before 1948, Czechoslovakia was the most advanced amongst these economies as regards the evolution of market principles and the existence of an enterprise culture compatible with a market economy. After 1948, Czechoslovakia became one of the most centrally directed of the Central European economies, with one of the strongest biases towards heavy industry, the almost complete disappearance of any private sector, and a degree of concentration of its industries rivalled only by the GDR. The dynamic pattern of comparative advantages which had guided Czechoslovakia's industrial development and the development of its position in the international division of labour from the late 19th century and through the inter-war period gave way to an allocated position within a relatively autarkic bloc of increasingly stagnating economies.

Czechoslovakia's legacy both before and after 1948 will be relevant for an assessment of the time horizon and the degree of success by which the current wave of economic and political reforms will transform Czechoslovakia's economy over the coming years. In this paper we discuss some of the features of Czechoslovakia's industrial and trading structure and performance and assess how far the reforms initiated since the dramatic events of November 1989 have been able to make an impact upon the organization of Czechoslovakia's industrial sector.

Section 2 of this paper presents some background information on the output and productivity performance of the Czechoslovak economy in comparative perspective. Section 3 discusses the trading structure of the Czechoslovak economy including a detailed examination of the export commodity structure of some industrial branches in relation to EC markets. Section 4 reports on some features of market organization of Czechoslovak industry which will be of particular relevance during the early phases of transition towards a market economy; we also report on a comparative statistical analysis of structure and structural change of Czechoslovak industry in relation to Poland, Hungary and some West European economies. Section 5 discusses the evidence of the impact so far of recent economic reforms on Czechoslovakia's industrial structure and prospects for industrial restructuring.

2. Longer-term trends in output and productivity growth

Czechoslovakia had, compared to other East European economies, relatively low but steady output growth over the 1980s. Graph 1 depicts NMP (net material product) growth over the period 1981-89.

The growth rates of industrial production have declined over the 1970s and 1980s, but Czechoslovakia has avoided until last year the volatility and, at times, sharp contractions of output which have befallen other East European economies, Hungary and Poland in particular (see Graph 2). As for the most recent period, the dramatic events since the revolution in November 1989 and the trade collapse between CMEA countries have had a contractionary impact on industrial production; it fell by 3,5 to 4 percentage points in 1990, although that fall started earlier and has — so far — proceeded more dramatically in Poland and Hungary (see Table 1) both of which had accumulated much stronger external and internal macroeconomic imbalances by the late 1980s than had Czechoslovakia.

The productivity performance of the Czechoslovak economy and particularly the productivity slowdown in the 1970s and 1980s was the subject of a number of studies by Czechoslovak researchers (Klacek and Nešporová, 1983; Nešporová, 1987, 1989, 1990a, Mejstrik 1989, Klacek and Hàjek, 1989).

Productivity measurements for Czechoslovakia are marred by the overrecording of certain series at constant prices (particularly investment series but also purchases of consumer goods and inventories) which have not been properly deflated. While investment growth of 5 or 6 % p.a. has been officially recorded, estimates of 'hidden inflation' rates for investment goods have been in the range of 3 to 6 % annually which lead to sharply reduced estimates for investment growth.¹

As a result, estimates for 'capital productivity' growth from official statistics (see, for example, UN-ECE, 1990, p. 98) record sharply declining growth rates for the 1980s, which is partly due to an overrecording of fixed assets growth (see Table 2).

Dyba (1989), p. 150, footnote 2: 'The persistent growth of the capital stock observable over the last 20 years is rather surprising and one wonders to what extent it might be due to inadequate accounting for hidden price increases for investment goods; i.e. use of a biased deflator. The hidden price increases for machinery products have been estimated by experts to be as high as 5 to 7% annually'. (See also Klacek and Håjek (1989) p. 9 and the study by Johanovsky (1985).)



However, even taking account of the overestimate of the official capital stock growth figures, Czechoslovak analysts have in a number of studies estimated a sharply declining trend in total factor productivity growth. We reproduce here one such estimate from a recent study (see Graph 3).

In a number of economic studies (see, in particular, Nešporová 1989, 1990a and Mejstrik, 1989), Czechoslovak researchers found both supply constraints in the growth of particular primary inputs (particularly energy) and the decline in total factor productivity growth to be responsible for the decline in output growth over the 1970s and 1980s. Given the high resource and energy intensity of Czechoslovak industrial production (see, for example, Dyba, 1989), growth and utilization rates of existing capacities are deeply affected by energy and raw material supply constraints and variation in the intensity of use of such capacities insufficiently compensates for the effects of such supply constraints (see Nešporová, 1987, p. 25).

Due to low retirement rates and declining investment growth, Czechoslovakia also records an ageing capital stock, as shown by the low and declining proportion of new equipment in total assets. In line with other East European economies there is evidence (see Table 3) that the age composition of the capital stock has deteriorated over the 1980s.

A detailed breakdown of the age structure of plant and machinery by industrial branch can be obtained from the *Czechoslovak Statistical Yearbook* but since we lack comparative information for other economies we do not present these figures here. Low retirement rates and resistance to the disruptive effects of the introduction of new equipment for the established practices of enterprises have long been



Industrial output

							(annual pe	ercentage change)
	1981-85	1984	1985	1986	1987	1988	1989	1990
Czechoslovakia	2,7	4,0	3,5	3,2	2,5	2,1	1,0	-3,7
GDR	4,1	4,2	4,4	3,7	3,1	3,2	2,3	_
Hungary	2,0	3,2	0,7	1,8	3,5	-0,7	-2,0	- 9,0
Poland	0,4	5,2	4,5	4,7	3,4	5,3	-2,0	- 20,0
Source: UN-ECE, 1990, p. 97.								

Table 3

Employment and fixed assets (as officially recorded) and labour and capital productivity growth

		(an	nual percentage change)
	Fixed assets	Labour productivity	Capital productivity
1981-85	5,5	0,9	- 3,8
1986	4,8	2,2	-1,2
1987	4,3	1,8	-1.8
1988	4,3	2,0	-1,9
1989	3,9	0,8	- 2,9

Source: Czechoslovak Statistical Yearbook, 1987, 1990.

Fixed assets in industry under five years

				(To share,
	1975	1980	1985	1988
Czechoslovakia	31	32	25	23
GDR	30	30	26	29
Hungary	41	41	28	29
Poland	42	35	17	19

Source: UN-ECE, 1990, p. 13.



pointed out to be a feature of centrally planned economies (for a recent statement of this view, see Winiecki, 1988). Given that no land rents have to be paid, there is little incentive to scrap machines; the liquidation ratio — the ratio of the value of scrapped machines in a given year to the value of the stock of machines measured at purchasing (historical) prices — is estimated to be 1,4% in Czechoslovak industry. Capital utilization rates are also very low: a coefficient which measures the ratio of total hours worked by labourers in all shifts compared to the hours worked by labourers in the main shift was 1,32 in Czechoslovak manufacturing in 1989.

International productivity level comparisons are very difficult to undertake, but a recent study (Kolanda and Kubista, 1990) estimates that, for manufacturing as a whole, labour productivity was about one fifth of the Federal Republic of Germany. A comparison at branch level shows that the difference is somewhat more favourable in the more labourintensive light industries than in the heavy engineering, chemical and metallurgical branches.

This brings us to a short review of the relative specialization structure of Czechoslovak industry. It is a well-known feature that Czechoslovak industry is heavily biased towards heavy industry. Recent comparisons made by the Institute for Forecasting and reported in Dlouhý (1989) between Czechoslovakia and a group of OECD economies (Austria, Belgium, Finland, the Netherlands, and Switzerland) show that heavy industry's share in GDP was 20,0 % in Czechoslovakia and only 12,2 % in this group of OECD economies. The shares in employment were 17,5% and 8,9% respectively, and in gross investment 24,0% as against 10,1% in the OECD economies. More detailed comparisons of industrial stucture will be presented in Section 4 of this paper.

The very strong position of metallurgical and particularly mechanical engineering industries in Czechoslovakia's industrial structure is clearly revealed in Table 4. Czechoslovak researchers speak of a 'nexus' between these branches, which feed on each other, show extremely high material and energy intensity,² and are responsible for very severe ecological damage with little positive benefit to the rest of the economy. Wage rates are very low by international standards (the average hourly wage rate in manufacturing in 1989 including social payments was CSK 30,60 which at the exchange rate at the end of 1990 of CSK 24,0 per USD amounted to USD 1,28) and the utilization of labour wasteful.

Table 4 shows the link between branch structure and export orientation: while columns (1) to (3) of that table show the shares of these industries in output, investment and employment, columns (4) to (6) show the percentage shares of these industries in exports to R (Russian rouble) and non-R areas and the exports/sales ratios. The extremely strong

Table 4

Industrial structure and export orientation

(% shares in total industry)

		1989		1988			
	Production	Investment	Employment	% in to	tal exports	Exports/sales ratio	
	(1)	(2)	(3)	to R areas (4)	to non-R areas (5)	(6)	
Metallurgy	11,2	7,0	7,4	8,25	13,69	11,5	
Engineering	26,2	21,9	34,6	64,02	24,40	23,3	
Electech.	5,5	6,9	6,6				
Chemical ind.	13,6	10,0	6,0	8,19	20,76	18,9	
Building mat.	3,4	2,9	3,4	1,90	1,50	9,7	
Light ind. ²	14,8	13,7	24,2	13,80	30,58	28,0	
Food ind.	17,0	9,4	7,5	1,13	6,16	5,1	

These are percentages of total industry; fuel industry energy products and other industry are included in total industry but not explicitly presented in this table; together with the industries presented they account for total industry.
 Light industry includes wood-processing industries, paper and paper products, glass and ceramic products, textiles, clothing, leather products, printing and publishing.

² Kolanda and Kubista (1990) estimate material intensity in Czechoslovak industry to be one-third higher than in the Federal Republic of Germany and fuel intensity about two-thirds higher.

export orientation of the engineering industries towards East European markets (representing 64% of total export sales to the R areas in 1988!) is a most striking feature while light industries' exports are much more oriented towards Western markets.

In spite of the strong specialization in engineering products, Czechoslovakia's share in engineering exports to developed Western markets declined sharply over the 1970s and 1980s:

Table 5

Czechoslovakia's engineering exports as a percentage of developed Western economies' imports

The specific features of Czechoslovak export orientation and export performance will be discussed in Section 3 of this paper.

3. Foreign trade: market orientation and product composition

Table 6 presents figures on exports and imports by destination of a number of East European economies. It can clearly be seen that Czechoslovakia's trade structure is much more strongly oriented towards trade with other East European economies than is the case for the other CMEA countries, with the exception of the Soviet Union.

The overall export and import structure of foreign trade by broad commodity groups and areas of destination/sourcing of the Czechoslovak economy can be assessed from Table 7.

The heavy dependence of Czechoslovak manufacturing exports upon USSR and East European markets emerges clearly from the breakdown provided in Table 7. Furthermore, exports of machinery and transport equipment amount to over 60% of trade in the Soviet and East European markets. Exports to advanced Western markets are predominantly in other manufacturing categories and, to some ex-

Table 6

Trade by main destinations

				(billion USD
	Exp	orts	Imj	ports
	1988	1989	1988	1989
Czechoslovakia				
World	14,83	14,40	14,55	14,24
ECE-East	8,45	7,70	8,15	7,75
ECE-West	4,58	5,02	4,95	4,87
Other	1,80	1,68	1,95	1,62
Hungary				
World	10,00	9,83	9,37	9,08
ECE-East	4,46	3,90	4,10	3,54
ECE-West	4,30	4,85	4,34	4,77
Other	1,24	1,09	0,93	0,77
Poland				
World	13,96	12,86	12,24	11,30
ECE-East	5,68	4,51	4,95	3,66
ECE-West	6,55	6,80	5,89	6,30
Other	1,73	1,55	1,41	1,34
GDR				
World	16,62	17,33	17,41	17,33
ECE-East	7,44	7,40	7,39	7,40
ECE-West	7,55	8,65	8,95	8,65
Other	1,63	1,28	1,07	1,28
Soviet Union				
World	110,50	108,44	107,09	114,42
ECE-East	54,00	50,39	57,90	55,83
ECE-West	27,24	29,29	29,83	35,53
Other	29,26	28,75	19,31	23,11

Country groupings:

ECE-East: East European member countries of CMEA and the Soviet Union. ECE-West: ECE market economies and Japan.

Other: all remaining countries.

Source: UN-ECE, 1990, Appendix Tables C.4 and C.5.

tent, in primary commodities, fuels, mineral and metal products. (For a detailed breakdown of manufactured trade to Eastern and Western markets, see Table 8.)

On the import side, fuel imports from the Soviet Union feature prominently, while trade with other East European economies is characterized by two-way trade in manufactured products. Imports from the European Communities and Japan are overwhelmingly of the manufactured type.

A comparison with Hungary, which together with Poland has the most Western-oriented trading structure of the East European economies, shows the big gap which separates these two countries in terms of export orientation and export composition (see Table 8).

Structure of Czechoslovak exports to selected countries (mid-1980s)

(1 000 USD) European Community Eastern Europe Developing countries Commodity category World USA USSR Japan China All commodities 18 028 819 68 102 44 580 1 752 354 7 744 353 4 818 731 1 497 082 155 833 Per cent of country/region total Fuels, minerals, and metals 4,82 0,00 17,86 10,42 0,69 5,39 0.00 0,62 Other primary commodities1 5,75 10,96 38,49 14,97 3,80 0,00 4,62 2,72 Machinery and transport 52,95 equipment 10,77 6,73 12,47 63,07 58,79 68,60 65,45 Other manufactures 36,48 78,27 36,92 62,15 31,62 33,10 26,98 34,55 of which: Textiles and clothing 6,05 22,08 6,57 9,39 6,22 2,98 3,07 0,00 Total² 100,00 100,00 100,00 100,00 100,00 100,00 100,00 100,00 Share of total exports to selected countries 100,00 0.38 0.25 9,72 42.96 26.73 8,30 0.86

Structure of Czechoslovak imports from selected countries (mid-1980s)

								$(1\ 000\ USD)$
Commodity category	World	USA	Japan	European Community	USSR	Eastern Europe	Developing countries	China
All commodities	18 163 642	63 402	74 137	1 682 224	8 354 520	5 091 372	846 227	184 841
				Per cent of cou	intry/region to	al		
Food	6,53	14,69	0,34	10,56	0,68	6,72	43,75	39,70
Fuels	30,53	0,00	0,09	0,25	62,36	3,90	12,53	0,24
Other primary commodities ¹	11,69	24,67	11,35	11,92	10,56	5,34	34,37	23,80
Machinery and transport								
equipment	32,00	17,81	67,77	36,91	19,54	57,04	0,52	0,15
Other manufactures	19,22	42,83	20,18	40,36	6,85	26,99	8,83	36,10
Total ²	99,97	100,00	99,73	100,00	99,99	99,99	100,00	99,99
Share of total imports from selected countries	100,00	0,35	0,41	9,26	46,00	28,03	4,66	1,02

Notes: Export figures are three-year averages for the latest years of available Czech data: 1983, 1984 and 1986. Commodity categories are those used by the World Bank's World Development

Report. Czechoslovakia does not report arms exports at a disaggregated level. According to a US arms control and disarmament agency report, for the five-year period 1982-86, Czechoslovakia's average annual arms exports were USD 950 million, or 5,3% of its non-military exports. The Soviet Union received 29% of Czechoslovakia's arms exports; Eastern Europe 9%; and developing countries 62% (of which Libya and Iraq were the largest recipients, with 29% and 9%, respectively).

Other primary commodities include food and live animals, beverages and tobacco, inedible crude materials (excluding minerals and crude fertilizers, and metalliferous ores), oils, fats, and waxes. Figures may not add up to 100 due to rounding.

Source: UN Standard International Trade Classification (SITC) Revision 1 trade data; US Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers, 1987, pp. 127-128; US, General Accounts Office, 1990, pp. 7 and 10.

Table 8a

Industries	Exports/sales ratio R/non-R ratio % %		Share in total manufacturing	Share in total manufacturing exports non-R trade	
			exports R trade		
Metallurgy	11,5	1,65	8,25	13,69	
Engineering	23,3	4,05	64,02	24,40	
Chemical industry	18,9	0,62	8,19	20,76	
Building materials	9,7	2,95	1,90	1,50	
Light industry	28,0	1,04	13,80	30,58	
Food industry	5,1	0,27	1,13	6,16	
Total manufacturing	16,1	1,90	100	100	

¹ Calculated from a database on 1 200 enterprises available at the Institute of Economics, Czechoslovak Academy of Sciences.

Table 8b

Trade orientation and commodity composition of Hungarian manufacturing exports, 1989

Industries	Exports/sales R/non-R ratio %		Share in total manufacturing	Share in total manufacturing exports non-R trade	
			exports R trade		
Metallurgy	30,18	0,13	3,33	16,43	
Engineering	42,70	1,81	63,67	22,21	
Chemical industry	31,12	0,33	13,85	26,84	
Building materials	12,59	0,13	0,42	2,05	
Light industry	26,97	0,46	10,15	13,82	
Food industry	22,49	0,29	8,57	18,67	
Total manufacturing	31,24	0,63	100	100	

If one compares the commodity composition of exports to R and non-R markets there are strong similarities between Hungary and Czechoslovakia. Engineering exports feature equally strongly in both countries' exports to the R-area (they amount to about 64% of total exports to the East) while the share of engineering products gets sharply reduced in exports to the West; in the latter, there is a strong representation of chemical products (to a large extent these consist of petrochemical products which take advantage of the rather cheap supply of oil from the Soviet Union to boost exports to the West) and of light industry and food products (Hungary has a clear comparative advantage in the latter, Czechoslovakia in the former; for a more detailed breakdown of the light industry group see Appendix Table A.3). The first two columns of Tables 8a and b reveal clear differences between the two economies' degrees of overall export orientation and market orientation: Hungary has higher overall export exposure (exports to sales ratio) and a much lower share of exports to R versus non-R areas. The difference is particularly striking for engineering exports where Czechoslovakia exports four times as much to R as to non-R areas while the same ratio amounts to 1,8 in the case of Hungary.

As regards trade with Western market economies it is interesting to see (Graph 4) that although Hungary and Czechoslovakia had quite different historical experiences of economic reform programmes and in their trade liberalization policies, the growth of their exports to Western markets proceeded with almost baffling similarity. This seems to indicate that demand growth from Western markets was the overwhelming factor determining export growth rather than differences in the reform experiences between the two economies.

However, as has been pointed out in a number of Czechoslovak studies (see, for example, Dyba, 1989), Czechoslovak market shares in OECD markets have experienced a declining trend over a long period of time, and in a series of careful studies (see Kolanda and Tous, 1986) a continuous deterioration in relative values per unit weight (a suitable quality indicator, particularly in the area of engineering and metal products) has been detected. Recent estimates for 1986 suggest that the price per unit weight of Czechoslovak exports of engineering products was only 25% of general EC import value per kg. For textiles and clothing it was 40%, for footwear 30%, for chemicals 54% and for metallurgical products 73% of the price per unit weight fetched by competing Western exports in EC markets.³

Our own calculations, using a detailed trade database from the Statistical Office of the EC (Eurostat), show that there is indeed a big gap — both in price and product composition — between the products sold by East European producers to EC markets and EC imports in general.

The types of 'quality' indicators calculated to examine the nature of intra-industry trade performance of East European producers in EC markets are summarized in Table 9. A short explanation of these indicators follows:

³ For these recent estimates, see Mejstrik (1987), p. 13.



 Q_j^c measures the relative orientation of a country C industry j's export basket towards high or low value per kg items (whereby these values are calculated from total trade in EC markets).

 $Q_j^{\prime c}$ reveals the relative price gap of the different commodity items in a country's commodity basket relative to the respective price leader in each commodity market; these price gaps are weighted by the respective shares of the different commodities in a country C's exports of industry j.

 QV_j^c shows the relative composition of a country C industry j's exports towards high or low volume growth items in EC markets for traded goods.

 QS_{j}^{c} does the same as QV_{j}^{c} but with respect to high or low value growth items.

The additional variables QdV, QdS, dQ and dQ' represent, respectively, changes of the above indicators over the period 1977 to 1987. They thus reflect whether compositional changes between 1977 and 1987 were in the direction of fast/ slow growing traded product markets (in volume, QdV, and value, QdS, terms), or in the direction of a higher/lower representation of high price per kg items in an industry's export basket (dQ), or whether the weighted price gap with

the price leader (in each traded product market) has grown or has been closed (dQ').

Table 10 (i) and (ii) presents the values for the various indicators calculated for the years 1977 and 1987 for two broad industry groups, mechanical engineering and electrical engineering; these two industries comprised respectively 480 and 254 traded products for which volumes and values of exports and imports from and to EC countries were available.

The results presented in Table 10 are quite revealing (further results concerning a number of three-digit industries are reported in Appendix Table A.1.). They show:

(i) that there is, according to most indicators, a considerable gap between Germany and the East European countries. That gap is considerable with respect to each of the indicators examined except — in some instances — with respect to QV, i.e. the indicator which shows the orientation towards high volume growth areas in traded products; however, the gap was and remains large with respect to QS, i.e. the indicator which shows the orientation towards high growth areas in value terms. The price gap (indicator Q') remains high although it has closed somewhat for electrical engineering products where it had started from an even lower base than in mechanical engineering. The indicator Q, which refers to the product composition with respect to high/low price per kg items, is particularly abysmal for East European electrical engineering products.

For comparative purposes, we also included information about Italy in these tables, which shows that, concerning most indicators, Italy has closed its gap with Germany and, where no gap existed in the first place, has maintained pace with Germany.

(ii) There are considerable differences between the different Eastern and Central European economies: in many ways the experience of Hungary shows a distinct improvement relative to the other two Eastern and Central European economies. In some cases, Hungary started from a lower base than the other two economies, but improved more rapidly. This is particularly the case when one considers the value growth (QS) or the price gap (Q') indicators.

Table 9

Quality indicators of East European export performance in EC markets

(a)	$\begin{array}{llllllllllllllllllllllllllllllllllll$	Q_j^c , $Q_j^{\prime c}$, QV_j^c , QS_j^c are all various 'quality' indicators of country c's exports in a particular industry j. Within that industry j, a (large) number of products ieJ are traded.
(b)	$Q_j^c = \sum_{i \in I} rp_i^c x_i^c$	x_i^c represents the share of product i in country c's exports to EC markets. p_i^{EC} is the average price per kg of product i traded in EC markets.
(c)	$QV_{J}^{c} = \sum_{i \in J} g_{i}^{EC} x_{i}^{c}$	rp_1^c is the relative price of c's exports of commodity i relative to the 'price leader' (i.e. the producer charging the highest price per kg) in EC markets. $rp_1^c = \underline{p}_1^c$ where p_1^L is the price per kg which the 'price leader' in EC markets charges for
(d)	$\begin{array}{rllllllllllllllllllllllllllllllllllll$	p_i^L commodity i. g_i^{EC} and \overline{g}_i^{EC} are respectively the volume and value growth rates of commodity i in EC markets for traded products.
	iɛJ	g_i^{EC} and \overline{g}_i^{EC} are respectively the volume and value growth rates of commodity is markets for traded products.

Table 10

Quality indicators of East European exports to EC markets

		Germany	Hungary	Poland	Czechoslovakia	Italy	Austria	Other W. Europe ¹
Share $(\%)^2$	1977 1987	35,5 34,3	0,1 0,2	0,4 0,1	0,4 0,2	10,3 12,4	2,2 3,8	16,1 19,7
Q′	1977 1987	1,000 1,000	0,528 0,421	0,612 0,353	0,587 0,417	0,793 0,829	0,928 0,933	1,112 1,109
QV	1987	1,000	0,877	0,802	0,612	0,940	0,952	0,775
QS	1987	1,000	0,799	0,713	0,584	1,027	0,965	0,961
QdV	1977-87	1,852	1,875	1,499	1,392	1,895	1,845	2,059
QdS	1977-87	1,394	1,291	1,062	1,098	1,445	1,338	1,557
dQ	1977-87	2,108	1,668	2,367	2,201	2,240	2,134	2,110
dQ'	1977-87	0,987	0,738	0,569	0,701	1,032	0,993	0,985

(i) Mechanical engineering (NACE 32) - 480 products

Table 10 (continued)

		Germany	Hungary	Poland	Czechoslovakia	Italy	Austria	Other W. Europe ¹
Share $(\%)^2$	1977	30,7	0,4	0,3	0,3	10,5	3,5	12,2
	1987	29,7	0,2	0,2	0,2	10,7	3,6	18,0
Q'	1977 1987	1,000 1,000	0,319 0,591	0,422 0,480	0,327 0,497	0,794 0,825	0,925 1,050	1,076 1,103
QV	1987	1,000	0,609	1,010	1,123	2,010	0,737	0,544
QS	1987	1,000	0,444	0,531	0,601	0,952	0,874	1,261
QdV	1977-87	2,276	1,509	1,511	1,528	1,858	3,264	2,123
QdS	1977-87	1,633	1,062	0,982	1,190	1,312	1,512	1,851
dQ	1977-87	3,052	1,228	1,048	1,752	2,400	2,845	2,417
dQ′	1977-87	0,924	1,711	1,053	1,404	0,961	1,049	0,947

(ii) Electrical engineering (NACE 34) - 254 products

Source : Eurostat, Detailed trade data; see text for method of calculation.

¹ Other Western Europe includes Denmark, Finland, Iceland, Ireland, Norway, Sweden and Switzerland

² Market shares as percentage of total EC trade supplied by European producers, East and West.

4. Structural change and industrial organization

As is generally recognized, the degree of concentration in Czechoslovak industry is — even by East European standards — extremely high. The share of employees working, for example, in firms with less than 500 employees was only 1,4% in 1988 (see Table 11).

Table 11

Size categories of firms in Czechoslovak manufacturing categorized by number of employees

	Employees per firm			
	< 500	500-2 500	> 2 500	
1950	13,0	55,6	31,9	
1960	8,8	42,2	48,8	
1970	2,1	41,4	56,5	
1980	1,4	41,1	57,5	
1988	1,4	42,8	55,8	

Source: McDermott and Mejstrik (1990), p. 11.

An interesting exercise was carried out by Zemplinerová (1989) who analysed the shares of the largest, the two largest, etc., enterprises in relatively detailed product markets (4-

and 5-digit).⁴ As Tables 12 and 13 (reproduced from Zemplinerová (1989), Tables 2 and 4) show, in most product markets, a very small number of enterprises occupied quasimonopolistic positions. In a future paper we will show some comparisons with other East and West European size distributions of firms, but, even in isolation, the figures in these tables reveal an impressive degree of concentration in Czechoslovak industry.

The study by Kolanda and Kubista (1990) referred to in Section 2 of this paper, records enormous differences in the productivity performance across enterprises. The spread of productivity levels for Czechoslovakia is an unbelievable 1:60 as compared to a spread estimated for advanced Western economies of 1:6. This is seen as largely due to lack of competitive pressure, the low dependence of enterprises upon sales conditions of their products, the distorted price structure, etc.

The Czechoslovak 'Uniform classification of industrial branches and products' distinguishes 450 industrial branches and about 8 000 groups of industrial products. This is the level of disaggregation at which the analysis of market shares was carried out. However, 'Only enterprises controlled by sectoral [branch] ministries were included in the analysis. Possible shares of foreign firms or local industries and cooperative enterprises in the output of given products was not taken into account. In view of the relatively low levels of these enterprises' shares the resulting bias was unimportant.' (Zemplinerová (1989), p. 7.)

Product market shares

		Share of produc	ts produced by:1	
Groups of industrial branches	a single enterprise	fewer than five enterprises	fewer than nine enterprises	nine and more enterprises
Fuel industry	18,7	57,1	91,2	8,8
Ferrous metallurgy	17,1	55,6	82,9	17,1
Non-ferrous metal	19,6	67,4	84,8	15,2
Chemical and rubber industry	37,1	85,9	92,7	7,3
Engineering	28,9	63,7	79,3	10,7
Construction materials industry	16,5	48,5	65,9	34,1
Woodworking industry	2,8	27,8	41,7	58,3
Paper and pulp industry	15,0	55,0	80,0	20,0
Textile industry	27,4	60,9	73,9	16,1
Clothing industry	6,7	26,7	66,7	33,3
Leather industry	30,7	57,7	92,3	7,7
Printing industry	14,3	28,6	28,6	71,4
Food processing industry	6,2	29,8	46,6	53,4

¹ Shares are expressed in percentages of the total number of products representing the given branch and registered as 'principal products'. The total for all branches was approximately 1 700 products.

Source: Zemplinerová (1989), Table 2.

Table 13

Distribution of the products according to the share of the three largest producers

		Share of three largest p	oroducers in total output	
Groups of industrial branches	less than 50,0	50,0-66,6	66,6-90,0	over 90,0
Machinery	4,1	5,6	12,5	77,8
Glass, ceramics and china	0,0	2,1	7,8	90,1
Paper and wood industry	3,7	17,3	28,4	50,6
Textile and clothing industry	17,5	11,1	7,9	63,5
Leather industry	0,0	0,0	17,4	82,6
Printing industry	54,5	27,3	9,1	9,1
Source : Zemplinerová (1989), Table 4.				

What about structural change? Using the Unido database of industrial statistics we attempted to obtain a first glimpse of the speed and direction of structural change in manufacturing in Czechoslovakia, Poland and Hungary. Graphs 5 and 6 give the shares of different manufacturing industries in total value-added and in employment in 1966 and 1988. Summary indicators of structural shifts (see Table 14) between the two years reveal that in comparison with Poland and Hungary, structural shifts within manufacturing over this relatively long period were very low in Czechoslovakia. Table 15 shows a much greater 'distance' between the employment and value-added structure which characterizes Czechoslovak manufacturing industry relative to that of Austria, than is the case for the Hungarian and Polish economies. There is no significant reduction of that distance in any of these countries between 1966 and 1988. In a number of instances that distance rather grows.

(%)

The same can be said in a comparison with Germany. Here we have a significant growth in distance for Czechoslovakia

Summary statistics on structural change in manufacturing industry, 1966 to 1988

	Czechoslovakia	Hungary	Poland
vas — change in value-added shares	1,48	2,90	3,02
ems — change in employment shares	1,19	2,85	2,03

vas =
$$\sqrt{\Sigma_{i} (vas_{i}^{88} - vas_{i}^{66})^{2} vas_{i}^{88}}$$

where vas; is the share of industry i in total manufacturing value-added

ems = $\sqrt{\Sigma_i (\text{ems}_i^{88} - \text{ems}_i^{66})^2 \cdot \text{ems}_i^{88}}$

where $\ensuremath{\mathsf{ems}}_i$ is the share of industry i in total manufacturing value-added

Table 15

Distance coefficients

Relative to Austr	ria:		
	Czechoslovakia	Hungary	Poland
Value-added			
1966	4,70	2,30	2,71
1988	4,59	2,51	3,90
Employment			
1966	4,15	2,06	2,51
1988	4,60	2,68	2,70

Relative to Germany:

	Czechoslovakia	Hungary	Poland
Value-added			
1966	3,24	2,59	3,62
1988	4,20	3,00	2,90
Employment			
1966	3,69	3,29	3,76
1988	4,26	4,46	3,76

 $Distance\ coefficients\ calculated\ as\ structural\ change\ indicators\ (see\ Table 14)\ but\ across\ countries\ instead\ of\ across\ years.$

between 1966 and 1988. The same is true for Hungary, but only in a comparison of employment structures and not in value-added. In the latter case, the distance coefficients get larger but by much less; this indicates that the relative price structure might have moved in the direction of Germany while the production structure has not. A similar point can be made with respect to Poland.

Another interesting comparison concerns differences across countries in their compositional shifts over time, in our case between 1966 and 1988. In Table 16 such comparisons have been made relative to the structural shifts which occurred in Austria and Germany over that period.

Table 16

Differences in structural shifts over the period 1966 to 1988 relative to Austria and Germany

Relative to Austria:

	Czechoslovakia	Hungary	Poland	Germany
Value-added	2,31	1,85	2,92	1,46
Employment	1,60	2,34	1,46	1,52

Relative to Germany:

	Czechoslovakia	Hungary	Poland	Austria
Value-added	2,99	2,57	3,59	1,78
Employment	1,86	3,24	2,52	1,66



ISIC: 31 Food, drink, tobacco; 32 Textiles, leather and footwear; 33 Wood products; 34 Paper, printing and publishing; 35 Chemicals; 36 Ceramics, glass products, etc.; 37 Iron and steel, non-ferrous metals; 381 Metal products; 382 Machinery not elsewhere classified; 383 Electrical equipment; 384 Transport equipment; 385 Professional goods; 390 Other industries. *Source*: Unido industrial statistics: own calculations.

Differences in structural shifts between (reference) country A and country B were calculated as:

$$\sqrt{\sum [(vas_i^{88A} - vas_i^{66A}) - (vas_i^{88B} - vas_i^{66B})]^2 \cdot vas_i^{88A}}$$

and equivalently for ems_i.

From Table 16 we can clearly see that the direction of structural change is more similar between Austria and Germany than between these countries and the East European countries. If we only consider the employment shifts which occurred over this period, Czechoslovakia and Poland come close to the pattern of compositional change observed in Austria and Germany. Hungary is an outlier in this respect. However, if one considers shifts in value-added composition, the positions are reversed and Hungary's pattern of development is closer to that of Germany and Austria. This does indicate that the movements in relative prices might have been much closer to those in the Western economies in the case of Hungary than in Czechoslovakia and Poland (see the change in employment patterns in Table 16). It even compensated for a change in the 'real' composition of the manufacturing sector diverged more in Hungary from Western European patterns (i.e. Germany's and Austria's) than was the case for the CSFR and Poland. A more complete picture of bilateral comparisons can be obtained from Appendix Tables A.2 and A.3.

Finally, we report year-by-year changes in the branch composition of output and employment. This involves using the above equation for two adjacent years at a time (i.e. 1964 and 1965, 1965 and 1966, etc.) and looking at the whole time series which results. The time series have been plotted on Graphs 7 and 8; they show the bilateral comparisons of shifts in the employment and output structures between Czechoslovakia, Austria and Hungary.





The periods of rapid and slow structural adjustment for each of these economies can be clearly discerned. In all the three economies, one can clearly see the relatively strong reactions in output structures to the two oil price shocks. The bilateral comparisons between the two Western economies, Austria and the Federal Republic of Germany, show remarkably strong similarities in structural change movements.

What is striking in all these pictures is that Czechoslovakia has on average much lower year-by-year shifts in structure than the other two economies: its graphs lie for most years substantially below the graphs of Austria and Hungary. After a period of some significant (inter-branch) structural shifts in the late 1960s (i.e. just before or in the wake of the economic reforms in 1968) there are — besides the two reactions to the oil price shocks — hardly any movements in terms of (inter-branch) structural adjustments.

This picture contrasts with that of Hungary, which scores structural change movements more in line with those in Austria for the 1960s and 1970s, after which it drops below Austria in the first half of the 1980s (when Hungary made a 'dash for growth' but without pursuing economic reforms); then — from 1985/86 onwards — follows a period over which structural change resumes.

5. Economic reforms and industrial restructuring in Czechoslovakia

The November 1989 revolution completely transformed the political situation in Czechoslovakia and gave rise to successive changes in the economic system.

The first half of 1990 was devoted to discussions concerning the path of transition towards a market economy. Central resource allocation and obligatory plan targets were abolished but, in the absence of market prices and competition, it had the effect of destabilizing the relationships between enterprises. Managerial staff in most enterprises and organizations was changed, and this was often repeated during the year and has not been completed yet. The weakening of management positions in enterprises combined with worsening labour discipline led to an absolute drop in production levels and a fall in labour productivity.

The other important source of instability was the disintegration of Comecon. Deliveries of energy, raw materials and semi-finished products from other former socialist countries were dropping and had to be substituted by expensive imports from other suppliers. Sales of Czechoslovak products were falling, largely because of the insolvency of foreign partners both in Eastern and developing countries (see Table 17). The other important external 'shock' was the oil price increase which combined with falling oil deliveries from the Soviet Union.

At the beginning of 1990 the Czechoslovak currency was devalued from 14,8 CSK/USD to 17 CSK/USD with the aim of encouraging exports and reducing imports. At the same time the so-called tourist exchange rate was fixed at the level of the black market rate in order to eliminate the latter.

Economic developments in the first half of 1990 were still primarily influenced by economic reforms prepared by the previous Communist regime which were designed to decentralize decision-making, devolve it to enterprises and

Table 17

The development of Czechoslovak trade in 1990

					(1989=100)
				(1)	(2)
Total exports		87,7		99,5	88,4
En altre and and a second at a second at a second	to socialist countries ¹		79,7	80,7	82,5
	of which the USSR		86,4	81,5	83,1
	to developed Western countries			134,6	99,3
	to developing countries		97,4	105,8	78,1
Total imports				111,4	96,2
	from socialist countries			91,8	91,3
	of which the USSR			80,6	82,2
	from developed Western countries		112,1	152,1	107,6
	from developing countries			104,6	75,3

¹ 'Socialist countries' here still include all CMEA countries, China, North Korea, Laos, Cambodia and Yugoslavia.

Column (1) is based on current prices and exchange rates. In column (2) the effect of the devaluation has been eliminated

Source: Statistical information of the Federal Statistical Office, 1990.

encourage self-financing of economic activities, including investments. The aim was to increase the share of investment financed by enterprises to 97%; it lies now at about 80%. The problems with this approach are twofold: firstly, the extremely monopolistic market structure, where the absence of competition and the soft budget constraint only increase the power of producers over consumers and customers; secondly, the fact that the amortization fund remains in the hands of enterprises, in spite of continued State ownership of capital, greatly increases the differences in income position of different enterprises without any direct link to economic performance. Enterprises with extensive fixed assets, i.e. mainly those in heavy industry and engineering who have received most investments in the past, are again obtaining substantially larger resources than enterprises which are less capital-intensive. On the other hand, enterprises mainly in light industry which export up to half of their output to Western markets and show above-average efficiency are often at a financial disadvantage compared with firms with a smaller share of exports and below-average efficiency.

The host of legislative measures adopted in the first half of 1990 attempted to create a legal framework for the introduction of a market economy (law on State enterprises, law on cooperatives, on joint-stock companies, on joint ventures, on private enterprises, on business premises, etc.). The new measures have not yet created a fully consistent and complete legal framework; their effect on economic development is, furthermore, subject to changes in enterprise and individual behaviour, as well as to the process of de-bureaucratization of the economy, all of which are problems which require a longer-term horizon.

A number of measures had to be further adapted to evolving circumstances, such as the law on business premises, which had to be modified after five months of existence as it enabled large-scale speculation and operated to the disadvantage of small private enterprises and private households. The law on private enterprises had a significant impact: the number of private enterprises increased from 100 000 at the beginning of the year to 250 000 in June and 488 000 in December 1990, although most of them (82%) represent businesses providing secondary employment. So far, there are hardly any businesses willing to start manufacturing operations. A breakdown of these new business initiatives by type of activity is provided by the Association of Entrepreneurs:

- 25% restaurant and food services;
- 20% transport and shipping;
- 30% construction and repair services;
- 20,7% diverse activities (i.e. crafts, etc.);
- 2,3% willing to start manufacturing activities.

(Source: Mejstrik (1991), p. 19).

The development of private enterprise activity is still held back by uncertainty as to the restitution and privatization process, bad credit and tax conditions,⁵ by great supply problems concerning both materials and machinery (suitable machinery and equipment was scarcely available on the domestic market and their import too expensive), and by the deteriorating demand situation. Given these circumstances, enterprises which are willing to venture into manufacturing are so far primarily interested in exploiting the features of a shortage economy without significantly affecting its practices.

The announcement of a strict schedule for the introduction of fundamental reforms (such as internal convertibility of the currency, price liberalization, etc.) in August 1990 to take effect from January 1991, strongly accentuated already existing inflationary expectations. The inflationary expectations of enterprises resulted in a strong disposition towards investing all the disposable means into fixed assets regardless of their efficiency and prospects for future returns, and into foreign currency purchases. The administrative measure to force enterprises to deposit investment funds into bank accounts has only been extended to construction investment. Interest-rate increases only constrained new enterprises, but not existing ones who had their internal funds for investment. The foreign-exchange demand was so enormous that the exchange rate on foreign-exchange auctions strongly exceeded the offficial exchange rate. This led to a further devaluation of the currency to 24 CSK/USD in October. A further devaluation to 28 CSK/USD was made at the end of December. Export volumes (to the West) have hardly responded to the step-wise devaluations so far (see Table 17) and there is evidence that higher import prices (for necessary inputs and capital equipment) in fact reduce export capacity (estimates are that the import content of current exports is about one-third).

To summarize the development of Czechoslovak industrial performance in 1990, one can so far observe little active adaptation of enterprise behaviour to the emergence of a framework for a market economy. Enterprises are adapting to the worsening material and energy supplies and to the worsening demand situation without changing their production programmes, and, when new sales possibilities open up, the supply response is weak and prices are raised instead. This reaction is a natural consequence of past investment priorities, the financial situation in which enterprises find themselves as a result of a distorted price structure and the

Tax incentives introduced in September for starting new companies provide tax relief for the first three years of the life of a new business, but these are still considered insufficient.

size of their own resources, which is not related - so far to their production results. This explains why enterprises in light industry for which a potential new market opens up, have not - given their obsolete plant and machinery and minimal internal financial resources - been able to adjust their production levels in line with rising demand. On the contrary, enterprises expecting price liberalization stopped their deliveries to the domestic market in the second half of 1990 in order to gain from the price increases in 1991. Enterprises in heavy engineering, metallurgy, chemicals, etc. did not embark upon a process of restructuring, and relied instead on their accumulated reserves. With the exception of the construction industry, where the Ministry of Construction succeeded in breaking up the large construction enterprises, deconcentration in other branches has so far been minimal. Correspondingly, changes in production programmes as a response to the sales difficulties are still rare; instead, enterprises are waiting for external assistance and are not yet willing to adapt themselves.

Inflation expectations of the population increased during the year. The primary impulse was the introduction of the tourist exchange rate (at the level of the black market rate) which, together with the opening of the borders, led to a shopping invasion by tourists from neighbouring countries purchasing a substantial share (about one-third) of available consumer goods at very low prices (to them). The disappearance of goods from the market initiated a spending fever by the population which concentrated on consumer durables, and in the second half of the year it included practically all goods in expectation of the price increases which were to follow the liberalization after 1 January 1991. In the course of the year, the originally selective structural imbalance on the consumer goods market became global and hit most commodity groups, while only the supply of foodstuffs was still relatively good. Retail sales grew at a rate of 11,9% and a great part of it was financed from savings; at the end of the year savings in banks had dropped in absolute terms.

In the second half of 1990 the economy was falling into recession accompanied by instabilities and disequilibria both in the production sphere and on the consumer market. Enterprises took up defensive positions without any strong effort being made to adapt to new economic conditions. People reacted in a passive way, they were waiting for the assistance of the State in employment and social care and were hesitant to embark on private enterprise. Work performance was declining and only speculation was flourishing. Unemployment, while rising rapidly, was still only about 1% of the economically active population.

Because of the slow process of legislative change and the high degree of economic and political uncertainty, the influx

of foreign capital was still quite low. During 1990, about 1 000 new joint ventures registered, but of these only about one third is economically active and most of these are small firms in services or in light industry. This pattern was changed with the formation of a joint-stock company of Skoda and Volkswagen (the latter's present participation of 25% is expected to rise further in future years) and negotiations between some other big companies and foreign partners, some of which are very close to conclusion.

6. Outlook

There is no doubt that the fundamental economic reforms introduced from 1 January 1991 represent a major turning point in Czechoslovakia's economic and social history.

The Czechoslovak economy enters the new era with a highly distorted capital structure, a very rudimentary capital market and very uncertain prospects concerning external and internal sales prospects, interest of foreign investors and aspirations of its population. An evaluation of all these factors and of the policies which have already been accepted for implementation leads one to forecast a period of relatively deep recession over the next two to three years. In this transitional period the tendencies towards inertia will be reinforced by the relatively strong economic position of the large, capital-intensive enterprises in heavy industry. The strong devaluation of the koruna meant a strengthening of their position and opened up an advantageous export opportunity to developed markets. Also, Western investors have shown a strong interest in these enterprises, for whom their relatively cheap and skilled work forces and their location in the centre of Europe is attractive. The detrimental environmental consequences of a further development of these industries are obvious and the government seems committed to constrain their further expansion in their present form. How far this will be successful in the overall economic and political climate remains an open question.

Engineering industries are and will continue to be confronted by a deep sales crisis due to the collapse of the Comecon market, particularly the Soviet market. The reorientation towards advanced markets of this section of Czechoslovak industry will be a vital, long-term goal and involves a dramatic change in enterprise organization, product programmes, the use and development of new skills, etc. A development strategy for this sector will also be crucially linked to the survival, reorganization and development of the electrotechnical and electronic industries currently in deep crisis but which are vital for the longer-term competitiveness of the engineering sector. In the coming years, a continuous series of conflicts over subsidization of formerly privileged enterprises resisting reorganization of their operations can be foreseen.

Enterprises in light industry have an indisputable comparative advantage in the availability of a cheap labour force and of a relatively established tradition in certain products - above all in the glass and ceramics industries, but also in leather products, in paper and paper products, etc. The revitalization of these industries is, however, constrained by past low investment activity, obsolete technologies and a great shortage of financial resources due to low prices. Besides engineering, some import-intensive branches of light industry will suffer from the devaluation of the koruna and the transition to hard currency payments among former socialist countries. Light industry will also be adversely affected by the depressed state of domestic demand and sharp competition on world markets. None the less, future prospects for light industry are most probably higher than those for other branches.

Price liberalization and the internal convertibility of the koruna could in a first phase lead to a deepening of existing price distortions as enterprises will want to adjust their prices to changes in the structure of their costs without drawing on their accumulated reserves or improving efficiency. The existing monopoly structure of the economy and insufficient competition will support this process, especially as the strong currency devaluation practically excludes import competition. There will also be a strong danger of a brain-drain, as the undervalued currency leads to wage-level differences which cannot be fully explained by productivity differences and as unemployment levels rise rapidly.

7. Conclusion

This study has shown that the problems related to the legacy from the past and consequently the tasks ahead are — in a number of respects — greater for the Czechoslovak economy than they are for the two other East European economies with which the CSFR is mostly compared in this paper, i.e. Poland and Hungary:

- (i) The degree of trade orientation towards the East European markets the GDR and the Soviet Union in particular was and still is much greater; the strong impact this has had upon inter- and intra-industry specialization of the Czechoslovak economy has been emphasized in this paper.
- (ii) There is also strong evidence that Czechoslovakia's industry reacted — in terms of structural adjustment —

much more sluggishly to external shocks (such as oil price increases) than did Hungary or the Western economies. It also had much less experience of reacting to economic reform programmes. Before the most recent reforms, previous reform attempts go back to the Prague Spring in 1968 which was followed by a particularly severe restoration period.

Hence there is little experience of structural adjustment to either 'external' or 'internal' shocks. Since the transition period has and will continue to be shaped by a sequence of such shocks (the collapse of CMEA trade, the movement to full convertibility of ex-rouble trade, the impact of price and trade liberalization policies, etc.) there is little to go by to predict the degree of flexibility of structure and behaviour of Czechoslovak industry to these shocks. Evidence of past experience suggests that the degree of structural adaptation was significantly lower in Czechoslovakia than in, say, Hungary.

- (iii) From the most recent evidence, the expectation of a limited adaptation to the 'new wave' of both internal and external shocks in the direction of modernization and restructuring of industries has been confirmed for the short run; due to a number of circumstances — the strong devaluation of the currency, the survival of strong monopolistic structures, the side-effects from a number of reform measures which have benefited capital-intensive enterprises in heavy industry, etc. — recent developments have rather strengthened the position of those parts of the industrial sector (in spite of strong falls in output levels) where reorganization is most needed.
- (iv) The longer term is very difficult to predict and it is even more difficult to suggest when the short- and mediumterm responses will give way to longer-term responses: from the existing evidence on the 'human capital' potential of the Czechoslovak economy (the educational infrastructure, the skill levels of the labour force, etc.) one could conclude that Czechoslovakia could turn into one of the most successful of the newly emerging market economies of Eastern and Central Europe, with clear strengths in a number of manufacturing industries where these skills can be of great comparative advantage. On the other hand, the legacy of having been one of the most centralized, heavy-industry-dominated economies of Eastern Europe, with strong dependence upon armaments industries and upon Soviet and East European markets, the almost complete lack of experience with financial institutions and other aspects of market economies (such as managerial practices, marketing skills, etc.) will make the transition a slow one, highly dependent upon the successful transformation of a host of institutional and behavioural features which have characterized Czechoslovak industry until now.

Appendix — Tables

Table A.1

Quality indicators of East European exports to EC markets for selected 3-digit NACE industries

	fc	or use with machines (N Germany	ACE 322) — 97 produc	Poland	Czechoslovakia
0	1977	1.000	0 759	0.588	0.548
×	1987	1,000	0.932	0.743	0.607
O'	1977	1,000	0,669	0,357	0,477
	1987	1,000	0,706	0,488	0,520
OV	1987	1,000	1,179	0,987	0,697
OS	1987	1,000	1,155	0,816	0,581
OdV	77-87	2,746	2,171	1,060	1,315
QdS	77-87	1,403	1,041	0,492	0,717
dQ	77-87	1,306	1,603	1,649	1,446
dQ'	77-87	0,753	0,794	1,031	0,820

(ii) Manufacture of agricultural machinery and tractors (NACE 321) — 28 products

		Germany	Hungary	Poland	Czechoslovakia
0	1077	1 000	0.010	0.065	1.077
Q	1977	1,000	1,200	0,903	0,800
0/	1987	1,000	1,209	0,904	0,699
Q	19/7	1,000	0,457	0,388	0,494
	1987	1,000	0,835	0,396	0,384
QV	1987	1,000	1,502	1,943	1,686
QS	1987	1,000	1,617	0,923	1,620
QdV	77-87	0,712	1,267	0,581	0,319
QdS	77-87	0,937	1,717	0,824	0,385
dQ	77-87	1,049	1,379	0,983	0,875
dQ'	77-87	0,809	1,479	0,827	0,629

(iii) Manufacture of machinery for the food, chemical and related industries (NACE 324) - 66 products

		Germany	Hungary	Poland	Czechoslovakia
Q	1977	1,000	1,032	0,610	0,943
	1987	1,000	1,088	0,742	0,794
Q'	1977	1,000	0,532	0,696	0,601
	1987	1,000	0,448	0,505	0,530
QV	1987	1,000	0,631	0,683	0,519
QS	1987	1,000	0,752	0,700	0,549
QdV	77-87	1,179	1,925	1,861	1,513
QdS	77-87	0,723	0,977	0,863	0,743
dQ	77-87	1,172	1,183	1,365	1,944
dQ'	77-87	0,767	0,645	0,556	0,676

Source : Eurostat, Detailed trade data; see text for method of calculation.

Table A.1 (continued)

(iv) Manufacture of plant for mines, the iron and steel industry and foundries, civil engineering and the building trade (NACE 325) — 87 products

		Germany	Hungary	Poland	Czechoslovakia
0	1077	1 000	0.806	0.820	0.600
Q	1977	1,000	0,000	1,061	0,000
	1987	1,000	0,963	1,001	0,910
Q'	1977	1,000	0,410	1,000	1,289
	1987	1,000	0,579	0,567	0,427
QV	1987	1,000	1,138	0,793	1,167
QS	1987	1,000	1,063	0,765	0,993
QdV	77-87	1,501	1,974	1,696	1,572
QdS	77-87	0,729	0,925	0,842	0,781
dQ	77-87	1,166	1,393	1,510	1,771
dQ'	77-87	0,793	1,117	0,450	0,263

Source : Eurostat, Detailed trade data; see text for method of calculation.

Table A.2

Similarities/differences in structure, 1966 and 1988

Weighted	Czecho	slovakia	Hur	igary	Poland Aust		tria Germany		Southern	n Europe	Northern Europe			
Weighted	1966	1988	1966	1988	1966	1988	1966	1988	1966	1988	1966	1988	1966	1988
Czechoslovakia														
employment value added	1, 1,	19 48	5,67 6,02	5,72 6,59	4,86 6,94	3,63 4,17	6,20 7,10	5,69 5,93	3,52 3,84	3,86 4,83	8,21 8,64	7,68 7,15	5,35 5,72	5,35 6,13
Hungary														
employment value added	4,69 4,23	5,08 4,69	2, 2,	85 89	5,19 3,11	2,52 3,06	3,37 2,32	2,25 2,43	4,13 2,68	4,81 2,63	4,47 2,85	3,34 3,41	3,18 2,14	2,38 2,98
Poland														
employment value added	3,98 6,76	3,21 3,30	2,05 3,46	2,42 2,93	2, 3,	03 03	2,59 3,06	2,58 3,79	4,18 4,56	3,90 3,18	2,99 2,04	3,59 4,41	2,43 3,61	2,50 3,88
Austria														
employment value added	4,15 4,70	4,60 4,59	2,06 2,30	2,68 2,51	2,51 2,71	2,70 3,90	2, 2,	12 44	3,30 2,99	4,03 3,34	3,47 2,30	3,47 2,52	1,57 2,10	1,81 1,87
Germany														
employment value added	3,69 3,24	4,26 4,20	3,29 2,59	4,46 3,00	3,79 3,62	3,76 2,30	3,49 3,40	4,27 3,80	2, 3,	65 24	6,07 4,66	6,38 4,89	2,86 2,53	3,81 3,84
Southern Europe														
employment value added	5,44 4,51	4,82 4,80	3,81 2,37	2,98 3,24	2,53 1,51	2,68 5,03	3,73 2,49	3,50 2,68	6,32 4,08	6,00 4,47	2, 3,	71 20	4,43 3,13	3,83 2.08
Northern Europe														
employment value added	4,03 4,64	4,44 4,88	1,86 2,17	2,65 3,46	2,27 2,94	2,41 4,11	1,55 2,02	1,58 1,92	2,87 2,65	3,81 4,14	3,68 3,06	3,14 2,11	2, 2,	42 46

Southern Europe: Greece, Ireland, Portugal, Spain, Turkey. Northern Europe: Austria, Belgium, Denmark, Finland, Netherlands, Norway, Sweden.

Table A.3

Similarities in structural change, 1966-88

Weighted	Czechoslovakia	Hungary	Poland	Austria	Germany
Czechoslovakia					
employment		2.02	1.69	1,57	1,77
value-added		3,10	4,22	3,03	3,73
Hungary					
employment	2,76		2,65	2,61	3,11
value-added	2,88		2,85	2,04	2,72
Poland					
employment	1,58	2,57		1,30	2,33
value-added	4,08	2,81		2,53	3,50
Austria					
employment	1,60	2,34	1,46		1,52
value-added	2,31	1,85	2,92		1,46
Germany					
employment	1,86	3,24	2,52	1,72	
value-added	2,99	2.57	3.59	1,66	

Table A.4

${\it Trade\ orientation,\ commodity\ composition\ of\ Czechoslovak\ manufacturing\ exports-1988}$

Industria	Exports production	Exports to East/exports to West	% share in	% share in
Industries	(in %)	(in %)	to East	to West
Clothing	42.6	2 70	2 19	1 78
Glass ceramics	38.3	0.52	1.81	6.85
Leather products	30.4	2.16	3.82	2.79
Wood products	26,2	0.75	1.94	6,22
Machinery	24,6	4,42	56,29	18,68
Textiles	24,1	0,73	3,53	8,39
Metallurgy	20,9	1,36	7,45	12,92
Chemicals	18,9	0,62	8,19	20,76
Electrical equipment	18,4	2,72	7,53	2,89
Paper products	18,2	0,21	0,42	5,03
Metal products	11,75	1,19	2,14	2,83
Building materials	9,73	2,95	1,90	1,50
Printing & publishing	9,65	0,17	0,09	0,52
Other industries	9,32	0,70	0,43	0,99
Food products	5,45	0,29	1,12	6,04
Non-ferrous metals	5,06	1,84	0,80	0,77
Frozen products	2,19	0,10	0,01	0,12

Calculated from a database on 1 200 enterprises available at the Institute of Economics; Czechoslovak Academy of Sciences. I am grateful to Drs Cermak and Krovak and their colleagues from the Institute of Economics, Czechoslovak Academy of Sciences, for making this databank available to me.

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Competitiveness and industrial restructuring in Czechoslovakia, Hungary and Poland

Gordon Hughes¹

University of Edinburgh, Scotland, United Kingdom

and

Paul Hare¹

Heriot-Watt University Centre for Economic Performance, LSE, United Kingdom with the assistance of Joshua Charap and Alena Zemplinerová, Czechoslovakia; Tamás Révész, Hungary; Dorota Wilczynska and Bohdan Wyznikiewicz, Poland

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1. Introduction

Following the political changes of 1989 and 1990, the countries of Eastern Europe are now embarking upon the difficult and prolonged process of economic reform and restructuring. The three countries studied in this paper, Czechoslovakia, Hungary and Poland, have all embarked on this process, though with very different backgrounds and with different views about the appropriate speed and, to some extent, the sequencing of reforms. Despite such differences, there is at least reasonably general agreement that the transition to a market-type economy entails macroeconomic stabilization, liberalization of prices and trade, and ownership changes. The last of these, essentially involving both general encouragement of private sector activity and extensive privatization of State-owned enterprises, is discussed in the accompanying paper by Grosfeld and Hare (1991) for the same three countries.

Under the former system of planned economic management, economic decision-making was frequently distorted, for example by astonishingly complex systems of taxes and subsidies, applied to international transactions, domestic production and consumption alike. Some of these distortions were more or less accidental by-products of other policies, like the huge number of different turnover tax rates. Others were more directly connected to lobbying efforts by particular interest groups, especially producers.

As a result, the profits — or, more generally, the valueadded — reported by particular enterprises or even entire economic branches, often gave little guide to the real profitability of the activities concerned in terms of any consistent and coherent measure that might be used. While the liberalization component of the overall 'transition package' referred to above is typically accompanied by substantial reductions in these distortions, many still remain in all three countries and new ones are still being introduced (e.g. in Hungary, through failure to adjust tax schedules for inflation, and by allowing subsidized interest rates on the government's own debt).

At the same time, while in the past it was usual for ministries to have sole responsibility for enterprise closures or restructuring and for the establishment of major new enterprises (even in Hungary, which had a form of bankruptcy law from the mid-1980s), this is no longer so (though ministries of industry are still inclined to lobby on behalf of enterprises they wish to protect). Many enterprises in the three countries studied here are almost certainly technically bankrupt or may soon become bankrupt as a result of price and tax reforms that have already taken place or are planned for the near future. It would, however, be a serious mistake for all apparently loss-making firms to be allowed to fail; equally, some of the apparently profitable firms only achieve their results because of the remaining distortions (including the exploitation of monoply power).

Since current financial performance is so misleading, even after the initial stages of economic reforms in the three countries studied here, governments should not leave decisions about closures and other forms of restructuring assets solely in the hands of the banks and other financial institutions. Aside from the remaining distortions in markets for goods and services, and distortions resulting from the exploitation of (what should be temporary) monopoly positions, another important reason not to leave these decisions to the banks and other financial institutions is that they themselves are not yet developed well enough to undertake such an important task.

What is needed, therefore, is a methodology which makes it possible to rank enterprises and branches in terms of their long-term viability and competitiveness — that is, after removing the effects of present distortions. The object of this paper is to develop such a methodology and to apply it to the three countries under consideration.

The basic approach involves identifying those branches and, in subsequent work, enterprises — which make the greatest contribution to national income valued at competitive — i.e. world market — prices, relative to the inputs of domestic resources such as capital and labour that they require. This means that the decisions should be based on an appraisal of the economic value-added and profitability of each branch, using world market prices as the basis for valuation.¹

The resulting analysis turns out to be both illuminating and, potentially, of great practical use. Aside from providing a more reliable guide to long-term profitability than calcu-

There is a general issue here, namely, whether suitable world prices can be identified, and if so, whether they are themselves distorted. On the first point, of course, there is no set of world prices generally available to all countries. What is relevant is the prices actually achieved by the countries in this study in their own foreign trade transactions, since these are the prices which reflect the terms on which trade can be conducted. As will be clear from the discussion of data issues in Section 3, these border prices for each country are, essentially, what we have used. On the second point, undoubtedly any set of world market prices contains distortions of various sorts, but it is not open to small, East European countries to remove such distortions through their own policy actions (though they can lobby in appropriate international bodies), so they have no choice but to adapt their economies to whatever the prevailing prices happen to be. However, some distortions are especially important and, given our findings about the food sector, we examine also the possible effects on Eastern Europe of a restructuring of the EC's common agricultural policy.

lations based on current domestic prices, the analysis can provide the basis for the decisions that must be taken in the course of industrial restructuring. Our calculations also provide information that can facilitate privatization. Experience in many countries suggests that one of the most common practical problems associated with privatization is that of valuing the bundles of productive assets involved in the companies concerned. In short, how does one assess the 'price' at which a given company could be sold? This depends on many factors beyond the scope of this paper, but an essential element is certainly a proper measure of profitability which gives some indication of the company's mediumand long-term prospects. This is what our analysis seeks to provide.

2. Methodology

The basic methods for calculating the value-added by each industry at world prices and thus the domestic resource cost of production are well known and conceptually simple. The key requirements are for information on the composition of inputs used in production and on the ratios between world and domestic prices for both inputs and outputs. In the most detailed studies such data are obtained from questionnaires completed by enterprises which specify their purchases and sales on a product-by-product basis and by careful investigation of prices and product specifications in world and domestic markets. This approach allows the investigators to compute domestic resource costs and other indicators of international competitiveness for individual enterprises or products, but it is an extremely costly and lengthy process. Speed and the compilation of results which give a general overview of industrial competitiveness were major concerns in the studies reported here, since there is a need to identify directions for industrial policy now on the basis of the most recent available evidence.

The analysis is based on information reported annually by industrial establishments and enterprises to ministries and statistical offices. This is used to compile input-output tables on a regular basis and to monitor the average values of domestic and foreign sales. For each country, data on the composition of inputs into production were obtained from a disaggregated input-output table with at least 80 sectors, of which 50 or more covered manufacturing activities. The advantage of relying upon such data is that they have been carefully checked for consistency and provide a manageable basis for the complementary data collection and computations which are required. The disadvantage is that the process of aggregating enterprise data to generate sectoral estimates of input-output coefficients can blur critical differences between the performance of different enterprises. There is also the standard problem of deciding how to deal with establishments or enterprises which produce goods falling into more than one sector. The usual practice is to categorize establishments in terms of their primary activities. We have accepted local statistical practice and have made no attempt to adjust the data supplied to us.

There are two general methods of compiling data on the ratios of world to domestic prices. The first, often used in studies of trade policy in developing countries, relies upon information on tariffs, export taxes and subsidies, licensing arrangements and domestic taxes in order to calculate the margin between cif import prices or fob export prices and the producer price paid or received at the factory gate. Provided that the number of sectors and the complexity of the trade regime and tax/subsidy system are not excessive, this is a satisfactory procedure for studies of sectoral — as opposed to enterprise — competitiveness. Unfortunately, experience in several former centrally planned economies has shown that the structure of special taxes and subsidies rules out reliance upon this method.

We have, therefore, had to rely upon the second method, which is based on making a direct attempt to compare domestic and world prices. The difficulty is that such comparisons depend upon identifying products of similar specifications and quality whose prices in the different markets can be obtained. To avoid the problems involved in collecting such data from scratch we have made use of the information on hard-currency trade flows (generally accounted in US dollars), particularly with countries in the European Community, which is reported by enterprises themselves. For each transaction they are required to provide information upon the domestic value of the item sold or purchased and upon the international value of the item either in foreign currency or in domestic currency converted at some standard exchange rate. These provide the basis for explicit price comparisons, though we depend upon the accuracy of the information provided by enterprises, and it refers only to those goods which are traded.

The critical question that arises in utilizing such data is whether the average ratios of world to domestic prices for each sector obtained in this way are typical of the unobserved ratios for the sectors to which they are applied. One reason for relying upon sectoral rather than enterprise data in the first stage of the study is that the process of aggregating over units within a sector reduces the relative magnitude of errors associated with the use of data on untypical products for a particular establishment or enterprise. There will, of course, be errors for particular sectors so that the results reported here should not be treated as the basis for immediate decisions about the future of individual enterprises or sectors. Rather they provide the basis for identifying those segments of the industrial sector which are likely to be best placed to compete in international markets and those which may be expected to contract as the transition to market economies proceeds.² More detailed work, building upon the framework developed so far, is required in order to provide specific guidance about the prospects for particular products and establishments. This work is already under way, and we will report the conclusions of the more detailed investigation of data concerning sub-branches and enterprises in due course.

The impact of any systematic bias in the price comparisons on our results is easily examined, though it is impossible to produce a reasonable basis for correcting our estimates without much more detailed evidence. The price comparisons rely upon information about those products which are actually traded on convertible-currency markets. On the export side these products are likely to be of higher average quality than the goods produced exclusively for sale either in the domestic market or to other CMEA countries. This means that the world to domestic price ratio which we use will be higher than that applicable to the total output for a given branch. Since one of the major problems of central planning was the compression or elimination of price differences reflecting quality differentials, it is reasonable to conclude that our price ratios may be biased upwards. The same conclusion may be drawn by considering the valuation of imported products. The reason for importing them was that they offered features which were not available from competing domestic or rouble-zone products. However, in reporting the domestic value of such imports, enterprises would tend to rely upon direct comparisons with 'equivalent' domestic products. As a result the implied ratio of world to domestic prices would be overstated because the prices of domestic goods of the same quality and characteristics as those of the imported goods would be higher than those used in the price comparisons.

The implication is clear. Our price comparisons will tend to overstate the sectoral ratios of world to domestic prices. This is deliberate because it means that our results will tend to overstate the magnitude of value-added at world prices relative to domestic prices and to understate the domestic resource costs for each sector. In this manner we are taking the most optimistic view of the prospects for each sector. If, even on this basis, it turns out that a sector produces negative value-added at world prices or has relatively high domestic resource costs, then it is reasonable to conclude that such a sector is highly uncompetitive in international terms and that more detailed investigations are likely to reveal a worse assessment than that reported here. We are, in effect, trying to make the best possible case for the manufacturing industries in the countries studied. There is no reason to believe that the broad ranking of sectors by domestic resource costs is affected by any systematic overstatement of the price ratios. However, to illustrate the potential impact of lowering the price ratios, we have examined what happens to certain key indicators of competitiveness if all of the price ratios are reduced by 25%.

Once the basic data have been compiled, the computation of the value-added at world prices for each sector is straightforward. There are two technical assumptions built into the calculations outlined below which need some explanation:

Some inputs — primarily services — are non-traded, (a) so that it is not possible to compare world and domestic prices. One option is to calculate the margin between the value of output and of traded inputs at world prices that is available to pay for non-traded inputs as well as factor services. In effect, this implies that the notion of value-added is extended to include the use of non-traded inputs. We have followed the alternative approach of treating non-traded inputs as bundles of traded goods and factor services. By partitioning the input-output coefficient matrix it is possible to estimate the total direct and indirect inputs of traded goods and of value-added into each sector and thus to compute value-added at world prices. However, the measure of sectoral value-added that is being used is the total of direct value-added and indirect inputs of value-added embodied in non-traded inputs. This will be greater than the direct valueadded reported in the input-output table so long as: (i) the input of non-traded items is positive, and (ii) the non-traded sectors generate positive value-added at domestic prices.

(b) It is desirable to treat imported intermediate inputs as being priced directly at world prices rather than aggregating them with domestic intermediate inputs. For some of the countries studied the input-output tables distinguish between imported intermediate inputs from the US dollar and rouble zones. This poses the problem of how to value imported intermediate inputs from rouble-zone sources, since there is no reason to believe that the implied cif price of these items converted at the official transferable rouble exchange rate bears any consistent relationship to the US dollar price of the same product in world markets converted at the official dollar exchange rate.³ For energy and raw materials, it is well documented that rouble-zone imports were heavily

² Transition to a market economy is a complex phenomenon including several elements which cannot be discussed in this paper. These include, for instance, price and import liberalization, usually some degree of macroeconomic stabilization, and ownership change, as indicated at the start of this paper. The precise sequencing of such measures is not our concern here, but it is important to note that the transition is bound to occupy several years even in the most radical countries, and that at least in the early stages of the process it would be unwise to rely on unaided market forces to guide long-term economic decisions.

³ Note, however, that from the beginning of 1991 this problem should have substantially disappeared, since transactions which were formerly conducted in transferable roubles at prices differing from current world market levels are now conducted in hard currencies at current world market prices.

underpriced relative to US dollar-zone imports, so we have worked on the basis that this pattern was general. Investigations suggested that the results were quite insensitive to the exact conversion factor used, so it was assumed that rouble import values should be multiplied by 2 to express them in terms of US dollar-zone import prices.⁴

The calculation of value-added at world prices in an industry producing traded goods is based on the following equation.⁵

$$\rho = \lambda - \lambda A^{TT} - \mu A^{NT} - \gamma A^{IT}$$
(1)

where ρ is a row vector containing the ratios of value-added at world prices to the domestic output price by sector, λ is a row vector containing the ratios of world to domestic prices by sector (for tradable sectors only, therefore), μ is a row vector containing the direct and indirect cost at world prices of traded goods used per unit of output of non-traded items, and γ is a row vector of conversion factors applied to imported intermediate inputs. The partitions of the input matrix A are indicated by the superscripts T for traded goods, N for non-traded goods and services and I for imported inputs.

Thus the original $n \ge n$ matrix, A, of intermediate input coefficients is partitioned into the form

$$A = \frac{A^{TT} A^{TN}}{A^{NT} A^{NN}}$$
(2)

where A^{TT} is an m x m matrix of traded inputs into the production of traded goods, A^{TN} is an m x k matrix of traded inputs into the production of non-traded goods (where m + k = n, of course), etc. A^{IT} and A^{IN} are matrices of import coefficients. In most instances they are simply of dimension 2 x m and 2 x k respectively, the two rows representing hard-currency and rouble imports. Hence, the row vector, γ , is simply (1 2), the second element reflecting the assumption made at B above. For non-traded items we obtain $\mu = \lambda A^{TN} + \mu A^{NN} + \gamma A^{IN}$ (3) Solving for o yields

$$\gamma$$
 (I A TT A TN(I A NN)-

$$b = \lambda \{I - A^{II} - A^{IN}[I - A^{NN}]^{-1}A^{NI}\} - \gamma \{A^{IT} + A^{IN}[I - A^{NN}]^{-1}A^{NT}\}$$
(4)

The equivalent ratio of domestic value-added to the domestic output price is denoted by the row vector φ which is obtained by setting all of the elements of the vectors λ and γ to 1 in Equation (4). For this substitution means that we accept domestic prices for tradables, and make no adjustment to the value of rouble imports. The vector of domestic resource costs is then obtained from

$$DRC_{i} = \varphi_{i}/\rho_{i}$$
(5)

Since the calculation of domestic resource costs requires a considerable amount of information concerning the composition of inputs, it is interesting to examine how closely the full estimates of domestic resource costs are approximated by a crude measure in which only the value of output is adjusted to world prices. This is simple to calculate and may provide a reasonable basis for making a rough assessment of the competitiveness of an enterprise or industrial branch when the full set of detailed data is not available. The vector of crude domestic resource costs will be denoted as χ and may be calculated from

$$\chi_i = \varphi_i - 1 + \lambda_i \tag{6}$$

This follows easily from (4), since χ is obtained by replacing the vectors λ and γ with unit vectors except for the very first term of (4) which remains unchanged at λ_i . Estimates of χ_i may be compared with ρ_i in order to assess the contributions of adjustments to input as well as output prices in arriving at the estimates of world value-added in computing domestic resource costs. For comparisons across countries it is necessary to express value-added at world prices relative to the world output price, which gives

$$\psi_i = \rho_i / \lambda_i \tag{7}$$

Domestic resource costs do not provide a monotonic indicator of international competitiveness. The least competitive industries are those which generate negative value-added at world prices because these actually reduce the net resources of the country by utilizing inputs whose value exceeds the value of the output that they produce. A country which closed down such an industry would immediately make itself better off in terms of national income measured at world prices. Such industries have negative domestic resource costs. Among the remaining industries which produce positive value-added at world prices, the most competitive are those with a high level of value-added at world prices relative to their value-added at domestic prices, which means that they have relatively low but positive domestic resource costs. The least competitive are those with high domestic resource costs.

⁴ For Hungary, the value of 2 can be approached in two ways: first by making use of forint/rouble and forint/US dollar exchange rates from the base year of 1988; second, by direct price comparisons (using the Foreign Trade Yearbook) of the forint prices in dollar and rouble markets of a selection of products sold in both. Very roughly, at least as an average, the value of 2 used in this study turns out to be a satisfactory approximation for Hungary. For Poland and Czechoslovakia the situation is more complex, since neither country had a unified exchange rate to apply in its CMEA trade until very recently, and it is not easy to make sense of a plethora of separate multipliers applied to different products. However, one can use measures of the average domestic cost of a US dollar of exports and a rouble of exports to get an indication of the right order of magnitude. The value of 2 used here is therefore a reasonable approximation.

⁵ Note that it might have appeared more natural to start with a set of equations for the prices. But equation (1) is easily derived from such equations by transferring value-added to the left-hand side, and dividing through each equation by the corresponding domestic output price. This yields the ratios with which we continue the analysis.

To convert the calculated domestic resource costs in order to provide a monotonic index for ranking purposes we have constructed a DRC ranking indicator defined as

$$\begin{split} \delta_i &= 1/DRC_i & \text{if } \rho_i > 0, \\ &= \rho_i & \text{if } \rho_i \leqslant 0 \end{split}$$

An estimated domestic resource cost of 1,0 for an industry implies that there is no difference between value-added at world and domestic prices. On certain assumptions this can be taken as a dividing line between those industries which should be encouraged to expand and those which should contract or close down. Examination of equation (4) shows that the exchange rate is critical in determining the overall level of positive domestic resource costs. Depreciation of the domestic currency relative to the dollar implies that, after conversion to domestic currency, the vectors of price ratios in (4) are increased proportionately, so that the absolute values of domestic resource costs are reduced in the same manner. It follows that a domestic resource cost of 1,0 is an appropriate dividing line only when the calculations are based on price ratios computed by converting world prices at an equilibrium exchange rate.⁶

Studies usually find that the average domestic resource cost exceeds 1,0 because the structure of protection enables industries to operate profitably even when the exchange rate is overvalued. If the average domestic resource cost is substantially in excess of 1,0, it is reasonable to conclude that the exchange rate is overvalued and that a combination of a lower exchange rate and a reduction in barriers to trade would improve the allocation of domestic resources. This is essentially what we find for the countries studied here. There is, however, no simple link between the average domestic resource cost and the magnitude of the appropriate exchange-rate adjustment, because the latter depends upon the mobility of domestic resources between sectors and thus on the elasticities of supply of exportable and import-competing goods.

So long as price distortions are the result of trade taxes and subsidies or other forms of trade intervention, the domestic resource cost for a sector as defined above is equal to 1 plus the effective rate of protection enjoyed by the sector (see Greenaway and Milner (1987, pp. 40-44)). Thus, our estimates of domestic resource costs may be compared with studies of effective protection carried out in a variety of other countries — see, for instance, the summaries in Greenaway (1987, p. 83) and Krueger (1983, p. 34). These show that average effective rates of protection of the order of 50% have been observed for a number of newly industrializing countries, including Brazil in 1967 and again in 1980-81, Taiwan, Colombia and Côte d'Ivoire. The range of effective rates of protection may be very large, which signifies high levels of price distortions generated by the structure of trade protection.

It is possible to modify the calculation of domestic resource costs in order to allow for distortions in factor markets which create a wedge between factor prices and the social opportunity cost of employing factors. By introducting shadow prices for the various factors and valuing domestic value-added at shadow prices rather than actual factor prices, the domestic resource cost can be made an indicator of the social cost of earning or saving foreign exchange by production in a particular sector. In this study we have not attempted to use shadow prices to revalue domestic valueadded because this would divert attention from the main analysis of the comparative performance of different branches within the industrial sector. We intend to investigate whether the use of shadow prices changes the ranking of industries in the next stage of the study.

3. Sources of data and country-specific problems

3.1. Czechoslovakia

The data for the Czechoslovak study are based on an inputoutput table with 108 sectors for the year 1987, expressed in 1989 prices. This table had been prepared according to the material-product system of national accounting so that nonmaterial-product sectors were not included. This means that service activities which supply inputs to manufacturing industries are either aggregated into industry-related service sectors which were all treated as being non-tradable or they were aggregated with the sectors consuming the services. In practical terms this is equivalent to the procedure for dealing with non-traded goods outlined in the previous section. As a result a total of 77 sectors were treated as being tradable, of which 66 covered manufacturing industries included in the study. Later we expect to extend the analysis to utilize an input-output table which has been compiled for 507 products, but this requires more data on trade prices than were initially available.

⁶ For the countries studied in this paper, it is clear that the assumption of an equilibrium exchange rate for the period to which our data refer (1988 or 1989) is not reasonable. Even Hungary had only just started its programme of gradual import liberalization, and the other two countries still had complex trade restrictions in force. Nevertheless, while this point has to be noted, it does not affect the ranking of domestic resource costs for each country. Hence most of our results are unaffected by taking a different view about the exchange rate.

The vector of world to domestic price ratios was calculated from information on the value of exports at Czechoslovak border prices in crowns relative to their value at domestic wholesale prices. For a small number of sectors, notably fuels, direct price comparisons were made between prices paid for inputs by industrial users in Austria and Germany — after deducting any taxes included in the purchaser price — and the equivalent prices paid by Czechoslovak enterprises. In all cases the price comparisons refer to the year 1989 so as to give the most up-to-date picture possible of industrial competitiveness.

3.2. Hungary

The data for the Hungarian study are based on an inputoutput table with 89 sectors for the year 1986. There was a major tax reform in Hungary which came into effect at the beginning of 1988, the year for which we collected data on the ratios of foreign to domestic prices. Thus, we decided that it would be desirable to adjust the 1986 transactions matrix to the price base for 1988 because the introduction of VAT and the abolition of a wide range of turnover taxes and subsidies led to some significant relative price changes associated with the tax reform. The adjustment was carried out by obtaining price indices for 1988 relative to 1986 for each of the sectors in the input-output table. Labour costs and depreciation allowances were adjusted by price indices obtained from statistical yearbooks for 1988. A total of 64 sectors were treated as being tradable, of which 53 were manufacturing sectors.

The vector of price ratios was obtained from information for 1988 on the dollar and domestic values of exports and imports for the sectors, supplemented by specific information relating to fuels and other raw materials.

It is important to note here that some of these data are suspect and are currently being refined and improved. As indicated elsewhere, the results reported in this paper should be regarded as preliminary.

3.3. Poland

The principal input-ouput table for Poland distinguishes only 38 sectors in its 1988 version, which was not sufficient for our analysis. It was, however, possible to obtain data on 114 industrial branches which give the composition of their inputs purchased from 28 of the sectors in the input-output table plus the sum of the inputs from all of the other sectors. The calculations proceeded in two stages. At the first step, values of the ρ and μ vectors for the non-traded sectors in the 38-sector model were calculated. Then, assuming that the composition of inputs from the aggregated sectors was the same for all branches comprising a particular inputoutput sector it was possible to calculate the results for the individual branches. In the course of the analysis it became clear that inconsistent methods had been adopted in compiling the data on inputs, value-added and gross output by branch. Almost certainly this was a consequence of the acceleration of inflation during 1988, which had resulted in different price bases being used for the different components of the standard accounting identity. After reviewing the data it was decided to rely upon the detailed data on purchases of inputs and the composition of value-added, so that the gross output figures were not used. This difficulty, combined with the hyperinflation which occurred during 1989, suggests that it would be advisable to re-estimate the domestic resource costs using data for 1990 in order to establish whether the reform programme has changed the ranking of the various branches.

The data on ratios of world to domestic prices for 1988 were obtained from information on the domestic and world prices of traded items. In view of the limited disaggregation on the input side, an effort was made to obtain separate estimates of the ratios for the main inputs purchased by individual branches. As a result, the vector of price ratios was replaced by a matrix. Once again direct price comparisons were used for fuels and various raw materials.

4. Domestic resource costs

A number of statistics summarizing the results for the three countries are provided in Table 1. The correlations between value-added at world and domestic prices are substantially less than 1, which implies that an analysis of the performance of industries and enterprises at world prices is essential before decisions are made on their future. The distortions in domestic prices are large enough to rule out reliance upon domestic measures of profitability or value-added. On the other hand, the correlations between the full estimate of value-added at world prices and the crude measure based on adjusting the price of output alone are high enough for Czechoslovakia and Hungary to suggest that the crude measure can provide very useful information about competitiveness in these countries at minimal cost. Note that the correlations between value-added and the ratio of world to domestic prices are quite poor, so that it is not sufficient to concentrate on industries whose domestic prices are either well above or well below the equivalent world prices.

Comparative indicators of industrial competitiveness

	Czechoslovakia	Hungary	Poland
Rank correlation coefficients between:			
Value-added at world & domestic prices	0.76	0.60	0.72
Full & crude estimates of value-added at world prices	0.91	0.93	0.83
Value-added at world prices & ratio of world to domestic price	0,83	0,54	0,34
Correlation coefficients weighted by total output:			
Value-added at world & domestic prices	0,72	0,74	0,71
Full & crude estimates of value-added at world prices	0,92	0.94	0,81
Value-added at world prices & ratio of world to domestic price	0,89	0,47	0,54
Average ratios of value-added to domestic value of final output (%, weighted by total output):			
(a) Value-added at world prices	21.2	20,2	14,5
(b) Value-added at domestic prices	33,4	30,1	23,5
(c) Difference	- 12,2	-9,9	-9,0
Distribution of difference between value-added at world and domestic prices relative to the domestic value of final output (%, weighted by total output):			
(a) 90th percentile	6,2	-0,4	1,7
(b) Upper quartile	-2,8	-4,2	-6,2
(c) Median	-11,0	-6,0	-8,7
(d) Lower quartile	-24,7	-13,9	-15,6
(e) 10th percentile	- 33,8	-30,7	-20,2
Percentage of the total output of manufacturing industry in sectors with :			
Negative value-added at world prices	19,0	24,2	23,6
DRCs ¹ less than 1,0	22,4	6,9	10,9
Rank correlations between:			
DRC1 and ratio of labour to capital costs in domestic value-added ²	-0,04	-0,12	-0,18

² Excluding sectors with negative value-added at world prices.

In each country the average ratio of value-added to the domestic output price is much lower at world prices than at domestic prices, so that the average level of domestic resource costs is well above 1,0. In manufacturing industry, between a fifth and a quarter of manufacturing output is produced by branches with negative value-added at world prices. Note that this does not merely mean that such sectors are unprofitable, but that their intermediate inputs, when evaluated in terms of world prices, cost more than the resulting value of output.

Rather surprisingly, only 7% of Hungary's manufacturing output was produced by branches with domestic resource costs less than 1,0, though, as noted in Section 2, this reflects

the level of the exchange rate rather than the proportion of Hungarian industry that may be regarded as being internationally competitive. The share of manufacturing output from branches with domestic resource costs less than 1,0 in Poland was 11% while the corresponding figure for Czechoslovakia was 22,4%. The overall distribution of total manufacturing output by domestic resource costs is shown in Graph 1. This highlights the concentration of Hungarian manufacturing production in sectors with domestic resource costs between 1,0 and 1,5, while Czechoslovakia stands out for the relatively high share of output from sectors with domestic resource costs less than 1,0. The Polish distribution is clearly shifted to the right, that is towards higher domestic resource costs, relative to the distributions for Czechoslovakia and Hungary.



In order to facilitate useful comparisons between the three countries the remaining tables in this paper are based on an aggregation of the original sectors for each country into a common classification of 33 sectors. This aggregation is based on the three-digit ISIC industrial classification, except for the food industry, which plays an important role in our discussion. The standard ISIC classification includes two three-digit food sectors (311 and 312), so to provide more detail these have been split into six subsectors which will be referred to as sectors 301 to 306 here.

More detailed results for the original sectors analysed in each country are included in a set of tables in the Appendix. These tables include lists of the sectors in each country which comprise the top and bottom 25% of manufacturing output in each country ranked in terms of the domestic resource costs indicator defined in Section 2.

Focusing on our standard classification, Table 2 lists the industries in each country which generate negative valueadded at world prices. The first column shows value-added at world prices, the second value-added at domestic prices, in each case as a percentage of the domestic value of final output. There is no evident connection between the two columns, which confirms our general finding that domestic value-added is not highly correlated with value-added at world prices.

Three sectors, all in the food industry, have negative valueadded in all three countries. This is a striking result, since food processing is an important sector both domestically and in international trade for each of our countries. Hence, from a policy standpoint, to find evidence of such poor competitiveness in this area is a matter of great concern. In Czechoslovakia, the entire food industry has negative world value-added toegther with two other industries — tobacco products and leather products. In Hungary, only one other sector has negative world value-added, namely iron and steel. This result is not surprising, since Hungary has to import all of the major inputs required by the sector and has no natural advantages in iron and steel production. Finally, in Poland three other industries turned out to have negative value-added at world prices, namely basic chemicals, cement and non-ferrous metallurgy. As discussed below, distorted energy prices explain a large part of the differences between domestic and world value-added for these industries.

Table 3 lists those industries with domestic resource costs less than 1,0 in each country, which appear to be most competitive in terms of world prices. The Czechoslovak branches have domestic resource costs which are close to 1,0 except for plastic products and non-ferrous metallurgy, whereas there is much greater variation among the most competitive Hungarian industries which consist of some traditional light indutry and some building materials. For Poland four of the industries listed have very low domestic resource costs, including two food-processing branches,

Table 2

Industries with negative value-added at world prices

(based on ISIC industrial classification)

	Ratio of value-added to domestic value of final output (%)		
	at world prices	at domestic prices	
Czechoslovakia			
Meat, fish & dairy products	-16,4	9,3	
Fruit & vegetable products	-9,9	28,9	
Oils & fats	- 18,6	14,3	
Cereal products	-2,2	22,5	
Sugar & confectionery	- 4,8	23,1	
Beverages	- 7,9	30,9	
Tobacco products	-21,0	17,5	
Leather products	-0,9	27,8	
Hungary			
Meat, fish & dairy products	- 5,6	1,4	
Fruit & vegetable products	-7,7	4,4	
Oils & fats	-4,5	5,2	
Iron & steel	-4,2	26,4	
Poland			
Meat, fish & dairy products	-2,3	9,9	
Fruit & vegetable products	-13,0	26,1	
Oils & fats	-3,6	5,7	
Basic chemicals	-0,6	19,1	
Cement	-15,3	19,7	
Non-ferrous metals	- 6,9	1,8	

Industries with domestic resource costs (DRC) less than 1,0 (based on ISIC industrial classification)

	Ratio of value-added to dor	Ratio of value-added to domestic value of final output (%)	
	world prices	domestic prices	
Czechoslovakia			
Plastic products	42,6	37,6	0,88
Pottery & chinaware	57,7	56,1	0,97
Glass & glassware	50,2	48,8	0,97
Non-ferrous metallurgy	29,1	23,0	0,79
Machinery	42,6	39,6	0,93
Transport equipment	31,6	31,3	0,99
Other manufactures	42,7	42,3	0,99
Hungary			
Clothing	48,4	37,8	0,78
Leather products	41,1	27,0	0,66
Footwear	49,4	26,5	0,54
Wood products	43,7	39,3	0,90
Cement	44,4	33,7	0,76
Structural clay products	35,5	31,4	0,88
Poland			
Cereal products	47,7	10.2	0,21
Other foodstuffs	28,9	7.6	0,26
Tobacco products	15,1	8,5	0,56
Printing	180,5	93,6	0,52
Instruments, etc.	57,4	53,3	0,93

while instruments and precision engineering has a domestic resource cost that is just below 1,0.

The more detailed sectoral results presented in the Appendix tables confirm that most of the food-processing industry performs poorly in each country, though it is weakest in Czechoslovakia. At the top of the ranking in terms of the domestic resource costs indicator are several engineering sectors in Czechoslovakia, while for Hungary it is light industry, building materials and the more sophisticated parts of heavy industry which stand out. No clear pattern for Poland emerges from the distribution of sectors in the lists of the strongest and weakest sectors in terms of their domestic resource costs.

The full set of domestic resource costs by industry and country is listed in Table 4. Recall from Section 2 that industries with negative domestic resource costs are the ones with negative value-added at world prices; they are, therefore, the least competitive branches. Of the remaining branches, those with domestic resource costs greater than

1,0 have positive value-added, but their domestic valueadded exceeds their world value-added. Since competitiveness is fundamentally a relative matter and the average domestic resource costs for the manufacturing sectors in each country are close to 1,5, one may regard branches with domestic resource costs of less than 1,5 as displaying a relatively good performance, while those with domestic resource costs substantially greater than 2 are clearly very weak performers. The fact that the average domestic resource costs are well above 1,0 supports the view that each country had an exchange rate which was substantially overvalued. The extent of the overvaluation cannot be inferred directly from the average domestic resource costs because account has to be taken of imports and exports of non-manufactured goods. but in later work we will explore the impact of changes in exchange rates on the level of the average domestic resource costs.

While the correspondence is not exact, it appears from studying Table 4 that there are similarities among the three countries in the ranking of industries by relative competi-
Domestic resource costs by industry for Czechoslovakia, Hungary & Poland

Code	Industry	Czechoslovakia	Hungary	Poland
	All industries	1,58	1,49	1,62
301	Meat, fish & dairy products	-0,56	-0,26	-4,29
302	Fruit & vegetable products	-2,92	-0,57	-2,00
303	Oils & fats	-0,77	-1,17	-1,60
304	Cereal products	-10,04	1,21	0,21
305	Sugar & confectionery	-4,83	5,03	1,93
306	Other foodstuffs	30,53		0,26
313	Beverages	- 3,91	2,53	1,50
314	Tobacco products	-0,83	1,66	0,56
321	Textiles	3,96	2,07	1,44
322	Clothing	1,37	0,78	1,40
323	Leather products	-31,74	0,66	1,37
324	Footwear	1,12	0,54	2,27
331	Wood products	1,30	0,90	1,61
332	Wooden furniture	17,24	7,20	1,44
341	Paper products	1,10	1,16	4,25
342	Printing	2,49	1,46	0,52
351	Basic chemicals	1,97	1,73	-30,50
352	Other chemicals	12,32	1,11	1,32
355	Rubber products	1,35	1,37	1,46
356	Plastic products	0,88	1,68	1,33
361	Pottery & chinaware	0,97	2,01	1,32
362	Glass & glassware	0,97	1,15	1,71
363	Cement	2,49	0,76	-1,29
364	Structural clay products	1,86	0,88	1,56
369	Other non-metal mineral products	2.07	1,19	3,56
371	Ferrous metallurgy	1,23	-6,22	1,70
372	Non-ferrous metallurgy	0,79	7,98	-0,26
381	Manufactured metal products	1,89	1,15	1,30
382	Machinery	0,93	1,15	1.21
383	Electrical equipment	4,78	1,27	1,59
384	Transport equipment	0,99	1,27	2.20
385	Instruments, etc.	1,33	1,10	0.93
390	Other manufactures	0,99	1.25	1,43

tiveness. The poor performance of the food-processing industry in all three countries has already been noted, while industries such as clothing, wood products, rubber products, machinery and instruments and precision engineering have below-average domestic resource costs in each country. However, an analysis of the rank correlations of the domestic resource costs indicators for the industries across pairs of countries shows that the degree of similarity in the different country rankings is surprisingly low. The highest rank correlation is 0,30 between Czechoslovakia and Hungary, while that between Czechoslovakia and Poland is -0,02. Thus, there should not be a serious danger that when decisions are made about industrial policy the same branches could be picked out in each country for investment or retrenchment.

We have investigated the sensitivity of the estimates of domestic resource costs to two sets of assumptions about the relationship between world and domestic prices in order to highlight some of the factors that determine the differences between value-added at domestic and world prices.

4.1. Energy prices

Throughout Eastern Europe energy prices have typically been set at a fraction of their world market level, especially for indigenously produced energy sources such as coal and electricity, but also for imported sources such as oil and gas.⁷ The composition of industrial output is, therefore, biased towards energy-intensive activities including metallurgy and building materials, while the effective pressure for greater fuel efficiency in all industries has been minimal. The ratios of world to domestic prices used in computing valueadded at world prices are highest for those sectors supplying energy inputs to the industrial sector, so we have estimated the separate contributions of adjustments in energy and nonenergy prices to the difference between world and domestic value-added.

The gap between domestic and world energy prices was largest for Poland and smallest for Hungary. This is reflected in the estimate that fuel prices account for 117% of the difference between the value-added for all manufacturing industries combined at domestic prices and at world prices in Poland but only 30% and 22% in Czechoslovakia and Hungary, respectively. If we adjust all prices other than energy prices to their world market level, the total valueadded by Polish industries would increase from an average of 23,5% of the domestic value of output at domestic prices to 25% at world prices other than for energy. At the full set of world prices the ratio of value added to the domestic value of output is only 14,5%, so that energy price adjustments will absorb 10,5% of the total value of the output of manufacturing industries in Poland. The role of energy price adjustments is significant in the other two countries, but they do not dominate the change from domestic to world prices as in Poland. For Czechoslovakia, fuel prices account for a reduction in the share of value-added in the domestic value of manufacturing output from 24,9% to 21,2%, while for Hungary the equivalent reduction is from 22,3% to 20,2%.

The branches which are most affected by the adjustment in fuel prices are fairly predictable. In Czechoslovakia there are six industries for which fuel prices account for both a change of at least five percentage points in the share of value-added and at least 50 % of the total difference between domestic and world value-added. These industries are paper products, pottery, glass, structural clay products, other nonmetallic mineral products and ferrous metallurgy. In Hungary four industries — cement, structural clay products, ferrous and non-ferrous metallurgy — meet the same criteria. All of these industries are conventionally regarded as being energy-intensive, and it is no surprise that they have benefited greatly from the distortions to energy prices. For Poland the impact of the distortions in fuel prices has been much wider. Light industries including sugar, beverages, textiles, wood products, wood furniture, and precision engineering satisfy the criteria specified above, as well as all of the heavy industrial sectors. The adjustment to fuel prices accounts for more than 100% of the difference between domestic and world value-added for 16 out of 33 industries, including all of the chemicals, building materials and metallurgy sectors, plus most of the engineering sectors. It is clear that energy consumption and fuel prices are a major determinant of the competitiveness of large sections of Polish industry.

4.2. The quality of output

We have noted above that the ratios of world to domestic prices used in our analysis may be biased upwards by the lack of data which would have enabled us to control for quality differences between domestic production and competing products in world markets. Unfortunately, the extent of the bias may vary greatly across sectors, because any quality differences for basic industrial products such as steel or copper bars, standard chemicals, cement, and textile yarn or fabrics are likely to be much less than those for sophisticated engineering and consumer products. It follows that any careful investigation of the effect of quality biases must await the collection of more detailed information on a sectorby-sector basis. Instead, we have attempted to assess how a systematic bias in our world to domestic price ratios across sectors would affect the results that have been reported. For this purpose we have examined the impact on estimated world value-added and domestic resource costs of a 25% reduction in these price ratios for all sectors other than fuels. These last were excluded from the adjustment because direct price comparisons were used to obtain the price ratios for the energy sectors.

The reduction in the world price ratios leads, of course, to a substantial fall in the average ratio of world value-added to the domestic value of output. The average ratios for all manufacturing fall from 21,2 to 9,5% in Czechoslovakia, from 20,2 to 6,4% in Hungary, and from 14,3 to 6,3% in Poland. The shares of output produced by industries which generate negative value-added at world prices increase to 34% in Czechoslovakia, 35,5% in Hungary and 38,9% in Poland. These rises are rather smaller than might have been anticipated, and they suggest that our conclusions should be reasonably robust with respect to smaller adjustments in the world price ratios resulting from more plausible quality differentials. The main industries which shift to generating negative world value-added after the quality adjustment include basic chemicals, other chemicals, and cement in Czechoslovakia, basic chemicals and non-ferrous metallurgy

⁷ Note that in the late 1980s, including the years to which our data refer, the Soviet Union was still supplying Eastern Europe with very large quantities of oil and gas at subsidized prices. Since the beginning of 1991, this is no longer the case.

in Hungary, and paper products, miscellaneous non-metallic mineral products and ferrous metallurgy in Poland. These are industries which tend to produce fairly standardized products — except, perhaps, paper products and other chemicals — so that the quality adjustment gives an unduly pessimistic view of their performance. It is unlikely that these industries are really producing negative value-added at world prices though they were ranked as having domestic resource costs above the average for the countries concerned.

The fall in average world value-added for manufacturing in each country means that the average domestic resource costs rise sharply. The quality adjustment increases the average domestic resource costs for Czechoslovakia from 1,58 to 3,53, while for Hungary the increase is from 1,49 to 4,69 and for Poland from 1,62 to 3,74. The change is particularly significant in Hungary because of the large fall in the share of world value-added in the domestic value of output. These increases show that the levels of domestic resource costs in each country are rather sensitive to any factor adjusting for quality differences. On the other hand, the rankings of industries according to their domestic resource costs, which are the key indicators of relative performance, are little affected by the adjustment, so that our general conclusions about the relative performance of different industries remain valid.

5. The determinants of competitiveness

The results of our analysis may be used to identify those sectors which should be the focus of the initial restructuring that will be taking place in the industrial sectors of all three countries. However, we must emphasize the caveats about the quality of the data and the limitations of the analysis presented here. At best our conclusions apply to industrial sectors and not to the individual enterprises within them, so that the analysis must be backed up by specific investigations of the competitiveness of establishments and enterprises before final decisions are made. Our assumptions about the ratios of world to domestic prices and the quality of output have been designed to present the most favourable picture of the performance of different sectors, so that we will concentrate initially on those at the bottom of the ranking in terms of the domestic resource cost indicator.

It is interesting to note the poor performance of the foodprocessing sector in all three countries. This is especially marked in Czechoslovakia, but it is disappointing to find that several of the sub-branches of food processing in Hungary and Poland also generate negative value-added at world prices. Since quality is an important aspect of many food products, it appears that major changes will be required in this branch of the manufacturing sector if it is to make the significant contribution to net export earnings that had been expected by both governments and lending institutions.

Given the importance of this sector for all three countries, it is useful to consider possible external policy changes which might influence the relevant world prices for Eastern Europe. European food prices are strongly influenced by the European Community's common agricultural policy (CAP), which supports prices of all the main agricultural commodities, and in the late 1980s East European agricultural exports into the EC were subject to highly restrictive quotas. Since 1990, EC restrictions against Eastern agricultural exports have been relaxed, and the process of liberalization is expected to continue. As a result the realized world price of East European agricultural exports should rise, even if the reforms of the CAP currently under discussion lower the differentials between relatively high EC prices and the general level of world prices for agricultural products. This will penalize the food-processing sector by increasing the world prices of the inputs which it purchases for processing.

By raising domestic prices of agricultural products within Europe, the CAP tends to generate negative effective protection for the EC food-processing sector, which is, therefore, smaller than it might otherwise be. If the EC food-processing sector expands as a result of reforms to the CAP, the result will be more competition in the supply of processed foods to the European markets so that the relevant world prices for the output of the East European food-processing industries will tend to be lower than at present. Thus, on both the input and the output sides the impact of reforms to the CAP will tend to reduce the value-added at world prices generated by the food-processing sectors of all three countries. The net effect will be to make the food-processing industries appear even less viable than they do at the prices used in the study.

Outside of agriculture and the food industry, many of the other industries with high or negative domestic resource costs are energy-intensive industries which have been protected until now by low energy prices. The role of fuel prices in determining the pattern of domestic resource costs was discussed in the previous section. In a later paper we will provide a fuller analysis of the role of energy costs as an influence on the relative competitiveness of the industries which have been investigated.

Table 5 shows the ratio of labour costs (including social security and similar taxes) to world value-added by industry. Values are missing for industries with negative value-added at world prices. There is, of course, a correlation between high domestic resource costs and high values for this ratio. It is more interesting to interpret these figures as signalling the relative changes either in real wages or in labour productivity that must accompany a successful programme of

Labour cost as a percentage of world value-added by industry - Czechoslovakia, Hungary & Poland

Code	Industry	Czechoslovakia	Hungary	Poland
	All industries	56.9	79.0	127.9
301	Meat fish & dairy products	50,5	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	121,5
302	Fruit & vegetable products			
303	Oils & fats			
304	Cereal products		64.0	17.7
305	Sugar & confectionery		200.2	145.2
306	Other foodstuffs	1 063 9	200,2	28.4
313	Reverages	1 00033	137.0	86.5
314	Tobacco products		77.6	54.4
321	Textiles	167.0	129.2	126.5
322	Clothing	74.8	56.4	118.2
323	Leather products		41.3	128.7
324	Footwear	57.7	45.9	187.7
331	Wood products	52.6	42.8	140.4
332	Wooden furniture	857.4	400.9	121.6
341	Paper products	35.8	43.6	308.0
342	Printing	165.7	74.0	42.2
351	Basic chemicals	39.9	51.8	,_
352	Other chemicals	284.6	32.4	103.7
355	Rubber products	40.2	53.4	119.4
356	Plastic products	19.8	59.0	122,3
361	Pottery & chinaware	44.8	105.7	108.5
362	Glass & glassware	47.9	62,7	157,7
363	Cement	100.3	35,6	
364	Structural clay products	69,1	64,0	118,2
369	Other non-metal mineral products	76,3	57,6	298,8
371	Ferrous metallurgy	26,6		105,4
372	Non-ferrous metallurgy	17,7	260,3	
381	Manufactured metal products	64,5	61,5	103,9
382	Machinery	37,0	61,0	97,9
383	Electrical equipment	159,3	61,2	136,7
384	Transport equipment	32,5	71,5	143,6
385	Instruments, etc.	65,2	51,5	77,0
390	Other manufactures	48,6	72,0	120,2
Neres No.				

industrial restructuring. The results are most striking for Poland where the average ratio for all industries with positive world value-added is 127,9, which means that for the industrial sector as a whole labour costs exceed world valueadded. It is hardly surprising that industrial unemployment in Poland rose rapidly after the implementation of the reform programme in January 1990, and it must be expected that the process of shedding labour will be lengthy and very painful. The average ratio is quite high for Hungary, where the main problems are in various engineering and heavy industrial activities. Textiles are a major problem in all three countries, as too is wooden furniture, though this is much less important. The high ratios of labour costs to world value-added in other chemicals and electrical equipment in Czechoslovakia are disappointing because these industries tend to have a high value of output per worker in most market industrial economies.

It is difficult to take account of capital costs in comparing industrial performance in these countries because of the unsatisfactory nature of the prevailing accounting rules and the differential impact of inflation on capital values. To provide a crude indicator, Table 6 supplements the data in the previous table by adding depreciation costs to labour costs expressed relative to world value-added. The picture is broadly similar, with depreciation costs representing between 17 and 20% of world value-added in each country. This ratio is surprisingly low for metallurgy, machinery and transport equipment in Czechoslovakia, which suggests that it may have a clear comparative advantage in these indus-

Labour plus depreciation cost as a percentage of world value-added by industry - Czechoslovakia, Hungary & Poland

Code	Industry	Czechoslovakia	Hungary	Poland
	All industries	76.2	96.1	146.1
301	Meat fish & dairy products	,0,2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	110,1
302	Fruit & vegetable products			
303	Oils & fats	•	-	
304	Cereal products	•	77.4	20.6
305	Sugar & confectionery		263.1	170.5
306	Other foodstuffs	1 669 7	200,1	33.2
313	Beverages	1.000,1	182.7	99.2
314	Tobacco products		90.3	59.9
321	Textiles	214.3	150.0	140.0
322	Clothing	82.4	59.9	121.2
323	Leather products		44.8	135.6
324	Footwear	64.5	49.1	193.2
331	Wood products	72.0	51.9	158.8
332	Wooden furniture	1 035.2	451.2	129.1
341	Paper products	60.2	60.6	418.5
342	Printing	198,7	94.2	46,5
351	Basic chemicals	78,5	79,9	
352	Other chemicals	427,7	43,3	117,3
355	Rubber products	60,8	66,8	138,3
356	Plastic products	33,8	77,9	138,3
361	Pottery & chinaware	57,9	126,7	121,3
362	Glass & glassware	61,9	75,2	171,5
363	Cement	139,7	63,4	•
364	Structural clay products	105,2	84,8	133,7
369	Other non-metal mineral products	115,1	74,8	343,3
371	Ferrous metallurgy	41,7		138,1
372	Non-ferrous metallurgy	25,9	384,5	
381	Manufactured metal products	82,7	70,2	118,2
382	Machinery	46,3	69,0	110,0
383	Electrical equipment	198,1	70,5	151,7
384	Transport equipment	41,7	86,2	167,0
385	Instruments, etc.	79,0	58,6	81,8
390	Other manufactures	57,7	77,9	135,3

tries. For Poland the picture is dominated by the high level of labour costs, while Hungary's comparative advantage would seem to lie in light industrial sectors, including other chemicals, clothing and footwear, and precision engineering.

Economists and others have suggested that the combination of low wage levels and a relatively skilled work force should mean that East European countries will have a comparative advantage in industries which require large inputs of skilled labour relative to unskilled labour and to capital (for instance, see CEPR, 1990). It is not possible to test this hypothesis directly, but the figures on the ratio of labour costs to other domestic value-added by industry in Table 7 shed some light upon the link between labour-intensity and competitiveness. As noted above, the data on capital costs are affected by price distortions, but the table provides a broad indication of relative labour-intensity of these industries in the three countries.

Food-processing apart, there is no clear pattern to the ranking of industries by this indicator of the labour-to-capital ratio and their ranking by domestic resource costs. Industries with favourable domestic resource costs in Czechoslovakia include pottery, glass and miscellaneous manufacturing, which appear to be relatively labour-intensive, and also plastic products and non-ferrous metallurgy, which are relatively capital-intensive. The Hungarian industries with low domestic resource costs include labour-intensive industries such as clothing, leather products and footwear, but also cement and wood products, which are more capital-inten-

Ratio of labour value-added to depreciation and surplus by industry - Czechoslovakia, Hungary & Poland

Code	Industry	Czechoslovakia	Hungary	Poland
	All industries	0,57	1,13	2,04
301	Meat, fish & dairy products	0.63		1,58
302	Fruit & vegetable products	0,48		1,52
303	Oils & fats	0,40		0,91
304	Cereal products	0,61	1,12	1,28
305	Sugar & confectionery	0,70	0,66	1,55
306	Other foodstuffs	0,53		1,46
313	Beverages	0,46	1,18	0,86
314	Tobacco products	0,39	0,88	2,17
321	Textiles	0,73	1,65	3,28
322	Clothing	1,19	2,61	4,74
323	Leather products	0,97	1,69	5,45
324	Footwear	1,06	5,90	3,66
331	Wood products	0,68	0,91	2,32
332	Wooden furniture	0,99	1,26	3,49
341	Paper products	0,48	0,60	1,16
342	Printing	1,98	1,03	4,28
351	Basic chemicals	0,25	0,43	1,06
352	Other chemicals	0,30	0,41	1,48
355	Rubber products	0,42	0,64	1,96
356	Plastic products	0,29	0,54	2,09
361	Pottery & chinaware	0,86	1,11	3,35
362	Glass & glassware	0,97	1,21	3,30
363	Cement	0,67	0,88	1,25
364	Structural clay products	0,59	2,62	1,97
369	Other non-metal mineral products	0,58	0,94	1,95
371	Ferrous metallurgy	0,28	0,96	1,11
372	Non-ferrous metallurgy	0,29	0,48	3,89
381	Manufactured metal products	0,52	1,14	2,72
382	Machinery	0,66	1,12	2,60
383	Electrical equipment	0,50	0,93	2,87
384	Transport equipment	0,49	1,30	1,35
385	Instruments, etc.	0,97	0,88	3,74
390	Other manufactures	0,96	1,37	3,81

Note: No values are reported for industries with negative values of depreciation costs and surplus.

sive. For Poland the most interesting result is that nonferrous metallurgy, which generates negative world valueadded, has a labour-capital ratio nearly twice the average for all industries, whereas this industry has a ratio of about half the average in the other two countries. A possible inference is that one needs to look for industries whose ranking by the labour-capital ratio in one country differs substantially from that in other countries. Unfortunately, detailed comparisons do not bear out this simple hypothesis, since industries such as electrical equipment in Poland and transport equipment in Hungary also stand out as having above average labour-capital ratios but their domestic resource costs are below the country averages. With better data we hope that it may possible to investigate an alternative hypothesis which might explain such cases.

The general correlation between the rankings of industries by domestic resource costs and by labour-capital ratio is negative for each country, being practically zero for Czechoslovakia and quite small for the other two countries, as shown in the final line of Table 1. The average ratios of labour costs to other value-added confirm the previous finding that labour costs are very high in Poland. The differences might, of course, be explained by differences in wage levels, but these are highest in Czechoslovakia and lowest in Poland. Thus, if roughly similar technologies are in use in the three countries, it follows that either Poland must have far more overmanning and lower labour productivity than the other two countries, or the typical return on capital built into domestic prices must be lower.

Value-added at world prices as a percentage of world price by industry - Czechoslovakia, Hungary & Poland

Code	Industry	Czechoslovakia	Hungary	Poland
	All industries	21,5	20,4	14,2
301	Meat, fish & dairy products	- 33,2	- 5,5	-3,0
302	Fruit & vegetable products	- 19,4	-8,1	-23,5
303	Oils & fats	-30,4	-4,5	-4,5
304	Cereal products	-4,0	21,8	35,7
305	Sugar & confectionery	-7,1	5,7	10,8
306	Other foodstuffs	0,5		26,8
313	Beverages	-13,7	11,0	11,5
314	Tobacco products	- 29,9	11,9	13,4
321	Textiles	10,9	16,9	19,3
322	Clothing	32,1	44,0	40,8
323	Leather products	-1,4	34,2	14,6
324	Footwear	36,8	38,0	18,9
331	Wood products	26,1	37,4	13,6
332	Wooden furniture	2,9	8,2	30,2
341	Paper products	29,0	25,1	4,7
342	Printing	14,2	22,9	93,3
351	Basic chemicals	13,6	17,0	-0,6
352	Other chemicals	2,8	34,3	12,4
355	Rubber products	21,8	27,4	14,7
356	Plastic products	34,3	26,5	17,0
361	Pottery & chinaware	47,7	31,2	34,6
362	Glass & glassware	40,6	34,3	21,0
363	Cement	10,6	34,2	-11,2
364	Structural clay products	23.0	29,6	23,3
369	Other non-metal mineral products	18.5	29,6	7,4
371	Ferrous metallurgy	25.9	-5,0	8,7
372	Non-ferrous metallurgy	19.7	3,1	-6,7
381	Manufactured metal products	21.5	32,4	25,3
382	Machinery	36.4	36,5	26,6
383	Electrical equipment	10.6	33,7	17,7
384	Transport equipment	26.9	22,5	13,9
385	Instruments, etc.	40.4	45.3	51,4
390	Other manufactures	38.0	45,0	36.9

The last set of tables — Tables 8, 9 and 10 — express valueadded at world prices and its components relative to world prices. These figures provide a basis for comparing the performance of specific industries across the three countries since the divisor — the world price of output — is identical for each country. For a given industry the country with the largest ratio of value-added at world prices to the world price is able to support the highest real level of factor payments in the form of employment, real wages or payment for capital services. Consider, for example, the textile industry. According to Table 4, the domestic resource cost of textiles output in Poland is below the average for all Polish industrial production, whereas the domestic resource cost of Czechoslovak output is much higher than that country's average. Table 8 reinforces this pattern as it shows the proportion of the world value of output available for making factor payments is nearly twice as high in Poland as the share for Czechoslovakia.

It should not be assumed that value-added at world prices relative to the world price simply reflects the domestic resource costs which are shown in Table 4. The machinery industry has domestic resource costs of 0,93, 1,15 and 1,21 for Czechoslovakia, Hungary and Poland respectively. These domestic resource costs are well below the average domestic resource costs for each country, but the advantage would

Value-added at world prices less labour costs as a percentage of world price by industry - Czechoslovakia, Hungary & Poland

Code	Industry	Czechoslovakia	Hungary	Poland
	All industries	9,2	4.3	-3.9
301	Meat, fish & dairy products	-40,5	-15.4	-13,7
302	Fruit & vegetable products	-37,9	-23,6	- 56,4
303	Oils & fats	-37,1	-11,0	-10,0
304	Cereal products	-19,5	7,8	29,4
305	Sugar & confectionery	-21,2	-5,8	-4,9
306	Other foodstuffs	-4,9		19,2
313	Beverages	-30,5	-4,1	1,6
314	Tobacco products	- 36,8	2,7	6,1
321	Textiles	-7,3	-4,9	-5,1
322	Clothing	8,1	19,2	-7,4
323	Leather products	-23,0	20,1	-4,2
324	Footwear	15,5	20,6	-16,6
331	Wood products	12,4	21,4	-5,5
332	Wooden furniture	-22,3	-24,8	-6,5
341	Paper products	18,6	14,2	-9,8
342	Printing	-9,3	5,9	54,0
351	Basic chemicals	8,2	8,2	-11,5
352	Other chemicals	-5,1	23,2	-0,5
355	Rubber products	13,1	12,8	-2,9
356	Plastic products	27,5	10,9	-3,8
361	Pottery & chinaware	26,3	-1,8	-2,9
362	Glass & glassware	21,2	12,8	-12,1
363	Cement	-0,0	22,0	-24,1
364	Structural clay products	7,1	10,7	-4,2
369	Other non-metal mineral products	4,4	12,6	-14,6
371	Ferrous metallurgy	19,0	-20,2	-0,5
372	Non-ferrous metallurgy	16,2	-4,9	-10,1
381	Manufactured metal products	7,6	12,5	-1,0
382	Machinery	22,9	14,2	0,5
383	Electrical equipment	-6,3	13,1	-6,5
384	Transport equipment	18,2	6,4	-6,0
385	Instruments, etc.	14,0	22,0	11,8
390	Other manufactures	19,5	12,6	-7,5
385 390	Instruments, etc. Other manufactures	16,2 14,0 19,5	22,0 12,6	-6,0 11,8 -7,5

Note: There were no sectors classified as industry code 306 in the Hungarian input-output table.

appear to lie with Czechoslovakia with less separating the other two countries. However, the shares in Table 8 are 36,4, 36,5 and 26,6%, which imply that real factor returns in Czechoslovakia and Hungary are almost identical, while it is Poland that stands out as having a lower return. On the basis of this criterion, Hungary seems to have the best prospects in many of the industries examined. It has the highest shares for clothing, leather products, footwear, wood products, chemicals, rubber products, building materials, manufactured metal products and electrical equipment. The foodprocessing sector is especially weak in Czechoslovakia, which, however, has the highest shares in plastic products, pottery, glass and various heavy industries, including metallurgy and transport equipment. Poland has the lowest average ratio of world value-added to world price with an advan-

tage in a relatively small number of light industries including some foodprocessing, textiles and wooden furniture.

The analysis may be extended by focusing on the share of world price which is available to cover capital costs after meeting labour costs; the figures are shown in Table 9. The higher the labour productivity relative to wage levels, the larger the share of world value-added available for payments to capital. The small difference between the average shares for Czechoslovakia and Hungary in Table 8 is substantially larger after labour costs have been deducted from valueadded. This is highlighted by the basic chemicals and machinery industries, for which Hungary's position relative to Czechoslovakia's is much less favourable in terms of its ability to meet capital costs than in terms of total world

Value-added at world prices less labour costs and depreciation as a percentage of world price by industry — Czechoslovakia, Hungary & Poland

Code	Industry	Czechoslovakia	Hungary	Poland
	All industries	5,1	0,8	-6,5
301	Meat, fish & dairy products	-43,9	-17.9	-15,2
302	Fruit & vegetable products	-47,3	-27,4	-60,5
303	Oils & fats	-40,7	-13,6	-10,9
304	Cereal products	- 24,9	4,9	28,4
305	Sugar & confectionery	-28,2	-9,4	-7,6
306	Other foodstuffs	-7,9		17,9
313	Beverages	-40,4	-9,1	0,1
314	Tobacco products	- 39,7	1,2	5,4
321	Textiles	-12,4	-8,5	-7,7
322	Clothing	5,6	17,7	-8,6
323	Leather products	-26,0	18,9	-5,2
324	Footwear	13,0	19,3	-17,6
331	Wood products	7,3	18,0	-8,0
332	Wooden furniture	-27,6	-28,9	-8,8
341	Paper products	11,5	9,9	-15,0
342	Printing	-14,0	1,3	49,9
351	Basic chemicals	2,9	3,4	-15,0
352	Other chemicals	-9,1	19,4	-2,1
355	Rubber products	8,5	9,1	- 5,6
356	Plastic products	22,7	5,8	-6,5
361	Pottery & chinaware	20,1	-8,3	-7,3
362	Glass & glassware	15,5	8,5	-15,0
363	Cement	-4,2	12,5	-27,9
364	Structural clay products	-1,2	4,5	-7,8
369	Other non-metal mineral products	-2,8	7,5	-17,9
371	Ferrous metallurgy	15,1	-24,2	-3,3
372	Non-ferrous metallurgy	14,6	-8,8	-11,2
381	Manufactured metal products	3,7	9,7	-4,6
382	Machinery	19,6	11,3	-2,7
383	Electrical equipment	-10,4	9,9	-9,2
384	Transport equipment	15,7	3,1	-9,3
385	Instruments, etc.	8,5	18,7	9,3
390	Other manufactures	16,1	9,9	-13,0

Note: There were no sectors classified as industry code 306 in the Hungarian input-output table.

value-added, because of the higher share of labour costs relative to world price in Hungary. Comparison of the results in Tables 8 and 9 reinforces our previous conclusions about the high level of labour costs in Poland, so that there can be little doubt that labour productivity in Polish industry generally is well below that in the other two countries.

Table 10 completes the picture by detailing world valueadded minus labour and depreciation costs relative to world price by industry, which should represent the return to the capital invested in each industry. The overall results are similar to those in Table 9, since depreciation costs for a particular industry seem to absorb fairly similar proportions of the world price in each country. This should imply that differences in the ratios given in Table 10 represent real differences in the return to capital rather than merely differences in accounting conventions. On this assumption, Poland faces major problems in most industries other than some foodprocessing, while Czechoslovakia is generally strong in engineering and heavy industry and Hungary stands out in light industry, building materials and precision engineering.

6. Conclusions

The purpose of this paper was to establish a methodology for calculating a set of indicators of the viability of individual branches in an economy, and to apply this to the economies of Eastern Europe using data for the late 1980s. The chosen indicators were domestic resource costs, namely the ratios between branch value-added in domestic prices, and branch value-added in world prices (as in Equation (5)). Detailed calculations were carried out for three countries, namely Czechoslovakia, Hungary and Poland.

The results obtained indicate that, despite various practical problems with the data (referred to in Section 3), the proposed methodology is not only feasible but also highly revealing. As is clear from the discussion in Sections 4 and 5, many of the specific results could not have been obtained using an analysis based on domestic prices alone, nor even from a crude recalculation of value-added which corrected the price of output but nothing else (as in Equation (6)).

Hence, in our view, it is worth while to follow up this early study with more detailed analysis, either using a more disaggregated input-output table, or using enterprise level data. It will also be useful to investigate the effects of alternative views on the shadow pricing of primary input factors, especially labour and, if possible, capital.

To sum up the results of the present stage of the work: firstly, some clear results emerge as to the branches or sectors which are competitive and those which are not. There is some overlapping between countries, but in most instances the three countries do not appear to be competitive in the same areas. This is a conclusion that may need to be reexamined when we proceed to the more detailed analysis mentioned above. Secondly, there is unmistakable evidence of significant productivity differences between countries, with Polish unit labour costs looking especially high across the board. Thirdly, the results indicate that exchange rates were generally over-valued in the late 1980s, since in the absence of subsidies and direct controls, not enough of the exports of any of the three countries would have been profitable at world market prices.

As explained at several points in the paper, data for this study referred to 1987 or 1988. Since then, all three countries have undergone a substantial degree of trade and price liberalization, Hungary essentially following trends already under way in 1988, Poland with its dramatic liberalization of January 1990 (the so-called 'shock therapy'), and Czechoslovakia introducing the first major steps in its liberalizing reform programme in January 1991. Given this, it might be argued that the sort of competitiveness study reported in this paper might no longer be useful. Surely one should be able to rely on the actual market prices (either immediately or very soon) to provide proper signals and hence to serve as a sufficient guide to the viability of any given enterprise (or branch of production). This argument, however, is wrong, for several important reasons.

Firstly, although many subsidies have been or are being removed in all three countries, there still remain some significant distortions resulting from those taxes and subsidies not yet eliminated, and sometimes even from new ones. There are plans to eliminate most distortions over the next few years, but for the time being, existing market prices do not correspond to long-term competitive prices (though they undoubtedly represent an enormous improvement over the old price systems). Secondly, a similar point can be made about international transactions. Again, there has been substantial liberalization, as well as a highly disruptive shift of each country's former rouble trade to a hard-currency, world-price basis. But systems of import duties are still quite complex, and this, together with remaining quantitative controls, means that domestic price structures do not yet correspond to the relative prices in international markets. Hence domestic prices still give misleading signals about enterprise viability.

Thirdly, since privatization and demonopolization have both progressed rather slowly so far, the structure of production in all three countries is still very concentrated. In practice, this gives many firms the chance to exploit their monopoly power by setting extremely high prices. In time this will be restrained by import competition (once the structure of tariffs has been rationalized) or by new entry into various markets. But probably for several years, domestic pricing structures will be distorted by monopoly power.

While these three points explain why domestic prices in Eastern Europe are still likely to provide misleading signals, there are further reasons for using the approach envisaged in this paper. These have to do with the weaknesses of market forces (whether or not the price signals are in some sense 'right') and with institutional weaknesses in the financial sectors of each country. As to the former, our results show that even in a country like Hungary, which supposedly had been moving towards a market economy for several years and where the remaining distortions were smallest, there was still a long way to go before production could be said to have adapted properly to the structure of relative prices. For the other two countries, the distance is correspondingly further, and it would be naïve in the extreme to imagine that more than modest progress in the right direction had occurred in the last two years. The incentives

for enterprises to minimize their costs and to redirect their production in profitable directions are undoubtedly far stronger than in the past, but most firms have simply not had time to adjust and re-equip themselves.

As regards institutional weaknesses in the financial sectors, reliance on market forces to bring about the required restructuring of East European industry entails relying on the financial institutions, especially the banks, to make correct judgements about the long-term viability of different firms (or even entire branches). Moreover, these judgements must be accompanied by the ready availability of investment and other credits to firms with good long-term prospects, and the withdrawal of financial support from those which should contract or close down. Under the present circumstances, however, there is no guarantee that the financial institutions will be able to carry out this essential function (although with a few years of experience, they will no doubt learn to do so). It is far more likely that short-term cash-flow problems might force the closure of potentially viable firms, while remaining distortions (including the abuse of monopoly positions) could allow inefficient firms to survive and even to expand.

Finally, while many who support an immedite 'shift to the market' are doubtful about the State's ability to conduct a sensible industrial policy (and also doubt the desirability of any State intervention in economic life), the reality is that, come what may, some form of industrial policy will emerge in Eastern Europe, if only to limit the short-term unemployment and other damaging side-effects associated with essential structural adjustment programmes. One possibility, which could very easily materialize, is that such an industrial policy could result from lobbying by special interest groups and various political pressures.

Another possibility, which we strongly advocate, is that industrial policy in Eastern Europe could be based on a wellfounded analysis of long-term competitiveness, along the lines set out in this paper. The information on branch-level competitive prices generated by such an analysis can be applied to individual enterprises (as we plan to demonstrate in the next stage of our work) as one of several useful ways of assessing their efficiency and actual or potential competitiveness.

Appendix

Table A.1

Czechoslovakia: Least competitive industrial branches in order of domestic resource cost ranking index

Branch	WVA	DVA	DRC	PSHARE
Roofing & insulating materials	- 33 7	23.8	-0.71	0.1
Tanning	-27.2	17.2	-0.63	0.5
Fish, game & animal products	-22,0	8,3	-0,37	5,1
Tobacco products	-21,0	17,5	-0,83	0,3
Fats & oils	-18,6	14,3	-0,77	1,0
Sugar refining	-13,7	25,5	-1,86	0,8
Household chemicals & toiletries	-13,3	22,8	-1,72	1,2
Wines, spirits & starch	-11,1	29,3	-2,63	0,8
Fruit & vegetable products	-9,9	28,9	-2,92	1,1
Dairy & egg products	-8,8	10,6	-1,20	3,8
Malt & brewing	- 6,9	31,8	-4,60	0,8
Cereal & bakery products	-2,2	22,5	-10,04	1,6
Cars & light transport equipment	-1,4	26,0	- 19,11	1,1
Textile spinning & treatment	-0,5	29,0	- 54,74	1,0
Animal feed	0,4	11,4	30,78	2,5
Wood furniture	2,2	37,2	17,24	1,2
Fabrics & textile pieces	4,4	38,2	8,69	2,4

Table A.2

Czechoslovakia: Most competitive industrial branches in order of domestic resource cost ranking index

Branch	WVA	DVA	DRC	PSHARE
Equipment for energy industry	106.6	42.1	0.40	1.0
Glass consumer goods	68.8	49.3	0,40	0.5
Equipment for manufacturing	59,6	44,7	0,75	2,3
Plastic products	47,1	36,9	0,78	2,7
Basic non-ferrous metallurgy	29,1	23,0	0,79	2,5
Trucks & heavy transport equipment	38,7	32,5	0,84	5,0
China & ceramic consumer goods	65,2	54,8	0,84	0,1
Industry n.e.s.	44,5	41,7	0,94	8,4
Hats	46,0	45,7	0,99	0,1
Mineral water	46,7	50,1	1,07	0,0
Equipment for heavy industry	35,3	38,2	1,08	5,6

Key: WVA = Value-added at world prices as a percentage of domestic price. DVA = Value-added at domestic prices as a percentage of domestic price. DRC = Domestic resource cost. PSHARE = Branch output as a percentage of total output of manufactured goods. n.e.s. = Not elsewhere specified.

Table A.3

Hungary: Least competitive industrial branches in order of domestic resource cost ranking index

Branch	WVA	DVA	DRC	PSHARE
Other non-terrous metals	-16,3	35,1	-2,15	0,9
Fertilizers & agricultural chemicals	- 8,3	21,7	-2,62	2,7
Poultry and eggs	-7,7	-7,0	0,91	1,6
Canned food	-7,7	4,4	-0,57	2,4
Milk and milk products	-7,0	16,4	-2,33	2,6
Vegetable oil	-4,5	5,2	-1,17	1,0
Iron and steel	-4,2	26,4	-6,22	7,4
Meat and meat products	-4,1	-3,7	0,90	4,9
Alcoholic drinks (spirits)	-1,3	30,7	- 22,95	0,7
Wool	1,8	35,2	19,76	1,1

Table A.4

Hungary: Most competitive industrial branches in order of domestic resource cost ranking index

Branch	WVA	DVA	DRC	PSHARE
Footwear	49,4	26,5	0,54	1,7
Leather and fur	41,1	27,0	0,66	1,2
Joinery for construction	56,0	39,6	0,71	0,4
Lime and cement	44,4	33,7	0,76	0,7
Clothing	48,4	37,8	0,78	2,0
Asbestos cement	36,1	29,6	0,82	0,1
Bricks, tiles, etc.	35,5	31,4	0,88	0,7
Soft drinks	44,1	42,7	0,97	0,1
Bakery products	45,2	47,1	1,04	1,3
Knitwear	31,5	32,9	1,04	1,1
Organic & inorganic chemicals	33,2	35,1	1,06	3,4
Instrument engineering	45,3	50,0	1,10	3,0
Pharmaceuticals	35,3	38,9	1,10	3,6
Glass and glass products	36,0	41,3	1,15	0,9
Electrical machinery	28,6	32,8	1,15	4,3
Household chemicals, cosmetics	24,3	28,0	1,15	0,4
Machinery and equipment	36,5	42,1	1,15	7,5

Key: WVA = Value-added at world prices as a percentage of domestic price.
DVA = Value-added at domestic prices as a percentage of domestic price.
DRC = Domestic resource cost.
PSHARE = Branch output as a percentage of total output of manufactured goods.

Table A.5

Poland: Least competitive industrial branches in order of domestic resource cost ranking index

Branch	WVA	DVA	DRC	PSHARE
Potato products	- 32,8	12,6	-0.38	0,4
Other food products	-28,1	21,2	-0.75	0,0
Abrasive materials and tools	-27,6	5,6	-0,20	0,1
Plastics & synthetic materials	-17.4	16,6	-0.96	0,5
Inorganic chemical products	-16,8	18,5	-1,10	0,6
Other transport equipment	-16,4	20,2	-1,23	0,0
Cement	-15,3	19,7	-1,29	0,7
Non-ferrous metallurgy excl. copper	-11,9	3,3	-0,27	1,8
Meat products	-9,5	6,0	-0,63	7,7
Organic chemical products	-6,4	16,5	-2,59	1,5
Limestone and gypsum products	-6,0	26,9	-4,49	0,2
Glass containers	-5,7	28,6	-5,00	0,3
Cables	- 5,3	9,0	-1,71	1,2
Tannery products	-5,1	5,7	-1,10	0,7
Spirit and yeast	-5,1	12,0	-2,35	1,0
Fruit and vegetable products	-4,7	31,7	-6,68	1,0
Copper metallurgy	-4,2	1,0	-0,23	3,4
Vegetable oil	-3,6	5,7	-1,60	0,8
Sugar processing	-0,0	18,1	- 905,00	1,8
Paper & pulp	1,7	24,0	13,97	1,4

Key: WVA = Value-added at world prices as a percentage of domestic price.
DVA = Value-added at domestic prices as a percentage of domestic price.
DRC = Domestic resource cost.
PSHARE = Branch output as a percentage of total output of manufactured goods.

Table A.6

Poland: Most competitive industrial branches in order of domestic resource cost ranking index

Branch	WVA	DVA	DRC	PSHARE
Food concentrates	69.6	8.2	0.12	0.4
Animal feed	16.6	2.4	0.15	0.9
Cereal products and macaroni	47.1	8.1	0.17	2.4
Wine	76,6	19,1	0.25	0.2
Matches	94,6	46,1	0,49	0.0
Printing industry	180,5	93.6	0.52	0.4
Herbicides	30,2	16.7	0.55	0.2
Tobacco products	15,1	8,5	0,56	0.9
Confectionery	31,7	20,2	0,64	0.8
Haberdashery products	36,4	27,2	0,75	0,1
Paper products	20,3	15,5	0,76	0,3
Tools	58,5	47,7	0,82	0,3
Eggs and poultry products	10,8	9,0	0,84	1,5
Machinery: other industries	53,0	46,2	0,87	0,3
Measuring equipment excl. electronic	60,9	54,6	0,90	0,3
Machinery: materials industries	40,9	37,7	0,92	0,1
Leather and fur	31,6	29,2	0,92	0,2
Machinery: chemical industry	47,4	44,5	0,94	0,3
Other leather products	53,9	51,4	0,95	0,3
Electronic measuring equipment	63,9	61,0	0,95	0,0
Machine tools	44,9	43,2	0,96	0,6
Computers, etc.	28,2	27,7	0,98	0,4
Felt and technical fabrics	15,4	15,7	1,02	0,3
Machinery: electric energy industry	46,0	47,8	1,04	1,6
Medical and veterinary equipment	46,4	48,3	1,04	0,1
Refractory building materials	17,7	18,8	1,06	0,3
Other building materials	29,3	31,4	1,07	0,0
Telecommunications equipment	33,5	36,0	1,07	0,4
Machinery: food industry	36,2	39,2	1,08	0,3
Toys	87,4	94,7	1,08	0,1
Technical glass	44,8	50,6	1,13	0,4
Other clothing	57,9	66,4	1,15	0,4
Freezing, frozen food products	24,3	28,0	1,15	0,2
Fish products	41,3	47,9	1,16	0,8
Other machinery and equipment	28,5	33,2	1,16	0,5
Unwoven textile products	9,6	11,3	1,17	0,1
Household chemicals and cosmetics	19,9	23,7	1,19	0,8
Machinery: light industry	39,1	47,5	1,21	0,3
Household metal products	28,1	34,2	1,22	1,3
Vessels, ships	30,8	37,7	1,22	1,2
Bakery products	70,5	86,3	1,22	0,1
Wooden containers	43,6	53,7	1,23	0,0
Ventilation equipment	28,9	35,7	1,23	0,1
Other textile products	32,7	40,4	1,24	0,0
Earthenware	35,8	44,6	1,24	0,1
Bearings	37,7	47,2	1,25	0,4
Metal construction	31,1	38,9	1,25	0,4
Dyestuffs	5,5	7,0	1,26	0,7
China and semi-vitreous chinaware	39,4	52,0	1,32	0,2
Plastic products	18,2	24,2	1,33	1,2
Cotton products	18,6	24,9	1,34	2,4

Key: WVA = Value-added at world prices as a percentage of domestic price.
DVA = Value-added at domestic prices as a percentage of domestic price.
DRC = Domestic resource cost.
PSHARE = Branch output as a percentage of total output of manufactured goods.

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Labour and product markets in Czechoslovakia and the ex-GDR: a twin study

Michael C. Burda

Insead and the Centre for Economic Policy Research, London

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1. Introduction

The revolution in Eastern Europe has provided economists with an experimental crucible for testing economic propositions on real data in real time. The different paths taken by East European economies in the direction of a market economy provides a rich variety of in situ observations on how well the market works. Moreover, it has yielded a wealth of experiences on which policy-makers can base more informed judgments on the merits of various reform strategies. This study compares recent and prospective experiences of the former German Democratic Republic (GDR), now part of the Federal Republic of Germany, with the Czech and Slovak Federal Republic (CSFR), to evaluate the merits and the costs of two very different approaches to market-style liberalization, with particular attention to the functioning of labour markets. Because these two economies are similar in size, industrial structure, labour force composition and worker productivity, they make ideal candidates for such a 'twin study'.

The comparison begins by drawing some tentative lessons from the ex-GDR's experience of monetary and economic union for Czechoslovakia, which had a second mover advantage with respect to its northern neighbour. The ex-GDR has taken the shock therapy of adopting monetary union with a much wealthier stable economy, open borders to the European Community, and labour market policies normally found only in the most advanced countries. In contrast, Czechoslovakia had been more cautious, allowing only restricted exchange convertibility, slow steps towards privatization, and limited foreign ownership. Which outcomes in the GDR can be avoided in the CSFR? Which aspects of adjustment witnessed in the GDR are inevitable? What is the option to devalue worth in terms of enhancing the competitiveness of Czechoslovak exports? Can one draw conclusions from the ex-GDR's experience about which sequencing of reforms causes least discomfort?

The labour market — the most important market in all economies — has, however, been less studied in the East European context. Since labour is the most important factor in producing value-added in modern economies, its market — comprised of demanders, suppliers and the institutions that bring them together — ultimately determines the competitiveness of an economy's output. The labour market is the mediator of structural change as it moves this factor of production to more productive uses. It is also the labour market which efficiently manages turnover — up to 25% of employment and up to 100% of unemployment stocks in capitalist economies annually, even at stable unemployment rates. Yet, at the same time, it is well recognized that imperfect information, the endogenous nature of effort, and mobility make labour markets different from fish or fruit markets. It is also the labour market which produces unemployment and potential dissatisfaction with capitalism. It is thus crucial to investigate the workings of the incipient labour market in the reforming East European economies.

Not enough has been said about labour markets in Eastern Europe and how they interact with the product market in the marketization process. The similarities between Czechoslovakia and the GDR (before German economic and monetary union) could easily lead to the conclusion that, as with the ex-GDR, substantial relocation of labour will be necessary in Czechoslovakia. Open unemployment in the ex-GDR is now over 750 000, to which at least as much hidden unemployment can be safely added. Crude calculations suggest a necessary labour reallocation of the order of 30 to 40% of the labour force in the CSFR. The severity of this adjustment will depend on how supportive are the macroeconomic policies pursued. Will labour markets be able to manage such a reallocation?

The rest of the paper is organized as follows. In Section 2 the similarities between the ex-GDR and the CSFR are reviewed. These similarities make the two countries' experiences all the more interesting, as they have been subjected to radically different economic reform packages. They also suggest that substantial adjustment may be expected in Czechoslovakia. Section 3 proposes a modified disequilibrium economic framework of Barro and Grossman (1971) as a simple vehicle for analysing the transition of economies that have been characterized by repressed inflation to market economies. Section 4 discusses the soft budget constraint and how it has survived in the ex-GDR and how it may evolve in the CSFR. Section 5 expands on the labour market institutions that will affect macroeconomic adjustment, and Section 6 presents some conclusions.

2. The ex-GDR and the CSFR: a preliminary comparison

The industrial history of Czechoslovakia and East Germany, both before and after the Second World War, is primarily responsible for their striking similarity. Both had attained high levels of economic development in the 1920s, and were counted among the richest regions of the world. Much of this can be attributed to their location at the crossroads of central Europe, as well as to a common tradition. Both were subjected to similar degrees of over-industrialization in the 1950s and 1960s, reflecting Marxist emphasis on manufacturing industry. Most value-added was generated in large combines after successive waves of nationalization of small

and medium-sized firms. Before the watershed year of 1989, both economies were estimated to have comparable levels of GNP per capita.¹

The case for comparability is supported by data on employment and industrial structure of the CSFR and the ex-GDR. Table 1, which displays sectoral employment, reveals an identical focus on industry at the expense of the services sector, as well as a large (labour-intensive) agricultural sector. Table 2 displays the distribution of gross productive activity and production workers in industry. At the outset of the reform period, economic activity in the old CSSR was more strongly concentrated in machinery and metalworking, whereas the GDR had larger extractive and chemical sectors.

Table 1 also reveals a striking similarity of both the GDR and the CSFR with the Federal Republic of Germany of the early 1970s. If these regions are to reach West European levels of development, the structure of production and employment must shift radically from agriculture and manufacturing to tertiary sector activities, especially personal services. At the very crude level of disaggregation in Table 1, the implied employment reallocation is 25,6% for the ex-GDR and 37,7% for the CSFR. This can be interpreted only as a lower bound, in that sectoral, occupational, and regional restructuring is ignored. For the CSFR most of the 'bad news' regarding reallocation comes from its bloated agricultural and underdeveloped service sectors. According to some estimates, job losses among East German workers will reach 45%.2

3. Approaches to reform: a tale of two sequences

3.1. An analytical framework

It is difficult to assess the macroeconomic effects of reform policies without the guidance of an economic model. While few models exist of economies in transition from State socialism to capitalism, a large older literature on disequilibrium macroeconomics, of which Barro and Grossman (1971) or Malinvaud (1977) are the most salient examples, is especially suitable for the treatment of planned economies in a state of repressed inflation. They assume prices and real wages are fixed relative to market clearing levels. Ironically, the

2 As the President of the Bundesanstalt für Arbeit, Franke, noted, little else could be expected in an economy in which roughly a million East Germans were employed merely to maintain the power apparatus (Associated Press 30 December 1990).

Table 1

Structure of employment in the GDR, Czechoslovakia and FRG¹

		CSSR (1987)	GDR (1989)	FRG (1988)	FRG (1974)
Agriculture		973 (12,0%)	920 (10,3%)	1 271 (4,9%)	1 842 (7,0%)
Industry		3 848 (47,5%)	4 026 (45,2%)	10 469 (40,1%)	12 311 (46,5%)
Manufacturing, energy, mining		3 039 (37,5%)	3 460 (38,8%)	8 752 (33,6%)	10 135 (38,2%)
Construction		809 (10,0%)	563 (6,3%)	1 717 (6,6%)	2 176 (8,2%)
Trade, transport and communications		1 316 (16,2%)	1 349 (15,1%)	4 870 (18,7%)	4 968 (18,7%)
Other services ²		1 969 (24,3%)	2 615 (29,3%)	9 469 (36,3%)	7 376 (27,8%)
	Total	8 106	8 910	26 079	26 497

Includes self-employment. Housing, State administration, research, arts and education, health and social welfare, finance

Sources: Deutsches Institut für Wirtschaftsforschung, Staatliche Zentralverwaltung für Statistik der DDR, Sachverständigenrat (1989), United Nations Industrial Statistics Yearbook, 1987

¹ See Begg, et al. (1990), Table 2.2.

Industrial structure by	gross	output and	employees,	1987
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	CSSR		GDR	
Gross output	Billion CSK	%	Billion OM	%
Coal-mining and	37,7	4,2	39,5	7,4
Food, beverages and tobacco	143,5	16,0	82,1	15,3
Textiles	40,0	4,5	32,4	6,1
Wood products, clothing, glass, ceramics	117,7	13,0	64,1	12,0
Chemicals and related products	176,6	19,7	107,3	20,1
Metal products	111,6	12,4	50,3	9,4
Mechanical machinery	221,7	24,7	107,8	20,2
Electrical machinery	46,2	5,2	46,8	8,8
Total industry	895,0	100	533,4	100
Employees (operatives)	1 000	%	1 000	%
Coal-mining and electricity generation	121	5,9	143	7,2
Food, beverages and tobacco	158	7,7	171	8,6
Textiles	167	8,1	155	7,8
Wood products, clothing, glass, ceramics	492	23,8	404	20,2
Chemicals and related products	177	8,6	196	9,8
Metal products	158	7,7	88	4,4
Mechanical machinery	656	31,9	590	28,0
Electrical machinery	127	6,2	262	13,1
Total industry	2 056	100	1 994	100

the economy is and where it's going' after market reforms are put into place, without specifying exact dynamics.³

The core of the model is depicted in Graph 1; the formal aspects of the model can be found in the Appendix. Real wages ω and nominal price level p are depicted on the vertical and horizontal axes, respectively. Briefly, the dotted curves GG and LL trace out loci of goods and labour market equilibrium when wages and prices are flexible and clear their respective markets. Solid lines represent equilibrium in goods and labour markets when firms and/or workers perceive constraints in either or both of the markets in which they operate. Each of the three regions correspond to such constrained regimes: the region C contains (ω,p) combinations in which workers are constrained in the amount of labour service they can sell and goods they may buy, but firms are unconstrained in both markets. K corresponds to Keynesian unemployment, in which sellers of both goods and labour services are rationed. The region R is the repressed inflation regime, in which buyers are constrained in both goods and labour markets.⁴

The starting position of both economies is assumed to be point P ('planned'), in the repressed inflation regime. Point W ('Walrasian') is the real wage/price level constellation the economy will reach when price level flexibility obtains in market economies. That point P is above the market clearing (ω,p) indicates that 'restructuring' is necessary; i.e. a drop in the real wage is to be expected in the course of adjustment to the Walrasian equilibrium. Such an assessment is consistent with the pessimistic assessments of effective productive capital stock in East European countries (see, for example, Begg et al., 1990). At the same time, the point P is considerably to the left of point W, reflecting excess demand (repressed inflation) resulting from high levels of real wealth at fixed low prices (the monetary overhang), the cumulation of long periods of deficit finance by the State or excessive subsidies in a shortage economy.5

attractiveness of these models in the context of centrally planned economies is the uncontroversial source of wage and price rigidity; they were in fact fixed administratively. Given the determinants of the Walrasian or market-clearing equilibrium implied by the model, one can ascertain 'where

³ Dynamics are complicated by expectations formation and the predetermined capital stock and accumulated inventories. Short-run dynamics may be important for assessing the relative merits of competing stabilization programmes, especially those involving fixed-exchange-rate regimes.

⁴ The absence of an 'underconsumption' region, found for example in Muellbauer and Portes (1978), implies that firms cannot be constrained in both markets.

It should be stressed that real wealth and real wages in disequilibrium models contain little or no information about individual welfare, as goods for which prices are quoted are often in short supply or unavailable. See Lipton and Sachs (1990).

The usefulness of this model is in predicting, given information on policy, to which point the economy will move after liberalization: will it move from point P to W in Graph 1, or can policy select an alternative W to which the market forces will push (ω,p) ? In this light, we will consider the reforms adopted by both the ex-GDR and the CSFR.



3.2. The ex-GDR: lessons from the first year of German economic and monetary union (GEMU)

First we consider the reform sequence 'chosen' by the ex-GDR as well as its consequences following the opening of the border in November 1989, economic, monetary and social union in July 1990, and political unification in October 1990. This sequence of events is noted in Table $3.^{6}$

Table 3

GEMU: the sequence of events

- 1. Opening of borders in November 1989, leading to sizeable trade in grey 'offshore' Ostmark market. Enforcement of restrictions on DM kerb market trade ended in spring 1990.
- 2. Relatively free trade in goods and services at a pre-unification kerb market exchange rate of roughly 3:1.
- 3. Monetary and economic union (1 July 1990) which:
 - replaced the old GDR currency (Ostmark) as legal tender with DM at roughly a 1,4:1 rate
 - converted most Ostmark liabilities into DM liabilities at a 2:1 rate
 - imposed a 1:1 unified exchange rate on all current transactions
 - eliminated confiscatory taxes on East German enterprises
 - liberated price fixing on output produced in the GDR.
- 4. Firm managers are allowed to hire and fire employees, set wages, etc.
- 5. Privatization and break-up of combines via the State trust agency (*Treuhandanstalt*).
- 6. Vigorous efforts to control government budget (applies both to local authorities and Länder, as well as the new unified FRG) including tax increases, subsidy cuts and diversion of spending from West to East Germany.

Although political union had been completed by the time of the elections in December 1990, unified Germany currently finds itself somewhere between steps 5 and 6 (Table 3). In most goods and services East Germany is now as open for trade as West Germany. Privatization of larger enterprises proceeded slowly (out of 8 000 enterprises, 400 had been sold by January 1991), but there was far greater progress with retail and eating establishments, with 9 000 sold by January, 90% of them to East Germans.⁷ A procedure to auction 33 000 businesses of larger surface area was oversubscribed by a factor of 10. In order to accelerate investment and entrepreneurial activity, the land itself will not be sold, but leased until ownership issues are resolved. As a consequence, however, local authorities may now represent the largest obstacle to the privatization process.

⁶ It is tempting to conclude that other sequences might have been more effective in integrating the two Germanys, especially with respect to avoiding large-scale unemployment. Yet, as discussed below, the policy sequence adopted in the GDR was the outcome of idiosyncratic constraints, including the policies of the former Federal Republic of Germany with respect to citizenship rights of East Germans.

⁷ One twist introduced recently allows West German retailers to buy blocks of properties with the proviso that a proportion of these be sold within a specified time period. For example, Spar has agreed to sell half of its recently acquired interest (2 400 stores with 36 000 employees) by spring 1992.

The impact of 'returning to the pre-war parity' is well known and represents the best evidence available to date that the nominal exchange rate matters.⁸ Import demand for products of better quality (mostly from West Germany) has reached massive proportions, and measured East German industrial production has since declined by roughly 50%.⁹ Tax revenues have collapsed, as value-added taxation is currently raising little to replace the firm-based taxes previously in place. The budget shortfall in the ex-GDR is catastrophic, reaching DM 30 billion (30% of the consolidated budget). The all-German budget deficit has risen from roughly 0,5% of GNP in 1989 to more than 5% estimated for 1991.

Despite the striking collapse of reported economic activity, open unemployment in East Germany was only about 750 000 in January 1991, or 8,7% of the official East German labour force, and probably 10% when migration and discouraged workers are accounted for. Layoffs are expected to begin in earnest only in mid-1991. The postponement of mass layoffs has been made possible by widespread use of short-time work (Kurzarbeit), a West German institution extended to East German territory under the terms of the unification treaty. Short-time work allows troubled firms to reduce their wage bill without firing their workers, who continue to receive roughly 90% of their previous net wage, thanks to subsidies from the Federal Employment Agency (Bundesanstalt für Arbeit). Conceived as a means of preventing staff losses during cyclical or seasonal fluctuations, the programme has been generously extended to liquiditystrapped, or even insolvent, East German enterprises. In the first six months of monetary union, short-time work was invoked for more than 1,5 million employees, and roughly 65% of these have been in the programme since October; by the end of 1990, 1.8 million workers were enrolled in the programme. A substantial amount of these represent hidden unemployment, especially in heavy industry such as chemicals, textiles, and industrial and electrical machinery. By official accounts, 50% of short-time workers are working less than half time, and a substantial proportion are not working at all.

The short-time work programme has thus assumed a key subsidy and support role for enterprises in the ex-GDR and is now one of the most expensive subsidy programmes for the new Länder.¹⁰ It is the largest contributor to the DM 22 billion deficit in the budget of the Federal Employment Agency.¹¹ Short-time work is available to East German enterprises in principle until mid-1991 regardless of the enterprise's financial state, and is thus significantly more generous than in West Germany. It is widely considered among bureaucrats as the price for maintaining social peace; a more critical evaluation is that it postpones structural change by locking resources into inefficient uses.¹²

Other financial commitments have burdened the German unification programme. The all-German Government promised to honour contracts with CMEA countries entered into before monetary and economic union.¹² The State property agency (Treuhandanstalt), has also provided support for troubled companies in the form of guaranteeing short-term credits from commercial banks.¹³ These are 'liquidity credits' amounting to DM 30 billion of which 60% has been taken up. Over time the Treuhandanstalt may increasingly represent a governmental liability rather than an asset. Like any large mutual fund or holding company, its financial result is a mix of good and bad companies' profits. However, because it is pursuing a goal of rapid liquidation rather than profit maximization, it will sell the assets with the best prospects first and at low prices, and will be left with restructuring costs requiring further infusion of funds from the general budget.

In the disequilibrium model discussed in the previous section, the German approach to the transition chose policies that moved W to W' close to P, thereby maintaining real wages and removing the risk of inflation. This policy, shown in

⁸ This reference to Churchill's return to the gold standard in the 1920s was borrowed from Roland Vaubel.

There are well-known reasons for not attaching too much weight to these figures. First, reliable GNP data are still unavailable, and the available data concern the State industrial sector, which will shrink in any case. Second, care must be taken in evaluating the value of reported production, some of which represented negative value-added; that is, cessation of production would increase actual GNP, properly measured. Finally, the older numbers on which the dramatic production collapse is predicated were biased upwards by the practice of *Pripiski*, or overstating production (Klodt, 1990b).

¹⁰ See Klodt, 1990b.

¹¹ As a result of recent coalition negotiations, this deficit will be closed by a 2,5 percentage point increase in wage taxes for unemployment insurance programmes. Since West German wages represent roughly 90% of total wages in Germany, short-time work represents a prospective transfer from West to East in 1991 of roughly DM 16 billion.

¹² It is instructive to note that some enterprises in the ex-GDR, such as the electronics and computer manufacturer Robotron, have begun hiring out employees to Western companies. This line of business is no doubt more profitable than the manufacture of obsolete computers.

¹³ The collateral for these guarantees are assets of the *Treuhandanstalt* which in practice are compensation claims forced upon East German enterprises which had, by good luck, underleveraged balance sheets.

Graph 2, is shown in three steps. First, with complete trade liberalization, the ex-GDR inherited the price level of West Germany, so that the GG locus was effectively fixed as a near-vertical line, rotating around point W.14 Second, the monetary overhang (savings deposits including those of enterprises were over OM 200 billion, or about 60% of NMP in 1989) was eliminated in the exchange of Ostmarks for non-inflationary wealth (DM) at an effective rate of about 1,4:1. In Graph 2, this would move the LL and GG loci leftwards.



Third, the 'restructuring' requirements of the economy (the vertical distance PW') implied a drop in real wages which was politically infeasible. In order to prevent this development, or to push them in DM terms even higher, the German programme anticipates massive investment (rising effective capital stock), reduced labour supply driven by higher worker expectations of future wages capitalized in a higher permanent income (a wealth effect) and an increase in noninflationary wealth through additional transfers, and penal-

ties on labour force participation for certain groups (i.e. women).¹⁵ All of these policies will lead to higher marketclearing wages today for reasons discussed above, by shifting LL out. In all cases, real wages are higher, and employment and output lower, than an outcome under economic autonomy in the ex-GDR. In return, the ex-GDR obtains price stability by tying its hands in the most credible way possible. When corrected for quality of goods and queueing costs, East German prices have fallen significantly since July 1990.

3.3. The CSFR: What can be learned?

It should be stressed that the German authorities had little choice in designing a reform sequence. Monetary union at a 3:1 rate (or a much lower free market rate) would have provoked the migration of hundreds of thousands of East Germans to the West. On the other hand, this reform sequence was precisely the inverse of that often suggested in the burgeoning but still underdeveloped literature on the topic.¹⁶ In this view, macroeconomic reforms receive first priority: the elimination of the budget deficit and its automatic financing by the central bank; cutting expenditure; developing alternative tax sources to replace enterprise charges (which often accounted for half of government revenues) and finding means to ensure that the real value of these tax sources is maintained. At the same time, measures should be taken to neutralize any liquidity overhang, including privatization of State property, and convertibility should be introduced. Privatization of enterprises should follow, with owners assuming responsibility and accountability for management; barring this, some form of corporate governance should be introduced to discipline the behaviour of managers (who are currently 'agents without principals') and to prevent further haemorrhaging of State resources to finance enterprise losses. Tax relief for firms which paid punitive if not confiscatory taxes under the old regime would afford firms some flexibility, either to pay higher nominal wages or to engage in price cutting and enhance export competitiveness. The Polish policy of opening up to foreign trade as quickly as possible would increase the chances of the last outcome.17

See Lipton and Sachs (1990).

¹⁴ Technically, the nx function became perfectly elastic in the real exchange rate.

It is widely recognized that the former GDR subsidized female labour force participation by offering free child care and generous maternity leave. For evidence on the comparative effects of these programmes on the labour force participation of German women, see Ott and Wagner (1990).

¹⁶ See, for example, European Economy No 43 (1990), Lipton and Sachs (1990), and Charap and Dyba (1991). 17

This ideal sequence is operationally impossible for many reasons. Priorities are often circular, so there is no clear order for implementing some component parts of the macroeconomic reform. The sheer complexity of privatizing the capital stock is made more daunting by claims by previous owners and by uncooperative bureaucracies. Already the success of the Czech programme, which explicitly attempts to incorporate this sequence of reforms, is threatened by several factors. The race to privatize ahead of the scheduled liberalization of all but essential goods prices on 1 January has been lost. The small privatization of small shops and service enterprises is under way, but the large privatization of most of the CSFR industrial capacity has been stalled in the legislature for several reasons, including conflict over restitution and prior claimants as well as nationalist interests. In addition to the internal disruption that 1991 holds for the CSFR, external demand has dropped substantially as contracts with CMEA countries have been terminated.

The CSFR government budget deficit, never excessive on paper, has been tightened further by cuts in military spending, subsidies and capital transfers to enterprises. The surplus planned for 1990 was not achieved, primarily because of increased spending on the social safety net. The real value of tax revenues will be susceptible to the effects of high inflation (the Tanzi effect), now projected at 20 to 30% in 1991 after an official inflation rate which was 10% in 1990 and running at an annual rate of 18% in the last quarter. The government's ability to carry out the privatization programme may be impeded by growing nationalist pressures in Slovakia, which with its declining armament and other heavy industry appears structurally worse off than the Czech Republic. The prospect of paying for Soviet oil imports in dollars after January 1991 may have crippling consequences for the budget. Energy prices for industrial users have already been raised by between 40 and 80%, and private citizens will soon face similar increases.

The key lesson of the GDR experience is the importance of the exchange rate in supporting aggregate demand. At the stroke of a pen, monetary union at 1:1 for current transactions between the two Germanys rendered a large part of industrial activity in the ex-GDR hopelessly uncompetitive (Siebert 1990, Burda 1990a). Price rigidity in the old regime may enhance the effectiveness of a devaluation in the short run, assuming that the Marshall-Lerner conditions hold.¹⁸ This lesson has not been lost on the Czechoslovak authorities, who pursued deep devaluations of the exchange rate by nearly 50% in 1990 (see Hrnčíř and Klacek in this volume). As of January 1991, current account convertibility exists for legitimate businesses, and tight monetary policy seems to have controlled the spread between the official and black market rates.

Graph 3 depicts the likely outcome for the CSFR after price liberalization. The economy moves from P to W, as the monetary overhang (deposits of CSK 340 billion were roughly 70% of national income in 1989, somewhat less than the GDR at the outset of monetary union) is not being neutralized by the monetary authorities, as in East Germany, but simply being inflated away. The dramatic absolute decline in the savings of Czechoslovak households in late 1990 (see Hrnčíř and Klacek in this volume), which is mostly in the form of deposits, indicates that this process has already begun.



Two other factors could push the market clearing equilibrium further, to point W'. First, sharp devaluations cause the GG curve to shift rightwards.¹⁹ Second, a rise in inflation

¹⁸ This also presumes that value-added is positive at world prices. See also Hughes and Hare in this volume for evidence on negative value-added in CSFR industry.

¹⁹ Note that until prices are liberalized, a devaluation only pushes the economy further into the repressed inflation region. This analysis presumes that trade is not restricted by quotas and that labour supply is independent of the exchange rate. With completely free capital flows a devaluation could only be accomplished by a domestic monetary expansion and thus an equidistant outward shift of both curves.

may lead to loss of budgetary control, leading to further inflationary finance, with a shift rightwards of both loci. Whether this outcome can be avoided will depend critically on policy and on the outcome in labour markets, i.e. wage setting and its impact on the budget.

4. Trade unions, collective bargaining, and the soft budget constraint

A wealth of experience in the ex-GDR and the CSFR supports the sometimes contested view that institutions are important for macroeconomic outcomes. Most important, these include institutions of wage fixing and the incentive structures of the parties to the collective bargaining process. These will influence both the underlying fundamentals of inflation (the budget deficit and other sources of money supply growth) as well as the dynamics by which an economy reaches the steady state determined by those fundamentals. It is to these institutions that we now turn.

4.1. Collective bargaining

The political credibility of the trade union movement will be a key factor in the macroeconomic success of the leap to the market economy. In the ex-GDR, West German unions moved quickly into the virgin territory left by the discredited communist trade unions and, within months after monetary union, concluded new wage agreements in virtually every major sector. Wage increases of 25 to 50% have been the norm. Public-sector wages remain the most critical area of all. In late 1990 East German government workers reached a provisional settlement reducing the working week from 42 to 40 hours and adding a 13th month pay bonus. East German postal workers have recently reached a similar agreement. Recent statements by the leadership of both the umbrella organization (Deutscher Gewerkschaftsbund) and the public sector workers' union (OTV) endorse a convergence of East and West German public sector wages and salaries within three years. Such an outcome will have clear effects on private sector wage fixing in East Germany.²⁰

At the same time it is likely that wage agreements reached in East Germany will become minimum wages, as labour ministers of the new *Länder* or the courts apply their powers to make a labour contract of one enterprise binding on all workers and employers in a given industry in the same *Land*. In West Germany roughly 20% of employment contracts

²⁰ It is hard to deny that perverse situations have arisen, especially in Berlin, where garbage collectors in the East earn a third of their counterparts' salaries a few kilometres away; yet doubling their wages would make them the best paid blue-collar workers in East Germany. were covered by some form of extension in recent years (Burda and Sachs, 1988). Many of these were national wage agreements (banking and insurance, for example). Furthermore, the mere threat of extension encourages management to pay the going wage.

In the CSFR, such an outcome seems less likely. Unions enjoy little popularity, especially at the national level (2% of recent survey respondents support fully the national labour organization). The tripartite approach along the lines of Austria or Sweden has been adopted as a collective bargaining model. A centralized agreement will form the basis for nationwide wage developments. The current relative strength of government as well as the weakness of unions and employers should allow the government to engineer a significant real wage reduction. At the same time, the support for the government in its role will be crucial. A lack of support for the forthcoming real wage cuts may lead to unofficial strikes and a devolution of collective bargaining to the local level. It should also be noted that enterprises with 25 or fewer employees are exempt from the tripartite agreements in any case.

Local labour unions have more credibility, a factor which might later lead to a decentralized system of collective bargaining, with the workers councils at the enterprise level filling the leadership void. Such a system has the advantage that wage settlements will more likely reflect the financial condition of enterprises, and the disadvantage of ignoring external effects of individual wage settlements on aggregate supply.²¹ Decentralized wage fixing will also allow some less profitable enterprises to buy time through more moderate wage policies, while allowing successful firms to attract higher quality labour.

4.2. Soft budget constraints

The fear of mass migration and depression of Western wages is the likely motivation for the strategy of West German labour. Yet the financial conditions of most East German enterprises cannot justify such wage increases. Ironically, the soft budget constraint so characteristic of planned economies seems to have been operative across East and West Germany in 1990. The East German Government was not represented at pay negotiations in the summer and autumn, nor did it have a particular interest in the budgetary effects of hefty pay settlements. More important, there was little or no incentive for management, eager to purchase the goodwill of workers, to resist wage increases inconsistent with the solvency of enterprises. Until the enterprises are privatized

²¹ See Calmfors and Driffill (1987).

or placed under more corporate forms of control, the (now all-German) government will continue to subsidize enterprises' deficits, first through credits collateralized by the assets of the *Treuhandanstalt*, then by support for short-time work, and in the future possibly from the general budget.

The soft budget constraint observed in the ex-GDR seems less likely to prevail in the CSFR, since there is no obvious financier other than the central bank. Subsidies received by one industry come at the expense of another, or at the expense of price stability if enterprise deficits are financed by cheap central bank credit. A pivotal step towards controlling the consolidated budget would be the credible removal of enterprise deficits from the financing requirements of the consolidated government account. While Finance Minister Klaus's restrictive policy of slow credit and money growth will stem such a tendency, pressures to make exceptions to such a policy will grow, especially since the CSFR has yet to implement a bankruptcy law.²² Recent reports of rapid credit growth in late 1990 may reflect a weakening of the will in this regard.

4.3. Wage fixing and incomes policies

While East Germany inherits the price level of the West as well as the credibility of the Bundesbank, the CSFR will rely on incomes policies to control the dynamics of inflation. The Czechoslovak policy currently envisioned will be a partial indexation system that will permit a decline of 12% in real wages before it is activated.²³ A tax-based incomes programme (TIP) with a 100% tax on increases that exceed a baseline will enforce this incomes policy. Whether this will survive in its current form is doubtful, since enterprises will probably circumvent it by phony promotions and payments in kind. Furthermore, foreign companies and joint ventures are in any case exempt. One interesting aspect is the potential distortion created by the TIP programme in favour of profit sharing, since it applies only to 'cost wages' (salaries) and not to bonuses or profit-related pay.

Although the Polish experience is not examined here, it has confirmed that incomes policies not only provide a nominal anchor for the economy but, if credibly implemented, may accelerate the real wage reduction that must eventually come about after stabilization is achieved.²⁴

5. Can labour markets manage high unemployment?

5.1. Labour market dynamics and mobility

Of all markets, the labour market in Eastern Europe is often considered the least developed. Not only is it often feared that workers lack the discipline characteristic of market economies, and will be unable to adjust to the rigours of unemployment, but doubts are often expressed as to whether labour is sufficiently mobile across regions, industries and occupations.

These fears may be unwarranted. It appears, for example, that a high degree of labour mobility was characteristic of enterprises under centrally planned regimes, at least in the CSFR. According to the Czechoslovak Statistical Yearbook, annual employment turnover in industry was about 17,5% (compared with about 25% for France). In 1989, roughly 580 000 workers (9,1% of the labour force) changed jobs (Janáček *et al.*, 1990). As Table 4 shows, much of this mobility corresponded to voluntary job changes. In comparison, in France roughly 4 to 5% of the labour force moves to other jobs each year.²⁵

These statistics do not address the behaviour of households entering open unemployment, a new phenomenon in East European countries. The ex-GDR has the advantage of adopting a well-organized and experienced system of employment offices. In the CSFR, the national committees have been converted into employment offices, but have little experience in facilitating the exchange of labour market information, such as job vacancies, training opportunities, etc. Despite this, initial data on outflows from unemployment into work are encouraging: in October 1990, the Czech authorities registered 15 794 new cases of unemployment; in the same month, 10 149 cases left the unemployment register or 41,3% of the unemployment stock. Of these, roughly 60% actually found another job, a rate comparable to those of Western economies (Burda and Wyplosz, 1990). A bleaker picture emerges in the ex-GDR, where in the same month of October 1990, only 30 000 left the unemployment register (an exit rate of only 5,6%, excluding short-time work). Unemployment in Czechoslovakia was only about 1% by the end of 1990, but is expected to rise to 5 to 7 % in 1991, especially since firms have free rein to dismiss workers. Congestion in the labour market will contribute to higher

²² A law on bankruptcy is expected to be considered by parliament in May 1991.

A detailed description is provided by Hrnčíř and Klacek in this volume.
See Lipton and Sachs (1990).

²⁵ See Burda and Wyplosz (1990). Evidence on voluntary job changes in Poland (Lipton and Sachs, 1990) suggests that voluntary turnover will be linked to wage-fixing flexibility in the private sector. In the CSFR, small enterprises will be exempt from the national wage bargain.

unemployment rates in the CSFR as people who lose their jobs spend longer periods in unemployment. As a result, institutions are being developed to deal with labour market issues, such as job exchanges or information services.²⁶

Table 4

Movements of employment in industry - CSSR (1988)

Total employees in industry	2 610	
Total movements into employment	448	
of which:		
School-leavers and apprentices, women re- turning from maternity leave, other func- tions		149
Planned transfers		29
Changing jobs		190
Other		80
Total movements out (exits)	482	
of which:		
Death and retirement, return to school or apprenticeship, military service, maternity		
leave, other functions, planned transfers		261
Changing jobs		221
Source: Statistical Bureau (Prům PZ-04 1988)		

5.2. Occupational mismatch

Despite a high average level of education in the CSFR and Eastern Europe in general (see Hamilton *et al.*, 1990), it is often claimed that the skill 'mix' is wrong. In the CSFR an excess supply of low-skilled blue-collar workers and university-educated employees is often cited, plus a surfeit of unqualified new labour market entrants, overqualified university graduates, and party bureaucrats. Data supporting these assertions from the CSFR are adduced in Table 5.

Because of budgetary constraints, the CSFR Government is unlikely to provide retraining for displaced workers, and will rely instead on private, firm-based initiatives. The suggestion

Table 5

 $(1\ 000)$

Distribution of unemployment in CSFR regions, by occupation – October 1990 $^{\rm l}$

			120
	Blue-collar	Graduates ²	Other ³
Total CSFR	45,0	16,7	38,3
Czech regions	48,9	15,2	36,0
Bohemia			
Prague	19,9	13,5	66,6
Central Bohemia	50,8	14,4	34,8
Southern Bohemia	44,8	17,1	38,1
Western Bohemia	49,3	15,1	35,6
Northern Bohemia	68,7	10,7	20,6
Eastern Bohemia	47,5	15,1	37,4
Moravia			
Southern Moravia	38,7	20,3	41,0
Northern Moravia	59,4	14,0	26,6
Slovakia	40,6	18,5	40,9
Bratislava	6,4	11,4	82,2
Western Slovakia	29,1	22,3	48,6
Central Slovakia	36,6	19,7	43,7
Eastern Slovakia	56,7	16,3	27,1

Using 1989 labour force statistics (Czechoslovak Statistical Yearbook, 1990).

² High school and university.
³ Administrative low-skilled employment, workers without qualifications, and new labour

market entrants.

Source: Data supplied by the Federal Ministry of Labour and Social Affairs.

that in the ex-GDR workers should be retrained within the enterprise is unlikely to be implemented, as most firms are incapable of organizing such programmes; the new East German employment offices are currently overwhelmed and understaffed. A voucher programme for retraining would seem to be a sensible alternative under these conditions, but support for this proposal has faded. Ironically, the practical experience gained by East German workers commuting to the West, now estimated at 200 000, will serve as an important substitute for direct training: workers acquire human capital yet are bound to their home region.

Training of new labour force entrants is a dramatic problem in the CSFR, with school-leavers facing a collapsing State apprenticeship programme (Janáček *et al.*, 1990). In contrast, the firm-based system of apprenticeships in East Germany has been been reinforced and extensively subsidized. Klodt (1990b) describes a variety of measures for promoting qualification of workers and self-employment.

²⁶ In this regard, however, it should be noted that data indicate that job exchanges actually may be less important than informal methods in facilitating job matches in Western economies. For example, in the 1989 cohort of the German Socio-economic Panel, only 11,3% of West Germans employed in the panel reported finding their jobs through the State employment agency, compared with 34,4% through personal contacts and 16% through the newspaper.

5.3. Regional mismatch

Regional mobility may pose a more important issue than occupational mobility. Table 6 displays regional unemployment and official vacancy rates in the CSFR. Roughly half of total unemployment is found in Slovakia, where only onethird of the country's population resides. More than twothirds of current unemployment is concentrated in Northern Moravia and Eastern Slovakia, where substantial lay-offs are associated with the dismantling of smokestack and armament industries. In contrast, initial signs indicate that Bohemia and Southern Moravia are faring much better. The relative concentration of vacancies in these regions as well as in the cities suggests that adjustment will coincide with the emergence of significant mismatch employment.

Table 6

CSFR regional unemployment rates — October 1990¹

	Unemployment rate	Total vacancies
Total CSFR	0,75	1,14
Czech regions	0,58	1,28
Bohemia		
Prague	0,46	1,84
Central Bohemia	0,40	1,12
Southern Bohemia	0,55	1,17
Western Bohemia	0,41	1,56
Northern Bohemia	0,45 '	1,63
Eastern Bohemia	0,51	1,21
Moravia		
Southern Moravia	0,53	1,09
Northern Moravia	0,98	0,78
Slovakia	1,11	0,84
Bratislava	0,60	2,24
Western Slovakia	1,02	0,43
Central Slovakia	0,93	0,95
Eastern Slovakia	1,64	0,56

¹ Percentage of labour force.

Source: Data supplied by the Federal Ministry of Labour and Social Affairs.

In the ex-GDR the situation is far worse, with unemployment as high as 11% in the northern regions. Short-time work may have an undesired effect on intra-East German mobility. Some evidence of limited mobility in East Germany is the dispersion of unemployment rates among the *Länder*, which has already reached levels characteristic of West Germany.

Table 7

Regional unemployment rates in Eastern Germany — January 1991¹

	Unemployment rate
Total ex-GDR	8,6
Mecklenburg Vorpommern	
Neubrandenburg	10,3
Rostock	11,9
Schwerin	10,7
Stralsund	10,2
Brandenburg	
Cottbus	6,4
Eberswalde	9,3
Frankfurt (Oder)	9,6
Neuruppin	10,2
Potsdam	8,2
Sachsen-Anhalt	
Dessau	7,0
Halberstadt	8,8
Halle	7,4
Magdeburg	8,0
Merseburg	6,4
Sangerhausen	11,3
Stendal	9,7
Wittenberg	7,7
Sachsen	
Annaberg	8,3
Bautzen	8,2
Chemnitz	6,6
Dresden	6,3
Leipzig	7,9
Oschatz	8,4
Pirna	7,7
Plauen	7,2
Riesa	6,5
Zwickau	8,8
Thüringen	
Altenburg	9,7
Erfurt	7,9
Gera	8,3
Gotha	9,5
Jena	6,6
Nordhausen	10,4
Suhl	9,4
East Berlin ²	10,3

¹ I am grateful for the speedy assistance of Herr Rebohl at the Bundesanstalt für Arbeit in providing me with these data

providing me with these data. ² Author's estimates based on East Berlin labour force in 1989, likely to be biased downwards.

5.4. Wage dispersion: can the market respond?

In the near future the wage structure of Eastern Germany will largely assume the attributes of the West, in a process that will no doubt be accelerated by West German organized labour and differential migration patterns among skilled and unskilled workers. In the CSFR, currently the industrial wage structure is fixed to compensate skill as well as unpleasantness. A decentralization of wage-fixing has been proposed for 1992, with individual enterprises accorded more freedom to link pay to profit, labour scarcity, etc.

Industrial wages and their uneventful evolution in the period 1983-87 for the GDR and CSFR are shown in Tables 8 and 9. Relative wage structure is similar to that found in Western economies, while wage dispersion in both economies is lower than in the West. More important, wage differentiation in Czechoslovakia appears to be higher than in the ex-GDR, and is comparable to the lower end of industrialized countries (Bell and Freeman, 1985). If there are costs to increasing wage dispersion to achieve reallocation of labour across occupations, the CSFR is in a much better position than the ex-GDR to accommodate structural change with less unemployment.

5.5. The role of unemployment benefits and severance payments

A critical issue for labour market adjustment is the system of transfers to the unemployed. Theoretically, unemployment benefits and severance payments are designed to protect workers' human capital from occupational, regional, or industry change in 'bad' States of the world. In times of massive structural change, unemployment benefits may retard worker mobility and may impede wage flexibility, if benefit levels act as a floor for wages. This is especially true in Czechoslovakia, where a decline in measured real wages is a central element of the reform package. Severance benefits and job protection will certainly affect job mobility, but pose less of a risk, since they represent one-off payments.²⁷

Table 8

Average wages of operatives in GDR industry

						(OM/month)
Industry		1983	1984	1985	1986	1987
Extractive industries		1 205	1 217	1 241	1 277	1 381
Food, beverages, tobacco		1 048	1 070	1 097	1 128	1 186
Textiles and clothing		950	974	993	1 042	1 112
Wood, paper and furniture		978	1 002	1 025	1 063	1 124
Chemical/related products		1 096	1 114	1 139	1 179	1 258
Glass, pottery, ceramics		1 078	1 091	1 111	1 142	1 209
Metal products		1 183	1 193	1 211	1 265	1 329
Mechanical machinery		1 111	1 133	1 155	1 194	1 259
Electrical machinery		1 063	1 085	1 106	1 138	1 193
Waterworks and supply		950	981	998	1 028	1 095
	Total industry	1 072	1 093	1 116	1 155	1 222
Unweighted coefficient of variation		0,079	0,072	0,072	0,071	0,073

Source: United Nations Industrial Statistics Yearbook, 1987.

⁷ In theory, workers and firms can undo the effects of severance payments by accepting appropriate cuts in wages. There is evidence from Western Europe, however, that these rules have effects on both labour force participation (positive) and on employment (negative). Firms are more reluctant to take on new staff unless they are expected to be permanent additions to the workforce. Otherwise, as in France and Germany, firms can use fixed-term contracts to avoid severance payments.

Average wage of operatives in CSFR industry

7
.1
.5
.8
4
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,9
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.9
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,1
,1
.2
7
,3
,0
4
.3
,2
.3
.3
,0
,1
.3
.3
.2
4
,6
,9
,4
81
) 7 3 3 1

Source: United Nations Industrial Statistics Yearbook, 1987, computed from total hours and annual wages of operatives. nec = not elsewhere classified.

In East Germany, the unification treaty provided for the adoption of the West German system of unemployment insurance. Some of the salient aspects of the two countries' programmes are described in Table 10. At the moment the unemployment insurance system in the CSFR looks quite generous: the current insured unemployment rate is roughly 80%, with little variation across regions, and higher than that in the ex-GDR. Furthermore, average disbursements are quite high: the average payment in October 1990 was roughly CSK 3 950 or 120% of the average gross wage, and nearly twice the gross minimum wage! This is explained by the incidence of job loss thus far, which has been concentrated in high-wage industries (mining, metallurgy and ordnance, for example). The programme seems both economically and politically unsustainable as unemployment rises. It is thus important for the Czechoslovak authorities to consider carefully the design of a system that does not lead workers in declining industries with high wages to postpone the decision to seek alternative employment.²⁸ Several les-

Table 10

Unemployment benefits in the CSFR and Germany¹

CSFR:

Type of programme: general unemployment assistance

Programme funding: general budget

- Level of income replacement: 60 to 80% with lower limit of CSK 1 400 per month
- Eligibility: universal, conditional on registration at employment office

Benefit duration: one year

Experience rating: none

Follow up: locally provided welfare benefits

Germany:

Type of programme: unemployment insurance

Programme funding: insurance fund

- Level of income replacement: 63 to 68% of net (after tax) monthly income, depending on family status
- **Eligibility:** unemployment insurance: must have worked at least 360 calendar days in the last three years in a job where unemployment insurance premia were paid; unemployment assistance: must have received unemployment insurance or have worked for 150 days in the previous year
- Benefit duration: unemployment insurance: one year, up to two and a half years for older recipients

Experience rating: none

Follow up: means-tested unemployment assistance benefits (58 %/ 63 % of net income) of indefinite duration; locally provided welfare benefits for those who do not qualify

April 1991.

sons are available from the Swedish experience, which virtually forces workers to accept public works jobs or participate in retraining programmes after roughly a year of uninterrupted unemployment (Björklund, 1990).

The relevance and importance of unemployment benefits for regional mobility can be inferred from the flow of East German migration, which has fallen dramatically since monetary union, despite high unemployment. The generous short-time work programme provisions have succeeded in nailing down workers in East Germany by requiring physical presence as a condition for drawing short-time pay; in the West they would qualify only for unemployment insurance benefits. This may prove more feasible than other proposals designed to stem the migration of workers to the West, which the Federal Employment Office estimates will anyway reach 200 000 in 1991.29 The problem will become acute in the summer of 1991, when the special short-time work provisions for East German enterprises are scheduled to expire, and unemployment could increase by as much as 150%.

6. Conclusion

Several conclusions emerge from this 'twin study'. First, the nominal exchange rate matters decisively. The real revaluation of the Ostmark precipitated a collapse of East German industrial activity, which arguably might have been competitive at some price. Second, revealed preference shows that the monetary overhang was an important factor in East Germany and will represent one in the CSFR in 1991. The confiscation of wealth implied by monetary union reduced the average per capita wealth of East Germans by roughly 30%, and unless other measures are introduced, inflation will perform a similar task in the CSFR. Finally, the twin experiment highlights the role of unemployment benefits in determining the future of the two regions. While Kurzarbeit will certainly contribute to keeping East Germans at home, it will postpone structural adjustment. Under current circumstances, the Mezzogiorno syndrome seems increasingly likely for East Germany, as migrants with the best alternative option leave and take their human capital with them. The striking performance of the West German job market in 1990 - 695 000 new jobs in 1990, or about 2,5% annual growth — will exacerbate this problem. Only the most mobile Czechoslovaks will be able to entertain the migration option.

²⁸ As of April 1991, a new system is to be implemented in the CSFR which guarantees a flat 65% of net income for the first six months of a period of unemployment, followed by another six months at 60%. See Burda (1988) for a discussion of this issue and a comparison of West European unemployment compensation systems. By the criteria developed there, the generosity of the proposed CSFR system lies somewhere between those of France and Ireland.

²⁹ Burda (1990a) suggests freezing key non-traded goods prices in the East, such as rents and transport, in order to maintain a cost gap between East and West, similar to that between the north and south of West Germany. The disadvantage of this proposal is that it may postpone necessary refurbishing of the housing stock and transport infrastructure.

Appendix

The following model is similar to those studied by Barro and Grossman (1971) and Malinvaud (1977) and presents the simplest static version without dynamics.

Households

A representative agent maximizes utility U(c, 1-l) over real consumption c and leisure 1-l subject to the budget constraint

 $pc = \omega l + m + pW - \tau$

where p is the nominal price of goods, ω is the nominal wage, W represents real non-monetary wealth, and τ is a lump-sum tax. *l* may be thought of as the fraction of the day spent working. Note that the wealth constraint does not include profits from enterprises, which is not essential but may be more realistic for the case of Eastern Europe.

Substituting the budget constraint and maximizing yields the first order condition

 $U_1(c,1-l)\omega = U_2(c,1-l)$

where ω is the real consumption wage. Total differentiation of this and the budget constraint gives a system of two equations in dC and dl, interpreted as small changes in optimal consumption and labour supply at the optimum, as a function of factors the household takes as given. The following comparative statics results can be shown:

 $\begin{array}{l} dc/d\omega = (U_1\omega - U_{22}l)/\Delta > O \\ dc/d\mu = -U_{22}/\Delta > O \\ dl/d\omega = (U_{11}\omega l + U_1l)/\Delta \text{ sign ambiguous, assume } > O \\ dl/d\mu = U_{11}\omega/\Delta < O \end{array}$

where real balances $\mu \equiv M/P$ and $\Delta \equiv -\omega^2 U_{11} - U_{22} > O$. We then write the consumption and labour supply functions $c = c(\omega, \mu + W)$ and $l^s = l^s(\omega, \mu + W)$, with $c_1, c_2, l_1 > O$ and $l_2 < O$.

Firms

The firm maximizes profits py - wl, where y is output produced using the constant returns production function f(k,l)with the usual properties. The capital stock is taken presently as given to the firms. The first order condition when maximizing over labour input l is $f_2 = \omega$, and the resulting labour demand and output supply functions are such that locally

$$l^{d} = l^{d}(\omega, \mathbf{k})$$

 $v^{s} = v^{s}(\omega, \mathbf{k})$

with both responding negatively to ω and positively to k.

Equilibrium

The market-clearing equilibrium is given by the two conditions:

$l^{d}(\omega,k)$	$) = l^{s}(\omega, \mu + W)$	() LL curv	ve

$$y^{s}(\omega, \mathbf{k}) = c(\omega, \mu + \mathbf{W}) + nx(y, e/p) + g$$
 GG curve

where nx is the net exports function $(nx_1 < O \text{ and } nx_2 > O)$, e is the exogenous nominal exchange rate, and g denotes real government purchases of goods and services. By inspection, the LL locus is downward-sloping, and the GG locus is upward sloping. Their intersection is the (ω,p) consistent with equilibrium in both markets.

To obtain the constrained equilibrium loci (the wishbone locus) it is necessary to fix one of the decision variables and look at the behaviour of the agents in the other market. It is easy to show that the upper branches of the constrained LL and GG loci will lie above their unconstrained analogues. In addition, ruling out inventory behaviour by firms leads to a collapse of the lower branches of the LL and GG loci. We do not show this here, as it is not essential given our focus on liberalization of prices and wages.

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Privatization in Hungary, Poland and Czechoslovakia

Irena Grosfeld

Delta, Paris, France

and

Paul Hare

Centre for Economic Performance (LSE) and Heriot-Watt University, Edinburgh, United Kingdom with research assistance from J.-F. Nivet, Delta, Paris, France, and Eva Voszka, Hungary

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1. Introduction: the main issues

After the excitement of 1989 and early 1990, with the collapse of the old communist regimes and their replacement with elected, non-communist governments, it is understandable that in the second half of 1990 there should have been a feeling of disappointment at the apparent lack of real change in Eastern Europe, especially at the microeconomic level. Privatization has proceeded more slowly than many outside observers hoped or expected, but this can be attributed partly to the need for new governments to settle in and establish their policies, partly to the sheer complexity of economy-wide privatization and the need to prepare for it carefully, and partly to wider concerns (especially among politicians and professional groups, to a lesser extent in the population at large) resulting from the so-called 'wild' or uncontrolled privatization that occurred in Hungary and Poland in 1989 and early 1990 (see Grosfeld, 1990; Hare, 1990). A further possible reason for delay by the new governments was their initial expectation that substantial aid might be forthcoming from the West, including debt relief for Hungary and Poland, along the lines of a new Marshall Plan for the East. On the other hand, now that both domestic policies and the likely scale of western aid are becoming clearer, it can be argued that privatization must be quite rapid in order to forestall a continuation of uncontrolled initiatives, as we discuss further below.

In the three countries studied in this paper, Hungary, Poland and Czechoslovakia (CSFR), there has been substantial change, at least in the form of active preparation for programmes of rapid privatization to be implemented over the next two to three years. By the end of 1990, all three countries had more or less detailed privatization plans in place covering both the major State enterprises and smaller businesses. These programmes are fully reviewed in Sections 3, 4 and 5 below. From these sections it will be apparent that the level of understanding about privatization, and the realism and clarity of the individual countries' programmes, still differed significantly. Section 2 summarizes available information on the extent of the private sector in each country. This is important from several points of view: creating a markettype environment and assessing the familiarity of managers with operating in such an environment, especially in responding to competition; providing a source of potential managers at various levels; spreading knowledge about the role and functioning of markets in the general population of each country. The final section of the paper draws out some important policy issues which could be applied more widely in the region.

In the remainder of this introductory section, we briefly review some of the main issues facing the architects of privatization programmes in Eastern Europe as these have emerged through theoretical discussions, concrete privatization models and proposals, and the limited practical experience that has been gained to date.

We shall take it for granted that privatization is desirable. In the East European context privatization should be seen indeed as the fundamental element in the process of creating a competitive market environment (see Grosfeld, 1991), and not only as a way of improving the performance of some State-owned enterprises. Hence one should not discuss the process as if it were merely a somewhat larger version of, for example, the UK's privatization programme, since that took place in an already established market environment, complete with all the required supporting institutions and infrastructure.

On the other hand, the lack of a market environment, which is a strong argument for privatization, is at the same time an obstacle to it. The virtual absence of well-established and functioning financial markets, and the lack of an established and well-understood legal and regulatory framework require great care to be taken in determining the place of privatization in the sequence of new policies. Security of private property, with its associated legal rights, responsibilities and liabilities, is an essential first step. In addition, it is important to establish the key financial markets, at least to a rudimentary level. Finally, anti-monopoly policy (which may entail breaking up larger firms into smaller units), domestic price liberalization, import liberalization, and reforms of the tax system can all be expected to influence enterprise behaviour.

Even though ownership change alone might appear to change very little, the recognition of owners other than the State is an important step towards a market economy. And once these new owners acquire rights which can be protected in the courts, the old system of State 'tutelage' will become increasingly unsustainable. Thus whether or not privatization succeeds in delivering immediate productivity gains, it has to be seen as an important means of breaking down the traditional State structures of the old-style planned economy. And these structures will not just go away by themselves.

If we accept that extensive privatization must form part of any serious reform programme (which is recognized by almost everyone with influence over economic policy in the region), there are several critical decisions to be taken, including:

(a) Scope of the programme: this allows for different sectors to be treated in different ways and also allows some sectors to be excluded altogether. Different types or sizes of enterprise can be treated differently.

- (b) Speed of implementation: again, this may vary according to the sector and/or size of enterprise. The approach taken here also depends on views about appropriate sequencing, such as the proper ordering of import and price liberalization, demonopolization, and privatization itself. It may also reflect a political judgment that rapid privatization is essential in order to maintain the momentum of a reform programme, along with the popular support for it. On the other hand, there are arguments that the government is responsible for the national wealth and should not sell it or give it away before it is carefully valued and proper owners are found. This is linked to the following point.
- (c) The degree of institutional engineering: some new institutions will have to be created whatever the speed and the programme of privatization (e.g. development of suitable financial intermediaries), but a decision must be taken on whether it is possible to rely on an organic development of these institutions, or whether more 'revolutionary' approaches are required. In the latter case, the extent of active construction of new institutions also has to be decided.
- (d) Method(s) of privatization: many possibilities have been proposed in the recent literature, and some of the more interesting ones relevant for the countries studied here are reviewed in the following sections.
- (e) The degree of order in the privatization process, the extent to which it is supervised by the State authorities or left to spontaneous forces on the basis of general enabling legislation. The key issues here are whether the administration of a privatization programme should be highly centralized, or decentralized to a variety of lowerlevel bodies; and in either case, whether the process should be controlled, or relatively uncontrolled.¹ As we shall see, all three countries under study here have chosen relatively controlled approaches, but with differing degrees of decentralization.
- (f) The question of whether or not there should be any restrictions on who the new owners of privatized firms can be (this issue obviously relates to points (c), (d) and (e) too).

- (g) The extent to which State preferences are reflected in the privatization programme. For example, this could take the form of the initial selection of sectors (or even individual firms) on which the programme would focus, privileges to foreign investors (or other investors) in certain branches, tax or credit favours for certain firms or types of firm, and so on. It is important both to assess whether such preferences exist and to evaluate their likely efficacy and economic desirability.
- (h) The extent to which there should be restitution to former owners. This could take the form of a physical return of the assets concerned, or financial compensation for their original alienation by the State.
- (i) How to manage what remains of the State sector. As explained below, it is apparent that the State sector will remain large for several years, even with rapid privatization. Hence improvements in its efficiency will exert a strong effect on the overall performance of these economies.
- (j) Finally, the extent and form of social protection associated with a privatization programme. All countries recognize that one effect of their reforms will be the shedding of labour by those firms capable of continuing in production, and the complete closure of many others. Hence it is to be expected that the social and political acceptability of privatization will depend on the social protection of incomes (e.g. through unemployment benefit), and on arrangements for retraining redundant workers. This is an extremely important issue, but it receives only very brief treatment below, for reasons of space.

2. Private sector activity in Hungary, Poland and Czechoslovakia

This section provides some tentative estimates of the scope of private-sector activity in each country, and also reviews certain measures other than privatization itself, such as Hungary's new bankruptcy law, which are designed to make the State sector behave more competitively. Ideally, a fuller account of the policy and institutional background in each country should be provided here, since their experience and progress towards a market economy was very different in the 1980s, and the new measures adopted in 1989 and 1990 have also differed significantly among countries. Unfortunately, lack of space prevents us from giving a detailed survey. For all three countries, data on the private sector are rather poor, but those cited below do at least give an indication of current trends.

I It has been argued, for instance, that the attempt by the State to control these processes in Poland and Hungary in 1990 has effectively slowed down privatization, and that this was initially quite damaging to the credibility of both countries' reforms. On the other hand, whether the implementation of programmes is decentralized or not, control is clearly important to prevent an effective takeover of each economy by those in a position to accumulate the necessary funds: this includes crooks, exmembers of the *nomenklatura*, and foreigners. From a moral point of view, the last group is obviously not in the same category as the others, but although foreign capital is welcomed in Eastern Europe, there would certainly be political concern if the share of foreign ownership became too high.

2.1. Hungary

For Hungary, which started to encourage small firms a decade ago, it is useful to examine changes in the size structure of firms in the economy since the new enterprise law came into effect at the beginning of 1989, the extent of the private sector, and the extent of privatization to late 1990. From 1988 up to September 1990, the number of economic organizations grew by almost two-and-a-half times. Limited liability companies showed the fastest growth, while the number of traditional companies and cooperatives was almost unchanged. As Table 1 indicates, the most dramatic changes came in the areas of foreign trade, domestic trade and transport. A very similar pattern can be seen if we study changes in the number of units employing fewer than

20 persons increased fastest, with limited companies again providing the main legal form. The result is a very marked change in the size structure of Hungarian firms, as indicated in Table 2.

While the large number of new start-ups is a very positive feature of the Hungarian economic situation, the slow rate of bankruptcy or liquidation is not. From January to September 1990, only 1,5% of economic organizations failed, and over half of these employed fewer than 50 people (see Table 3). Thus the termination of unprofitable activities, although commoner than in the past, is still a rarity (in industry alone about 300 of the State-owned companies were on the verge of insolvency in summer 1990). Moreover, the usual feature of market economies, whereby many new firms fail in their early years, is not yet much in evidence in Hungary.

Table 1

Number of economic organizations in Hungary by national economic branch and organizational form, 1988-90

		Company		Economic partnership		Of which: Ltd			Of which: joint-stock company			
	1988	1989	1990	1988	1989	1990	1988	1989	1990	1988	1989	1990
Industry	1 014	1 038	1 028	280	1 486	4 318	176	1 296	4 051	39	125	206
Building industry	265	259	247	115	740	2 3 5 8	50	663	2 266	3	17	45
Agriculture	159	158	172	70	177	481	4	104	389	1	3	16
Transport-												
communication	60	63	71	11	145	530	8	140	518	1	3	6
Home trade	325	324	313	145	1 273	4 660	78	146	4 468	18	60	122
Foreign trade	60	58	53	40	266	965	13	223	906	5	21	44
Other service	495	501	497	292	1 1 3 6	3 302	121	1 912	2 962	49	78	156
Total	2 378	2 401	2 381	953	5 223	16 614	450	4 484	15 560	116	307	595

	Of which : limited partnership		Cooperative		Other ¹			Total				
	1988	1989	1990	1988	1989	1990	1988	1989	1990	1988	1989	1990
Industry	1	_	_	1 545	1 568	1 556			_	2 839	4 092	6 902
Building industry	4	4		1 206	1 294	1 299			_	1 586	2 293	3 904
Agriculture	1	1	1	1 335	1 349	1 392				1 564	1 684	2 0 4 5
Transport-												
communication	1	1	1	76	83	79				147	291	680
Home trade	1	1	1	409	428	455				879	2 0 2 5	5 428
Foreign trade	6	2	2	_	1			-		100	325	1 0 2 1
Other service	20	23	5	2 309	2 3 5 3	2 3 5 8	600	536	565	3 696	4 526	6 722
Total	34	32	10	6 880	7 076	7 142	600	536	565	10 811	15 234	26 702

1988-89: status at 31 December. 1990: status at 30 September.

¹ The majority of this category are water management associations.

Source: Data supplied by the KSH (unpublished).

Number of economic organizations in Hungary by employment category and organizational form

< 20 pers.			21-50 pers.			51-300 pers.		
1988	1989	1990	1988	1989	1990	1988	1989	1990
95	97	104	139	137	159	693	712	725
367	3 4 4 1	12 277	200	937	2 518	254	628	1 467
256	3 266	11 960	96	799	2 322	67	366	1 1 4 4
32	66	135	21	51	108	29	90	182
12	12	3	12	11	4	6	5	1
1 090	1 1 56	1 251	1 1 7 8	1 265	1 127	2 0 2 8	2 047	2 1 2 0
462	402	428	1	1	1	64	64	66
9	9	12	42	47	51	9	9	2
2 023	5 105	14 072	1 565	2 387	3 856	3 048	3 460	4 380
	1988 95 367 256 32 12 1 090 462 9 2 023	 < 20 pers. 1988 1989 95 97 367 3 441 256 3 266 32 66 12 12 1090 1 156 462 402 9 9 2 023 5 105 	< 20 pers. 1988 1989 1990 95 97 104 367 3 441 12 277 256 3 266 11 960 32 66 135 12 12 3 1 090 1 156 1 251 462 402 428 9 9 12 2 023 5 105 14 072	< 20 pers. 1988 1989 1990 1988 95 97 104 139 367 3 441 12 277 200 256 3 266 11 960 96 32 66 135 21 12 12 3 12 1090 1 156 1 251 1 178 462 402 428 1 9 9 12 42 2 023 5 105 14 072 1 565	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$

	Over 301		No data supplied			Total			
	1988	1989	1990	1988	1989	1990	1988	1989	1990
Company	1 140	1 143	1 372	11	12	21	2 378	2 401	2 381
Economic partnership	99	189	314	33	28	38	953	5 223	16 614
Of which: Ltd	5	33	110	26	20	24	450	4 484	15 560
Of which: joint-stock company	34	99	169		1	1	116	307	595
Of which: limited partnership	1	1		3	3	2	34	32	10
Cooperative	983	983	891	1 601	1 625	1 753	6 880	7 076	7 142
Association	1	1		6	2	4	534	470	499
Other	1	1	1		_		64	66	66
Total	2 524	2 617	2 578	1 651	1 667	1 816	10 811	15 236	26 702
1088 80. status at 21 December									

1988-89: status at 31 December. 1990: status at 30 September. Source: Data supplied by the KSH (unpublished).

Table 3

Changes in the distribution of enterprise size in Hungary, 1988-90

Year			Number of	employees		
	1-20	21-50	51-300	301+	Unspecified	Total
1988	18,7	14,5	28,2	23,3	15,3	100,0
1989	33,5	15,7	22,7	17,2	10,9	100,0
1990	52,7	14,4	16,4	9,7	6,8	100,0

Source : Calculated from Statistical Office data.

Note: All figures are percentages of the number of economic units operating in the given year. For 1988 and 1989, data refer to the situation as at 31 December, while for 1990, the reference point was 30 September.

It is worth adding, however, that a new bankruptcy law has been prepared (see Szantó, 1990; Mora, 1990). On being declared bankrupt, either at its own request or that of creditors, a company gains three months (during which period only wages have to be paid) in which to devise a reorganization plan acceptable to its creditors, failing which the courts can enforce liquidation. It remains to be seen whether creditors, in the present uncertain business climate, will feel able to press their claims and enforce closures as required. The problem is that by pressing their claims, they may find that their debts simply have to be written off. Nevertheless, if they do so act, then the new law should help to remove the so-called queueing problem, whereby enterprises were effectively forced to grant each other undesired trade credit in order to keep going (this problem is also being addressed by sharp rises in interest rates on interenterprise loans, and by related financial measures operated by the banks).

If assets have to be sold to repay creditors, then the costs of the liquidation are covered first, along with wages owed to employees, then taxes and other contributions to the State, then payments for public utilities, and finally the ordinary creditors. Any remaining funds after everyone has been paid go to the owner(s) of a private company, or to the State Property Agency in the case of a State-owned firm. The new law, which came into effect at the start of 1991, also provides for the abolition of the State Rehabilitation Organization (SRO), the organization which hitherto had the task of restructuring State firms to enable them to keep going, often through merger with a more profitable unit. As a result, responsibility for some of the major enterprises being restructured and/or privatized by the SRO (such as the bus manufacturer Ikarus) now passes to the State Property Agency.

Strictly speaking, the above data are insufficient to indicate the expansion of the private sector. According to Statistical Office data for 1990, however, about 90% of the new organizations established up to September have no legal predecessor; most can be assumed to be private. From this, it can be estimated that about 40% of the total number of economic organizations were private by September 1990, and the private share was rising rapidly.² On the other hand, the private sector's weight in output and employment remains very small: in industry only 3 to 4%, and for the whole economy only 10 to 15%.

² Data from the Court of Registration of Capital offer more detailed information for a subset of new firms. Thus, of 2 198 limited companies (as of August 1990), 1 091 were exclusively owned by private individuals, 287 belonged to State-owned firms, and 820 were in mixed ownership. On this basis, it could be estimated that at least a third of economic organizations operate completely outside the public sector. Aside from new domestic businesses, a second source of private activity in Hungary is joint ventures with foreign firms. By early 1990 there were over 1 600 joint ventures in operation. Their share in total production was estimated at about 5,5%, and their share of total investment at about 11%. This foreign capital investment, estimated at FT (forint) 30 to 50 billion (UKL 150 to 250 million) per year, can be regarded as the lower limit of the extent of private ownership. Thus with State property estimated at about FT 2 000 billion, this implies 1,5 to 2,5% privatized already. An upper limit is provided by the estimated FT 115 billion value of the companies already operating as joint-stock companies, limited liability companies or some other Western-type form of company.³ This gives a figure of 6% for the extent of private ownership. This is certainly an overestimate, however, since the partnership form does not imply private ownership: most owners are still State-owned firms, financial institutions, and other State agencies.

2.2. Poland

As expected, the private sector in Poland adjusted much better to the new conditions created by the stabilization programme introduced at the beginning of 1990 (elimination of shortages, new structure of relative prices, increased competition resulting from trade liberalization) than the State sector. 'Creative destruction' worked relentlessly and a great number of private small-scale enterprises ended their activity, but many more were created. In 1990, the number of private firms increased two-and-a-half times, while the number of State enterprises grew only by 3 %.

Most of the increase was due to the spectacular rise in the number of private shops and retail-trade enterprises, albeit from a very low base compared with Hungary: in 1990, more than 58% of the new private enterprises (i.e. about 300 000 out of 516 000) were trade enterprises. Their sales increased dramatically. Private sector sales rose 4,5 times, while total retail sales fell by 16% (see Table 4).

Industrial output of the private sector increased by about 8% in 1990, in contrast to a 23% fall in State-sector industrial output. As a result, its share in total industrial output is estimated to have been over 11% in 1990, as against only 4,8% in 1989. Employment in the private sector outside agriculture reached about 16% of total employment in 1990,

In 1989 about 100 State-owned firms disintegrated into a mass of partnerships, and in 1990 about 70 more did so; most of the new firms created in this process do not, strictly speaking, belong to the private sector.

Formation and closure of economic units in Hungary by employment category in the first three quarters of 1990

Employment category	Number of employees							
Type of change	1-20	21-50	51-300	301 +	Unspecified	Total		
Formations	8 709	1 724	948	461	19	11 862		
Of which: with no predecessor	8 541	1 496	430	298	18	10 784		
Closures	153	118	118	59	25	473		
Total number of changes	8 862	1 842	1 066	520	44	12 335		
	1000							

Source: Statistical Office data (unpublished), Budapest, 1990.

Table 5

Percentage growth of total and private sector output, sales, investment and employment in Poland (Previous year = 100)

	1989	1990
Industrial output	99,9	77,0
private sector	122,0	108,0
Retail sales	97,3	84,0
private sector	161,8	450,0
Investment	97,6	92,0
private sector	102,6	97,0
Employment	99,0	97,0
private sector (excluding agriculture)	127,0	127,0

as compared with 10% in 1989 (see Table 5). Also, credits extended to the private sector grew rapidly, from only 2% of the total in 1989 to 10% in 1990.

The number of joint ventures rose very rapidly during 1990. By the end of the year, 1 645 were registered in Poland, as against 436 at the end of 1989. A project for a new liberal law on joint ventures, allowing for full transfer of profits and dividends, was submitted to the parliament in February 1991.

2.3. Czechoslovakia

In Czechoslovakia, the private sector was the smallest of the three countries in this study, accounting for less than 0,5% of non-agricultural output in 1988. Within agriculture, private

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farmers (most of whom are collective farmworkers who also farm private plots) accounted for only about 4% of the sector's output. In trade and services, the situation was not greatly different, with about 65 000 private individuals in such activities at the start of 1990, as against close to half a million employees in State firms and cooperatives in the trade sector, and a further 1,5 million in the remainder of services. Thus at the start of Czechoslovakia's reforms, the private sector was scarcely noticeable.

Since May 1990, a new law on the creation of private firms has been in force in Czechoslovakia. The law allows new firms to be formed, with no restriction on the number of employees or the area of activity, the only requirement being registration in a special court. The government supports this development by allowing accelerated amortization, some deferment of taxes on wages, and incentives to reinvestment.

However, some barriers still remain. One is the remaining controls on exports and imports. Access to certain inputs, as well as credit, is also proving difficult. Credit is especially difficult, since the commercial banks remain State-owned and bureaucratic, and subject to a highly restrictive monetary policy. Moreover, they do not really compete and lack the financial and business skills needed to assess the profitability of projects. Hence they prefer to provide credit to State-owned firms because of established connections and guarantees. Most new private firms are in no position to offer suitable collateral for a loan. Thus by the third quarter of 1990, credit to private entrepreneurs was only CSK 1,5 billion, about 0,25% of the total for the economy.

To illustrate the growth of private entrepreneurship in Czechoslovakia, membership of the Association of Entrepreneurs can serve as an indicator (see Table 7).

Poland: Employment and production in the private sector¹

	1985	1986	1987	1988	1989	1990
% of total employment	5,3	5,6	6,2	7,0	10,1	16,02
% of total industrial output	3,2	3,4	3,6	3,9	4,8	$11,0^{2}$

The table refers to the private sector outside agriculture
 Estimated.

Sources: Rocznik Statystyczny, 1990, and data provided by the authorities.

The data should be treated with caution, but they do reveal the main trend. Note, however, that most people are private entrepreneurs only as a second job at present, and many of the registered businesses may not yet be active. Most of the private activity to date is in the trade and service sectors. This is as one would expect, since these branches have the lowest capital requirements and are therefore easiest to enter. Moreover, there is clearly a strong demand for additional provision in these branches.

3. Privatization of State-owned enterprises in Hungary⁴

3.1. Legal framework

Over several years, including the period before the election of a non-communist government in spring 1990, Hungary introduced measures to encourage private or quasi-private activity, and to limit the State's proprietary rights. Thus even in the early 1980s there was legislation to permit a wide range of small economic units, forms of small enterprise and association (see Hare, 1983), and their number increased rapidly for several years. As a result, by the late 1980s, many of Hungary's shops and small businesses had already been leased out to existing managers (or other potential future owners), so that in this respect Hungary was well ahead of the other two countries studied here.

Within the State sector itself the State's rights were restricted in 1985-86 by the introduction of enterprise councils in twothirds of all enterprises (covering half the employees and capital stock). Under the conditions of the former system of economic management, this reform was seen as a way of granting greater independence to firms without threatening the overall system. The councils (or assemblies of workers' delegates) had the power to appoint the director, to determine the company structure, to decide about mergers and de-mergers, and to establish new economic organizations. The last included, after the 1988 enterprise law came into effect in January 1989, establishing partnerships which included some State property. This was the legal basis for the early, so-called 'wild' privatization.

The transformation law of July 1989 sought to regulate the conversion of State property into partnership form (commercialization) by recognizing the rights of the councils but putting some constraints on the process. These concerned the raising of capital, the entry of external owners, and the requirement that 80% of the shares and securities were due to the State Property Agency (SPA) as owner (or as representative, in law, of the State's ownership interest). Unfortunately, this law was easily evaded,⁵ since it applied only to fully transforming companies, and most chose to retain a small State enterprise as a 'property administration centre', a unit which held nothing but shares in the newly created spin-off companies, and perhaps a small administrative staff.⁶ Other shares would be held by other State firms (e.g. major customers or suppliers; and the banks, which often converted some of the firm's debt into equity).

The State Property Agency itself was established only in February 1990, under parliamentary supervision and with rather limited scope. Its formation under the former communist government of Hungary was a response to public concerns aroused by unfavourable reports about certain cases of spontaneous privatization.

⁴ Based on material collected and a report submitted by Eva Voszka, a researcher at Financial Research Ltd, a well-known Budapest-based research institute (it used to be located within the Ministry of Finance). In addition, Pál Valentiny of the Institute of Economics, Budapest, provided helpful comments on an early draft of this section, as did Marta Surányi at LSE.

⁵ By February 1990, the transformation law had been applied in full to only nine enterprises.

This issue of 'shell' companies has now attracted the attention of the authorities, who are seeking to identify and supervise them. Several were already under close supervision by summer 1990, and more were likely to be added to the initial list. For fuller discussion, see Juhasz (1990).

At the same time, an Act on the protection of State property entrusted to enterprises (the Protection Act) was approved. It governs transactions of at least FT 20 to 50 million (the precise lower limit depending on the form of the transaction) which involve the direct or indirect alienation of 'equity' interest in Hungarian business organizations, whether by sale of assets, stock or lease. The right to approve such transactions resides with the SPA.

After the elections, and the formation of a new government led by the MDF, it was clear that the State would reassert its proprietary rights and favour a more centralized approach to transformation and privatization issues. Accordingly, the SPA was placed under government control in July 1990, and in September its scope was greatly extended. Thus State enterprises could adopt a new company form (joint-stock company or whatever) only following preliminary examination and approval by the SPA. The resulting contract concerning the reorganization would also be signed by the SPA rather than by the company itself. At the same time, the law on foreign investments was modified. On the one hand, joint ventures no longer require a permit even when foreign majority ownership is involved, but on the other, the generous tax allowances and holidays have now been restricted to shorter time periods and fewer branches of the economy.

To sum up, market institutions, such as commercial banks, a bond market and now (since June 1990) a stock exchange, are already well established, while in November 1990 there was a new law on competition and prices. Enterprise law and laws applying to foreign investment are all quite satisfactory. However, this is not to say that all the new institutions and legal arrangements are yet working well. Particular doubts remain about the banks, since they still hold substantial amounts of debt in poorly performing enterprises. As a result, it is most likely that bank balance sheets will require major restructuring as part of a large-scale privatization programme.

Also, the legal regulation of the privatization process itself has been slow and uncertain, with legal provisions often correcting or changing processes that were already under way. Although this could be interpreted as a flexible approach, the frequent changes and delays have also created uncertainty for investors and other agents, and have facilitated the evasion of the law. The new government has been widely criticized for being slow to develop a clear programme to reduce the role of State ownership in the economy. On balance, however, we conclude that the combination of stated government policy goals along the lines indicated below, together with institutional developments such as the SPA, should allow Hungary's privatization to proceed satisfactorily even without a formal privatization law (subject to certain very important reservations discussed in the final section).

3.2. Privatization

Hungary's privatization programme for the coming three years was prepared in summer 1990, but few details were announced until the autumn, along with the rest of the government's programme. Over a three to five year period, Hungary expects to privatize about 50 to 60% of Stateowned assets, including the bulk of those in the so-called productive sectors of the economy. Partly because of the size of the (internal) government debt and partly because of its concern to improve enterprise management by concentrating ownership, Hungary rejects the idea of issuing coupons to the population at large (although there will be a limited give-away of shares to local councils, insurance funds, etc.). However, about 10% of shares will be made available to workers in the relevant firms at reduced prices, and subsidized credit will be available to allow workers to buy more (provided that they put up at least 20% of the share price). Personal investments in shares and joint ventures will be offset against taxable income from 1 January 1991.

For the bulk of State enterprises the Hungarian programme recognizes three types of privatization: State-initiated, enterprise-initiated, and externally initiated. In the first category, about 500 to 600 firms should be privatized over the period 1991-93. Those expected to have a future will mainly be sold through the stock exchange, while the weakest firms will be reorganized or entirely liquidated. (The World Bank and the Ministry of Industry and Trade are already studying how to identify such firms.) A variety of methods of sale will be used, including open and closed auctions, share issues, and leasing of State assets.

In the second category, about 300 to 400 firms are expected to choose to be privatized in the next three years. The third category is expected to be especially important for small and medium-sized enterprises. It provides an opportunity for any potential buyer of a firm, domestic or foreign, to make a proposal to the SPA. In principle the SPA is required to give a response within 30 days. It is not yet clear how effective this provision in the law will be, especially as it is easily evaded by requests for additional information (which may give another 30 days) or by declarations that the firm concerned might take part in one or other of the SPAinitiated programmes. Nevertheless, in principle, the availability of these three approaches, which recognizes the need to decentralize at least part of the privatization process and also gives opportunities to outside investors to declare an interest in acquiring certain firms, is both liberal and flexible.

Only a few concrete measures to implement this ambitious programme have been announced so far. One important step was the privatization law (the so-called 'pre-privatization') covering retail trade, the catering industry and other smallscale service companies. In this sector, the existing Stateowned companies' rights of disposal over individual business units have been suspended, but the SPA must organize their sale or disposal within two years. Although this has the advantage of accelerating the privatization of this sector (although still more slowly than expected in Czechoslovakia or Poland) within a clear legal framework, the drawback is that foreign capital will be excluded from this part of the privatization programme (politically, of course, the exclusion of foreign capital from this part of Hungary's privatization is quite understandable). Moreover, in many cases the privatization will be incomplete, since if the existing company was not the original owner of the business premises concerned (and this is widely so), then the new private entrepreneur can only lease the assets. Legislation to provide a general right to purchase may follow, but this is not vet clear. The rights of former owners, where they can be identified, also remain to be clarified.

Further details of this part of Hungary's privatization programme, along with the full list of businesses to be included in it, were still being discussed in spring 1991. Along with the SPA, the programme will be managed by the Ministry of Finance (which, since the appointment of a new Minister, seems likely to assume the leading role), the Ministry of the Interior (which supervises the local councils and hence controls the disposition of their assets), and the Ministry of Industry and Trade. A joint committee will be established to supervise the work of the team dealing with practical issues of administration, information, and so on. Where relevant, independent bodies will be called in to value the assets of the businesses being privatized.

In other spheres there is no general legislation to regulate the pace and direction of privatization, but the SPA has started to develop specific programmes, as well as continuing to deal with individual cases. On the latter, the SPA dealt with 42 cases in its first eight months (March-October), of which 6 were vetoed, 14 were approved and 22 were still in progress. In addition, the SPA dealt with 77 transactions covered by the protection law, and 13 of these were vetoed, mainly for the improper or incorrect valuation of assets (*Report of the SPA*, November 1990, Budapest).

The Agency now has to deal with more cases, however, since it must now approve every transformation, as indicated above. It has also taken several companies under its administrative control, such as Ganz-Danubius; this is probably to facilitate essential reorganization prior to privatization. The basic problem for the SPA is that it is currently very small but has enormously wide-ranging responsibilities to supervise all aspects of privatization in Hungary. It is questionable whether the agency has the capacity to do this. More exactly, if it takes its responsibilities too literally, and the small number of senior staff in the Agency insist on approving each application, then privatization is bound to be slow. The alternatives are to adopt 'bureaucratic' rules of thumb to speed up decisions, or to decentralize the management of the whole process. The Agency could also be greatly expanded, but this might be constrained by the lack of suitably qualified staff. In this connection, Tardos has criticized the present centralized approach and argued that the privatization process itself should largely be privatized (Tardos, 1990).

In September 1990, the first privatization programme was announced, involving the sale of 20 companies, mainly companies regarded as sound and with good development potential, including retail trade and catering industry businesses (see State Property Agency, 1990). Their total equity amounts to FT 33 billion (roughly USD 0,5 billion), while the total book value of their assets amounts to FT 73 billion. The SPA commissioned consulting firms and financial institutions to carry out this privatization. It did so by preparing prospectuses for the firms concerned, and inviting expressions of interest and tenders (from single firms or consortia). By December over 200 tenders had been submitted, and these were to be assessed by early 1991. The successful bidders would then have to carry out the actual privatization of the firms concerned (which may involve restructuring, reorganizing the balance sheet, and management changes), a process expected to take several months.

The basis for choosing the first 20 firms was not altogether clear (see Appendix for a full list), but the privatizations will be accomplished by a variety of methods, including public share offerings (with listing on the Budapest Stock Exchange, and possibly elsewhere), tenders (possibly with restrictions on who can bid), and some possibility of management buyouts and employee share ownership plans.

It was widely expected that this stage of privatization would be a success, but the situation may be different with subsequent batches of firms, likely to include some firms with very poor economic prospects and a history of loss-making. Groups of firms are expected to be brought forward for privatization every two or three months. Indeed, in early December 1990, a second privatization programme was announced. This focuses on so-called 'shell' companies where at least 50% of the assets have already been transferred to the forms of joint stock or public limited companies. Several other programmes are also under consideration, including the privatization of 'historic' vineyards, parts of the construction industry and some of the companies in monopoly positions.

It is clear that the Budapest Stock Exchange, formally reopened on 21 June 1990, is expected to be a significant player in the privatization programme. Before its reopening it had already gained some experience with secondary trading in securities, and Hungary had had a bond market since 1982. However, although some FT 30 billion of debt had been issued through the bond market by 1988, the market then virtually collapsed as a result of higher inflation (bond issues had all been at fixed interest rates, and real returns turned sharply negative), the introduction of the income tax (which included a tax on interest income), and the termination of State guarantees for bonds issued by companies. In the new stock market, almost all the trading is in equity, with the bond market scarcely functioning. There are normally 8 to 12 actively traded shares, of which two are listed (as of December 1990), the rest unlisted; volume of business is at present very low, in the range FT 6 to 60 million daily. The stock exchange is largely self-regulating, but the Ministry of Finance has established a Securities Supervisory Board to provide for closer regulation as and when required.

Privatized companies are expected to provide the main business for the stock exchange soon, with plans for 30 to 40 listed firms by the end of 1991. This would represent rapid growth for the stock market, but seems to imply that the SPA may not be able to privatize as many firms as it should, according to the government programme.

The Small Venture Development Office and the Subsistence Fund (Egzisztencia Alap) have been formally established but are not yet functioning effectively. The latter was meant to provide domestic entrepreneurs with preferential access to credit to facilitate privatization. But the Fund still has very limited resources, although the Hungarian National Bank has allocated FT 4 billion of the Fund's initial capital of FT 8 billion, the remainder coming from a German credit to Hungary (see Fund, 1990). Also, the Fund's scope and criteria for providing credit remain undefined. This is likely to hinder certain privatizations desired by the SPA, and in general puts domestic private capital in a relatively disadvantageous position.

The scope of Hungary's privatization has come under discussion recently. Thus in some sectors, such as the banks and other financial institutions, there are severe doubts about the desirability of privatization at all (see Asztalos, 1990). Despite this, some of the commercial banks are apparently already preparing themselves for possible privatization. In the area of publicly provided services (e.g. health and education), too, privatization is unlikely to occur soon, although private provision will no longer be prohibited. Much of the capital required to provide such services is being transferred formally to the new local councils elected in late 1990. In the near future, housing will be the main local asset to be sold to the population, but the rate of sales is not yet clear. Finally, especially in the countryside, the question of land sales or transfers is a controversial matter. It is partly connected with the Smallholders Party's policy of restitution to former owners, although on this the government is most likely to agree limited financial compensation in certain cases rather than the actual return of property. The real issue in the rural areas is what should happen to existing State farms and cooperatives. While individual State farms will probably be privatized *en bloc* just like State enterprises in other branches of the economy, the future of the cooperatives is less clear. In some parts of the country it seems that land is already being divided up into smaller plots for individual farms, despite the lack of legal sanction for such moves.

In the light of the above, the Hungarian privatization programme faces a number of problems. First, the extreme centralization of much of the process in a single small organization, the SPA, is likely to render the transformation bureaucratic and slow. Furthermore, the limited information available to the SPA may well, in practice, preserve the existing powers of managers and maintain the decisive role of bargains between firms and the government.

As far as drawing up privatization policy is concerned, this was initially neither the responsibility of the SPA nor of any individual minister. Instead it was a task for the Economic Policy Secretariat under the prime minister. Over the period June to November 1990, the views from this group changed substantially, from strongly favouring the centralized approach initially adopted in Hungary to proposals for company 'self-privatization', which would essentially continue early trends towards spontaneous privatization. In practice, if the overall goals for privatization are to have any realistic chance of being achieved, Hungary's approach may well have to move strongly in this direction, perhaps even with a requirement that firms prepare privatization plans for themselves within a specified, and preferably quite short, period (as seems to be envisaged in Czechoslovakia, see below). Many firms appear to be doing this already.

In any event, new guidelines for privatization (to guide the activity of the SPA) will be debated in parliament in early 1991. Also, as noted above, the new Finance Minister and the Ministry of Finance have taken the major responsibility for determining policy on privatization.

Views about the new owners are also very diverse, with all sorts of ownership now under consideration, both foreign and domestic, and including employee shares, too. Such an eclectic approach has the merit of flexibility and adaptability, but it also means that State priorities remain unclear and may be influenced by bargaining. But in practice, it may be extremely hard to settle priorities in advance, and there may be no choice but to try a variety of approaches in several different sectors, and gradually learn what is most effective.

Finally, given that half the economy will still be in State hands by the end of 1993, it is obviously important to find ways of managing public-sector firms more effectively. They cannot just be placed in a queue awaiting privatization, with no action being taken in the mean time. According to the director of the SPA, current plans are not well developed, but the intention is to change management of the most unprofitable firms, restructure some of them to protect viable parts of the various businesses, and force those which are unable to improve into liquidation. One helpful step was the elections for enterprise councils in autumn 1990. All managers in the enterprises concerned had to submit themselves to re-election. Some simply chose to resign, others were not confirmed in their positions. Although most were re-elected, this exercise should have allowed some of the least effective and most politically 'tainted' managers to be removed.

Kornai (1989) has argued for a fairly centralized management of the public sector, but given the established strength and relative autonomy of existing enterprise managers this is probably unrealistic both economically and politically. But whatever is done by the government must convince managers that their survival now depends on successful adaptation, restructuring and profitability. Pressures on the budget will be helpful in this connection, since managers can see that their usual source of subsidies is drying up; and banks, too, are likely to become less supportive as they become increasingly concerned about the profitability of their loan portfolios. But on the other side are the government's continuing fears about large-scale unemployment (unemployment was only just over 1% of the labour force at the end of 1990), and their associated reluctance to allow many large bankruptcies. At present it is hard to judge where the balance between these pressures will be struck.

What sort of private sector can one envisage in Hungary, in the light of these trends? Strictly speaking, it is really too soon to say, but the most important tendencies in practice have so far been the rapid extension of the private sector through its own efforts, unconnected with privatization, and the transformation of State-owned companies into partnership form (mainly joint-stock companies), with ownership dispersed among a number of State organizations. Both of these tendencies result from managerial initiative and in themselves provide no means for bringing about a fundamental restructuring of the economy, entering new markets, and modernizing the firms concerned. Thus the economy could develop into a dual structure with a small-scale, competitive private sector constructed ab initio alongside a transformed State sector (increasingly commercialized), which continues to be well connected with State structures and is gradually being privatized. This could form the basis for a corporatist form of economic structure.

4. Privatization of State-owned enterprises in Poland

4.1. Public opinion on privatization

It is difficult, and may even be misleading, to make any strong statements about the public's attitudes towards privatization because in Poland it does not yet represent a concrete experience. The general acceptance of the idea of privatization (according to public opinion polls taken in September 1990, 74,1% of people considered privatization as necessary, and 18,1% as unnecessary or harmful) is accompanied by a great deal of scepticism about its likely effects. Almost 70% think that in the foreseeable future (say, within five years), privatization will not yield any positive results. Also, it is expected to have more positive effects on the Polish economy in general than on people's individual situations. This expectation of positive effects on the economy as a whole was more widely held among those with higher levels of education or greater wealth, and among younger people. Almost a quarter of the sample expressed a willingness to buy shares in enterprises being privatized.

On the question of the basic principles of privatization, about 30% stressed economic efficiency, while about twothirds emphasized some principles of social justice (e.g. not harming anyone, avoiding the creation of new privileged groups). Aside from the general acceptance of privatization as an idea, other concrete questions all elicited contradictory answers, with the interesting exception of employee ownership, which was widely supported. Moreover, those favouring economic efficiency goals were more inclined to support employee ownership than those emphasizing various notions of justice.⁷

4.2. The Act on Privatization

Originally, the mainstream approach to privatization in Poland was close to the British approach, with careful valuations of assets, and their sale to individuals, Polish private firms and foreign investors through public offerings or negotiated sales. The first version of the Polish privatization law presented in autumn 1989 envisaged the transformation of all State-owned enterprises into joint-stock companies with all shares owned first by the Treasury and next the public

See Centrum Bandania Opinii Publicznej, 'Poglady na temat prywatyzacji', *Kommunikat z badan*, Warszawa, pazdziernik 1990; and CBOS, 'Prwyatyzacja w opinii spolecznej', *Kummunikat z badan*, Warszawa, listopad 1990.

sale of shares, with a certain number of them being reserved for the workers.

In subsequent versions of the programme, the government, sensitive to political pressures and increasingly aware that the orthodox approach to privatization comes up against some insuperable constraints (mainly the lack of domestic capital, and valuation problems), has been softening its position and significantly diversifying the methods of privatization envisaged. The Act on Privatization which was finally accepted by the Polish Parliament in July 1990 is the result of a compromise. It provides a general and very flexible framework for the privatization process, allowing for different methods of privatization and different forms of ownership: free distribution through vouchers, the sale of shares, individual and communal property, and employee ownership.⁸

According to the law, State-owned enterprises can be privatized at the initiative of their own management and workers' council (in some cases the Minister for Ownership Transformation can also order the transformation of an enterprise). Two privatization tracks are available: the transformation of a State-owned enterprise into a Treasuryowned joint-stock company (with the agreement of the Anti-Monopoly Agency) whose shares should be disposed of within two years, or the liquidation of an enterprise in order to sell its assets, use them as a contribution to a new company, or lease them for a fixed period.

During the vigorous, six-month debate preceding the law's passage, the advocates of employee ownership confronted those supporting 'citizen ownership' (as its proponents called it). In the event, the self-management lobby lost the day, but workers in privatizing companies were granted the right to buy up to 20% of the shares at half price. The upper limit of the discount was to be determined by the product of one year's average pay in the given enterprise and the number of employees purchasing shares. Provided that over half the shares remained with the Treasury, a third of the members of the Board of Directors would be elected by the employees. The Act also provides that privatization coupons (or vouchers) might be distributed freely to all citizens, allowing them to acquire shares of privatized enterprises, title to participation in financial institutions, or a share of the assets of wound-up firms.

According to the law, foreign investors can buy up to 10% of any privatizing enterprise. Beyond that limit, they need the approval of the President of the Foreign Investment Agency. This provision, clearly a concession to the political

pressures in Poland, provoked a very negative reaction in the West. Different representatives of the Polish Government are doing their best to limit the damage and assure potential investors that approval would be readily forthcoming; but unfortunately, the negative message was sent.

The passage of the law formally opened the way to the process of privatization of State-owned enterprises. But with such an eclectic law it was clear that the final decisions about the actual privatization strategy had only been postponed. The newly established office of the Minister for Ownership Transformation (who was only appointed two months later) was made responsible for the preparation of guidelines for privatization, and for the implementation of government policy on ownership changes. It took the next four months to prepare a privatization programme, but the preparatory work for the privatization of the first batch of enterprises started immediately.

4.3. Actual developments

In 1990 only a small fraction of the Polish economy was actually privatized. It took some time for the Ministry of Ownership Transformation (MOT) to organize itself, and for State enterprises to take decisions about entering a particular privatization track (the procedure was based, so far, on voluntary applications). But by the end of 1990, the process began to get moving: the legal and institutional framework for privatization was worked out and the first decisions were taken on developing the financial infrastructure. A securities commission and security law are being prepared (the US Securities and Exchange Commission will provide technical assistance to train staff), and the stock exchange is in the process of being established with help from the French Stock Exchange Association (the Lyons stock exchange has been chosen as a model for Warsaw).

So far, the actual process can be presented under three headings: the so-called 'small' privatization which relates to the communal property (that is, property controlled by local governments); privatization through the transformation of the State-owned enterprises into joint-stock companies and the sale of shares; and finally, privatization through liquidation and the sale of assets. We shall present an outline of each category of ownership transformation, without pretending to give a full overview of the process, which is sometimes chaotic and difficult to grasp.

4.4.1. 'Small' privatization

According to the law, from May 1990 the ownership of one part of State assets (land, building lots, shops, restaurants,

⁸ Three other fundamental laws, currently in preparation, will complete the regulatory framework for privatization: the Treasury Act, the Polish Trading in Securities Act, and the Act on Reprivatization.

apartments) was effectively transferred to the local authorities (municipalities or communes), which therefore became responsible for their privatization. The transfer of property rights to private hands was rapidly initiated, often producing certain tensions but also sometimes yielding remarkable results.

The latter are particularly noticeable in the case of privatized shops, which quickly change the appearance of towns and the quality of everyday life.⁹ Although on 1 October 1990 the civil code was changed to allow for the sale of different premises, shops are mainly rented or leased. Each commune may decide whether the employees should be given preference in renting shops, in which case a fixed rent is charged.¹⁰ Where auctions are the chosen method of privatization, often outrageous prices provoke strikes by the employees or result in the disappearance of traditional services: thus cobblers or laundry services are replaced by luxury boutiques. Sometimes, in order to protect the interests of consumers, local authorities compel the new owners to guarantee that they will provide the same kind of services that existed before privatization (similar restrictions are also being proposed in Czechoslovakia). Nevertheless, consumers often complain that even if, for instance, food products are still sold in a privatized store, basic goods such as bread, butter, milk or potatoes are replaced by luxury imported goods. The problems should disappear with the gradual stabilization of relative prices.

Tensions associated with the 'small' privatization are basically due to the fact that the legal and regulatory framework is lagging behind the actual process. Unresolved issues include re-privatization (i.e. the restitution of State property to former owners or their legal successors), the absence of clear, unified methods of valuation, and of clear preferences towards the existing employees. These generate conflicts which, to a certain extent, may be unavoidable, but they confirm once again the importance of trying to get the sequencing right. However, some obvious transgressions of the established rules have also been noted (sales of assets far below their estimated value, no public information about the sale, and so on).¹¹

4.4.2. Privatization through 'liquidation'

The Act on Privatization describes in detail the privatization of State-owned enterprises through their transformation into joint-stock companies and the sale of shares. The second privatization track, winding up an enterprise in order to dispose of its assets by selling them, contributing to a new company or leasing them (with or without the right of acquisition) to a corporation with worker participation, was somehow neglected by the legislators. It was probably considered of secondary importance. The liquidation procedure was not clearly described: it was implicitly assumed that it would conform to the rules determined by the Act on State-Owned Enterprises. However, the latter only allows for the liquidation of unviable enterprises, while privatization through liquidation under the Act on Privatization of State Enterprises also applies to enterprises in a viable financial condition. Moreover, unlike the former Act, it also allows for leasing assets.

Once again, the regulatory framework seems to be lagging behind the actual process. Unexpectedly, applications by State enterprises for privatization through liquidation are increasing rapidly: it is by far the most popular means of ownership transformation. In some cases, it seems to be used as a subterfuge, opening up the otherwise closed door to employee ownership.¹²

Up to the end of January 1991, the Ministry of Ownership Transformation had received 139 applications for liquidation.¹³ Of these, 88 have already entered the liquidation track. 31 enterprises in poor financial condition have been accepted for liquidation under the Act on State-Owned Enterprises, and their assets will be sold at auction. 57 enterprises will be wound up in accordance with the Act on Privatization, and their assets will generally be rented out/leased to companies set up by the employees of the previously State-owned firms. The remaining candidates for liquidation are awaiting a decision by the Ministry.

Such a centralized approach to privatization poses the problem of the processing capacities of the Ministry, which is unable to deal effectively with the growing number of applications. Aware of this constraint, the Ministry intends to alleviate the burden by working out simplified privatization procedures, and by delegating part of the responsibility to regional privatization agencies. This in turn might encounter

⁹ The process of privatization of State trade accelerated in the closing months of 1990. It has been estimated that 40 to 50% of the total number of shops were transferred to private hands in 1990.

¹⁰ In Warsaw, for instance, the employees of privatized shops were treated differently in different districts. In Mokotow district, where the process went smoothly, 80% of shops were taken over by the employees, and about 20% were auctioned (*Rzeczpospolita*, 29 October 1990).

For instance, the privatization of pharmacies, supervised by the Ministry of Health as the relevant founding organ, proved to be a notoriously irregular process. The Supreme Chamber of Control (NIK), responding to a motion from a group of deputies, decided to look at it carefully.

¹² See a case study described by Zbigniew Grzegorzewski, 'Wlasciciele jednej cegly', Zycie Gospodarcze, 27.1.1991.

¹³ The number of applications sharply increased in the last few days of 1990. The reason for this was the expected reassessment (revaluation) of enterprises' assets (by almost three times), which would increase the costs of acquisition or leasing of assets by worker-owned companies.

difficulties due to the lack of experienced people with the right skills to staff such agencies effectively.

4.4.3. 'Pilot' privatization: transformation into joint-stock companies and the sale of shares

Seven companies were originally selected for the first wave of privatization through an initial public offering of shares. Starting in August 1990, they went through a complex process of auditing and valuation with the help of foreign consulting firms, partly financed by the British Government's Know-How Fund. In one firm (the rolling mill Norblin), problems of valuation proved to be insuperable and it was removed from the first batch.¹⁴ Another (the meat processor Innowroclaw) was transformed into a limited liability company and then sold to 320 (of the total 350) employees through a leveraged buyout.¹⁵

The shares of the remaining five firms were publicly offered for sale on 30 November 1990. Subscriptions, accompanied by an aggressive and controversial campaign (prepared by a French advertising agency for over a million dollars), were originally scheduled to last for three weeks. But only one company was sold on time, and subscriptions went on for another three weeks. Finally, for the 4 330 000 shares offered for 300 billion zlotys (ZL) there was an over-subscription of about 7% (over 130 000 buyers applied for a total value of ZL 320 billion).

This was presented as a success story, and as far as the demand for shares is concerned it may be interpreted as such; Table 8 shows the ownership structure of the new firms. The difficulties were rather due to tactical mistakes and organizational weaknesses in the process. Declarations by Ministry officials that priority would be given to small shareholders were misleading and discouraged larger, strategic investors; they were only explicitly invited to come in at the very end.¹⁶ Organizational and marketing problems proved to be overwhelming: the banking system clearly failed

to manage an additional volume of transactions. A poor organization of the subscriptions delayed the process, with long queues,¹⁷ insufficient prospectuses and a lack of informed advice.

Table 7

Membership of Czechoslovak Association of Entrepreneurs

In Czechoslovak Federation:		
31.12.1987	38 200	
31.12.1988	51 200	
31.12.1989	86 900	
31.1.1990	148 500	
30.6.1990	224 100	
In Czech Republic:		
1.12.1989	65 202	
31.3.1990	109 970	
30.6.1990	163 952	
30.9.1990	255 851	
		-

Table 8

Poland: Ownership structure of the first 'Five'

Company	Public	Employees	Invitation to negotiate
Exbud	45	20	351
Kable	83	17	
Prochnik	80	20	
Krosno	50	20	30
Tonsil	50	20	30

¹ Of which 17,5% for managers, 17,5% for a core investor.

Source: Ministry of Ownership Transformation, Warsaw.

The next challenging task is how to organize the secondary market for operations later in 1991, but in order to ensure the credibility of the privatization process, shares in these newly privatized firms must be tradable sooner than that. This presents the banks with an immense and difficult task.

¹⁴ First, a Polish consulting firm, Procxim, prepared a preliminary report based on performance over the previous three years, and concluded that Norblin qualified for privatization. In 1990, however, the financial situation of the firm deteriorated, and four British consulting firms (Coopers and Lybrand Deloitte, Barclays de Zoete Wedd, Baker McKenzie, and Central European Trust), preparing the company for privatization, suggested methods of privatization other than a public offering.

¹⁵ The value of the enterprise was estimated at ZL 30 billion, with a book value of ZL 5 billion. The employees paid 20% in cash, and obtained a five-year credit, at a subsidized interest rate, to support their purchase.

¹⁶ One of the largest investors, the insurance company Westa, bought 20% of the shares in the clothing firm Prochnik. See *Rzeczpospolita*, 17 January 1991.

¹⁷ The queues were intensified by the provision that everyone using Treasury bonds to pay for shares would get a 20% premium. The bonds, originally issued in December 1989 (see Grosfeld, 1990), were still available at the time of these share subscriptions. Naturally, people queued first to buy bonds, then to exchange them for shares.

4.5. The privatization programme

The privatization programme for 1991 prepared in the MOT was accepted by the Council of Ministers and submitted to the Parliament in December 1990. In January 1991, after discussions with the Parliamentary Commission on Ownership Transformation, the new government resubmitted a revised version which, according to the law, will be voted on together with the annual budget (probably in February 1991).

The elaboration of the programme was influenced both by the actual development of the privatization process and by the accompanying debate. The valuation of the first 'pilot' privatizations, not unexpectedly, turned out to be difficult, time-consuming and expensive,¹⁸ reinforcing the position of those who were advocating faster privatization. The need to accelerate the process was used as an argument in the presidential campaign, which created high expectations as to the possible pace of privatization: the latter is now largely perceived as the key element of an anti-recession strategy. The urgency of transforming enterprise ownership and clarifying its legal status was advocated as a means of eliminating dual power in the State-owned enterprises (which formally belong to the State, while the right to dispose of their assets is to a large extent exercised by the workers' councils).

Considerations of macroeconomic stabilization (a fear that the government might not be able to resist the strong pressure in favour of wage liberalization) also played a role in the debate on privatization strategy. Ownership transformation and the subsequent elimination of the excess wage tax were seen as a safety valve for the tightly controlled sector of State-owned enterprises. Starting from 1 January 1991, the excess wage tax does not apply to private and privatized enterprises and it is alleviated in the case of commercialized enterprises.¹⁹ It appears, however, that there was some overshooting: getting rid of the excess wage tax has proved to be such a powerful incentive that a lot of enterprises apply for privatization even when there is no real prospect of finding a buyer; eventually, the only remaining option would be a leveraged buyout by the employees.

In order to realize the overall goal, which is to privatize over half the State assets within three years (essentially the same as the Hungarian objective), the Polish privatization programme combines the standard methods and an unorthodox approach based on free distribution.²⁰ The latter will apply to most of the largest manufacturing enterprises (the first 500, according to their gross sales, which amounts to 65,9%of sales, 73% of gross profits and 49% of employment of all Polish manufacturing enterprises). Selected large firms will be privatized in the classical way through public offering or outright sale to private investors. Small and mediumsized enterprises (over 2 500 industrial enterprises and 3 000 others) will be privatized through buyouts, sales or dissolution (liquidation).

Large firms requiring a diversified ownership structure will first be transformed into joint-stock companies and then about 70% of their shares will be distributed freely among citizens, workers (up to the limit specified in the law),²¹ the Social Security Fund, and other financial intermediaries (in a previous version of the programme, commercial banks were envisaged as potential trustees of shares, but in the latest version, this idea seems to have been rejected). The State will normally retain a minority stake to be sold off at a later date.

About 30% of shares will be given to all citizens in the form of vouchers. In order to avoid negative consequences of such a dispersed ownership, create an effective corporate governance for privatized companies and provide some pooling of an unusually high risk for the citizens (because of the lack of any reliable information about the market value of the shares in privatized enterprises, and lack of understanding of the workings of capital markets), the vouchers would be exchanged for shares or units in several privately managed privatization funds. These funds would initially be owned and operated by experienced foreign firms with considerable investment expertise.

Although the exact design and constitution of the privatization funds are still under consideration, their role, and the mechanics of the process, are expected to be as follows. The funds would use the vouchers to bid for shares in privatizing

¹⁸ Privatization of the first five enterprises cost USD 5,7 million, i.e. about 17% of their estimated value. See *Gazeta Wyborcza*, 23 January 1991.

¹⁹ Namely those which have a corporate structure and a board of directors. Commercialization of State-owned enterprises became a controversial issue in Poland. Creation of a corporate structure is sometimes seen as a necessary step ensuring (political) irreversibility of the process. A strong resistance to commercialization comes from two sides: from those whose vested interests are taken away, i.e. workers' councils; and from those who consider it to be just a paper change, without substance.

²⁰ The case for free distribution was worked out in an important debate initiated by Lewandowski and Szomburg (1989); two recent, important contributions which heavily influenced the final shape of the programme were Frydman and Rapaczynski (1990), and Lipton and Sachs (1990a).

²¹ It was suggested that employees should get 10% of shares free. However, it is not yet clear whether such a reinterpretation of the Act on Privatization would be accepted by the parliament, or by the courts. It may be argued that 10% free is equivalent to 20% at half price, but according to the law the discount should be determined by the price offered on the first day of sale. But in the case of free distribution the valuation would be postponed and book value is an extremely poor 'proxy'. Still, some method of giving away shares to employees must be found; otherwise they are not likely to accept a procedure which would delay significantly their access to ownership.

companies. How the auctions will be organized has not yet been settled. The original idea was to have a competitive bidding process which would ensure that the intermediaries would examine companies carefully as soon as possible, and that the allocation of shares in privatizing companies would reflect the relative valuations assigned to them by the privatization funds (see Frydman and Rapaczynski, 1990). However, the organization of an auction ensuring that the markets are cleared with each company having at least one large shareholder may prove to be cumbersome, and its transaction costs prohibitive. An alternative would be a simple allocation system, which is also contemplated in the Ministry of Ownership Transformation. A final decision will be taken after the feasibility studies for the voucher scheme and the privatization funds have been completed.

The incentive structure for the fund managers should induce them to manage the assets of the fund in the interests of the unit-holders, and to assume an active role in overseeing, restructuring and other activities tending to maximize the value of companies in the fund portfolio. The shares of these companies will be tradable. The fund will also manage the shares of the Treasury (30%) until the restructuring process is well under way and the shares can be sold (preferably to a core investor); the Treasury would appoint one member to the board of directors of each fund and would also have a golden share for approval of the sale of its stake. Initially, the funds will be organized as close-end funds. Once the shares of the underlying companies are listed on the stock exchange and the funds become more liquid, units in the funds will become redeemable. From the unit holders' perspective, the funds will be structured as mutual funds, making it possible to diversify risks and maximize the long-term returns to shareholders. From the companies' perspective, the funds should behave as venture capital funds.

This is the architecture of the programme. It poses a great number of policy issues and requires an exceptional organizational and logistic effort. Privatization funds, the key element in the programme, do not yet exist in Poland (and even in Western countries, such an intermediary institution combining the skills of a merchant bank, an investment bank, a venture capital manager, and an auditing and consulting company, is hard to find). The Ministry of Ownership Transformation intends to invite foreign financial intermediaries, possibly in cooperation with Polish counterparts, to establish such funds in Poland. The 'constitution' of the intermediaries should be carefully designed to ensure, on the one hand, that they have sufficiently strong incentives to come in and, on the other, that their strategy is compatible with the interests of the Polish economy.²² Further policy questions include: how much choice should voucher holders have in disposing of vouchers and selecting funds? How should shares be allocated to intermediaries? Will funds be obliged to divest, and if so, how? Should vouchers be distributed in a physical form or as a book entry? Should they entitle people to shares in one intermediary or many? Should they be transferable and when would they expire? Should people have to pay for their vouchers (see section on Czechoslovakia)? What upper and lower limits should be established on fund shareholdings? Will there be any initial restrictions on trading in the funds' shares? How will the funds' managers be remunerated?

All these questions indicate a clear trade-off between the potential political impact of free distribution (dependent on the speed of the process and the degree of choice left to the public) and its operational and administrative burden. More generally, the whole privatization process seems to be constrained more and more by the administrative and organizational potential.

Finally, whatever the speed of privatization, a significant number of enterprises will remain for some years in the State sector. The government thinking about this problem includes the creation of holding companies in which private equity participation would initially be at least 10%, and which would be managed by foreign investment banks or other private partners. These holding companies would actively manage a portfolio of Treasury-owned companies until these are sold to the public.

5. Privatization of State-owned enterprises in Czechoslovakia²³

5.1. Background

Unlike some of the other East European countries, including Hungary and Poland, Czechoslovakia begins its transformation from a more balanced initial macroeconomic position, although with far less experience of private-sector activity in recent years. Thus at the end of 1989 its external debt was about USD 8,7 billion, of which USD 7,9 billion was in convertible currencies; and the debt service ratio was about 20%. Also, the monetary overhang (i.e. the stock of forced savings held by the population) seems to be small, and the government has traditionally employed a very cautious fiscal and monetary policy. Finally, explicit budgetary subsidies

²² For some discussion of possible forms of undesirable behaviour by these intermediaries, see Aghion and Grosfeld (1990).

²³ Based on material collected by J-F. Nivet, Delta, Paris, during a visit to Czechoslovakia in November 1990, which enabled him to write a report for this project.

to industry are smaller than elsewhere. These should be further reduced from the start of 1991, in tandem with the introduction of price liberalization in Czechoslovakia.

On the other hand, the country's high dependence on Soviet oil and gas in recent decades, and its high exports to the Soviet Union, present serious adjustment problems in 1991, with substantial terms-of-trade losses. There will also be significant social resistance to the removal of consumption subsidies, and increasing difficulties in maintaining living standards, not least because improvements in living standards in the last few years have largely been at the expense of investment, and this can hardly continue.

Privatization itself is complicated, as in the other two countries, by the extreme concentration of production,²⁴ by the outdated capital and product mix, by serious valuation problems, and by the lack of savings. Accumulated savings are estimated at about CSK 330 billion, which represents only about 10% of the book value of State assets. As in most countries, the distribution of these savings is highly unequal, and there is widespread concern that a significant fraction of them may be held by members of the previous establishment and participants in informal or illegal markets.²⁵ Politically, it is considered impossible for the government to privatize in a way that would merely return economic control to such groups. In any case, privatization itself is not needed to deal with the monetary overhang since, as in Poland in 1990 (and in 1991 in Hungary, less dramatically), any problem of this sort will be dealt with through price liberalization and the creation of limited internal convertibility. Hence the existing proposals to make use of a voucher scheme (see Charap and Nivet, 1990).

5.2. Legal provisions

Although it has reformed the commercial code to permit private firms (see Section 2), Czechoslovakia has not yet introduced a law on bankruptcy (unlike Hungary). However, in late 1989 it improved the existing law on joint ventures to encourage more of them, recognizing that injections of foreign capital and expertise would make an important contribution to the country's transformation. There is now no restriction on the share of capital that can be owned by the foreign partner, who can provide 100% of the capital. Favourable fiscal conditions are also offered: a profit tax rate of only 40% compared with 55% for a normal firm, with tax exemptions in the early years. Joint ventures were required to hand over 30% of their convertible currency profits to the central bank, but since the introduction of internal convertibility from early 1991 all foreign currency proceeds must be handed over, while foreign currencies may be freely purchased at the official rate.

The new law resulted in a rapid increase in joint venture activity in 1990. From only 20 at the beginning of the year, the total rose to about 600 by November, mostly in the service sector (tourism, consulting, etc.). Germany and Austria are at present the leading investors, although amounts of capital are generally small. Some of these ventures provided convenient vehicles for so-called 'wild' privatization, as in Hungary and Poland; however, the extent of such activity seems to have been rather less than in those countries.

An unusual feature of the Czechoslovak privatization process is the Law on Restitution, which came into effect in November 1990. The law deals with the nationalizations that took place after 1955, mainly of small businesses.²⁶ The goal of the law is to clarify the rights of dispossessed owners and hence remove a possible ambiguity from the definition of property rights. Former owners have six months to notify a claim and, once approved, compensation takes the form of physical restitution of the asset concerned. Of course, in some cases, this will not be possible because the original assets no longer exist or have been completely renewed or transformed; in such cases suitable financial compensation will have to be agreed. One can expect that the associated procedures will take some time, because of problems of information and the identification and verification of former owners. This could delay parts of the privatization process. This possibility is strengthened by a decision of the Czechoslovak parliament in late February 1991 to extend the law on restitution to cover nationalizations that took place between 1948 and 1955, a period that includes the nationalization of some of the largest firms:

A more serious issue is the nationalizations that occurred before 1955, mainly in 1948-50. They concerned the larger businesses in manufacturing industry, construction, commerce, etc. There is now some discussion about a possible

²⁴ Thus in the whole of industry, which produced 59,6% of NMP in 1988, there were only 813 enterprises in 1988. By early 1990, however, this had already risen to 1 133 as a result of 'spontaneous' deconcentration and a limited amount of 'wild' privatization.

Precise figures on the distribution of savings across the population are not readily available for Czechoslovakia. However, a study of income distribution in Hungary and Poland (Flakierski, 1986), showed that the richest 10% of households in each country received about 20% of total household income. Since the institutional and policy environment was substantially the same in Czechoslovakia, the situation was almost certainly the same there. And as savings are generally far more unequally distributed than income, the statement in the text is probably a good approximation.

²⁶ But note that in mid-February 1991 the law was extended to cover nationalizations since 1948. Detailed arrangements for administering this part of the law had not been determined at the time of writing.

restitution law to cover this period, although finding the former owners would be far harder, and only financial compensation is envisaged. So far, Czechoslovakia is the only country which has passed any legislation of this kind, though the Smallholders Party in Hungary (part of the governing coalition) continues to demand something similar with regard to land in Hungary. Such proposals are likely to be resisted, however, except for some modest provisions for some financial compensation to former owners (see Section 3).

5.3. The privatization programme

The privatization process in Czechoslovakia falls into two parts: the small-scale programme involving sales of businesses for cash; and the large-scale programme based on the distribution of vouchers to the population. Both parts of the programme will make use of auctions.

5.3.1. The 'small-scale' programme

This will be run by local committees set up explicitly for the purpose. The committees are supposed to work independently, with the Ministry for National Property Administration and its Privatization (MNPAP) acting primarily as adviser, but also in a powerful supervisory capacity. Local committees will be required to prepare enterprises for privatization after a potential purchaser expresses interest. These arrangements impose no upper limit on the size of firm to be privatized in the 'small' privatization, provided that there is an interested buyer. Thus the 'small' privatization in Czechoslovakia is not the same as in the other two countries, since it is not confined to small shops, service establishments and factories (typically those formerly supervised by local councils).

The transfer procedure will normally take the form of auctions. Participants will be required to pay CSK 1 000 (for comparison, the average monthly salary is CSK 3 200) for each auction and to deposit 10% of the auction 'starting price'. The starting price will be determined by independent appraisals: it will comprise the estimated value of the land, building, equipment and machinery. Inventories are to be paid for separately. If there are no buyers at the predetermined starting price, current legislation allows the sale price to be gradually lowered to a minimum of 50% of the original price, provided that there are then five auction participants. It is not yet clear how this arrangement will work in practice.

In the first round of these auctions, only Czechoslovak citizens will be allowed to participate. But if the first round fails, a second auction can be held several months later in which foreign participation will be allowed. The proceeds of these sales go to the republic level of the State Funds of National Property, but they are frozen for two years except to finance the organization of further auctions.

The 'small' privatization was under way at the end of 1990 and continues during 1991. The first auctions obviously involve those businesses whose former owners are known or easily identified. At present it is not easy to judge how successful this form of privatization will be, although part of the population does appear to be willing to invest in shops, restaurants and other parts of the service sector.²⁷ But some problems remain. First, the high entry fee to the auctions (CSK 1 000) will deter many potential buyers, so this barrier should be removed except for foreign investors. Second, there is the issue of access to credit referred to above, and the population's inexperience with mortgagetype loans (as well as the inexperience of the financial institutions). The behaviour of the local committees, and of the local authorities which currently control the bulk of the businesses being privatized in this programme, will also be critical for success. Given the decentralized implementation of the programme, it will probably prove useful for the MNPAP to act as a clearing house/information centre on best practice as it monitors progress in different districts.

5.3.2. The 'large' privatizations

These concern larger firms which could not be bought by a single investor. While the general conception of the programme has been approved by parliament, including the principle of the voucher system, many details are still under discussion and final decisions are only expected in early 1991.

The main idea seems to be that each enterprise should be required to prepare its own privatization plan within two months. These proposals will then be submitted to the MNPAP in the Czech and Slovak republics for compilation into lists which will, in turn, be submitted to the republic parliaments for approval. After parliamentary approval, property would be auctioned for vouchers to the public. One exception to the voucher method in the large-scale privatization is the case of enterprises, such as joint ventures, with foreign capital participation. Shares in these firms will

At the beginning of February 1991, the first auctions of businesses in the 'small' privatization programme were held in Prague. Bidding was lively, with some prices offered being far higher than expected, possibly unrealistically so. Businesses were not being sold outright, but leased for two years; thus extensions to leases will have to be renegotiated with the new owners of the various properties in two years' time.

only be available for cash sales, not vouchers; this could prove to be a significant limitation on the scope of the proposed voucher scheme.

Three categories of State-owned enterprises are distinguished. The first includes public utilities and other regulated State-owned enterprises in defence, telecommunications, etc. They represent about 30% of the State-owned enterprises and will remain in State hands. The second category includes the State-owned 'heavy industries', such as mining, metallurgy, engineering, etc. These will not be privatized in the early stages of the process, probably because many of these firms are loss-makers and require substantial reorganization and restructuring before they can be privatized. Also, Czechoslovakia may not yet be prepared to contemplate the large job losses that would necessarily accompany this process. The third category includes the Stateowned 'light industry' enterprises, and this is where the first stage of the 'large' privatization will focus.

Between 500 and 2 000 enterprises will be proposed for privatization in the first round of the 'large' privatization, the exact number partly depending on the extent of demonopolization that is carried out before the process begins. Breaking up large firms is a difficult and controversial matter in all the countries under study here, and could be used as a pretext for delaying privatization. Probably Lipton and Sachs (1990a) are correct in arguing that external competition resulting from trade liberalization and internal convertibility will limit the exploitation of monopoly power, and that competitive forces will stimulate much of the required reorganization of industry over the next few years. Hence there is no compelling reason to hold up privatization.

Before privatization, enterprises will be commercialized, that is, transformed into joint-stock companies with a board of directors appointed by the government. This commercialization does not face the same problems as in Poland, for instance. For in Czechoslovakia the powers of workers' councils were never as great as in Poland (or Hungary, for that matter), and in April 1990 the so-called 're-nationalization' took place, dissolving the councils. In that respect, the legal framework and the definition of property rights are clearer than in other countries. At the same time, though, it is still not certain how enterprise capital structures will be treated at the commercialization stage: in particular, how will outstanding debt be treated, and how much of the book value of capital will just be written off or written down in preparation for privatization? (In the case of writing off loans, there will also be implications for bank balance sheets, a point which is discussed more fully below.) Experience in the UK indicates that this is a very important practical concern.

For any given firm, only part of the capital will be put up for auction by vouchers, usually about 40%, although in a few cases up to 80%. The remaining capital will then be available for several purposes. These include distribution to employees, although the employee ownership lobby seems to be weaker in Czechoslovakia than in Poland; hence this share, if it exists, is likely to be small. Some of the capital can be sold to foreign investors, on a basis to be decided case-by-case by the authorities (as was done with the transfer of Skoda to Volkswagen's control in December 1990). Finally, some capital can be retained for future sales to the population, once transactions in the initially distributed shares have established reasonable share prices. In this connection, it is expected that a stock exchange will be organized during 1991.

While the principle of auctions using vouchers has been accepted, its precise organization is still undecided. All Czechoslovak citizens over 18 years old will be authorized to acquire a voucher (or an investment coupon) divided into 1 000 points. It is unclear whether any fee will be paid for this voucher. One proposal is for a fee of CSK 2 000, but this would establish a very high barrier to entry. If the purpose of a fee was simply to cover the costs of auctions, a fee of only CSK 50 would be sufficient. This last proposal is also more compatible with the general intention of free distribution, which would emphasize the fairness of the process and encouraging social support for privatization.

However this issue is decided, once vouchers have been distributed citizens will apparently receive the complete list of firms to be privatized (in the particular round), with information on their activities, number of employees, previous profitability, and so on. Then auctions for shares will be organized. Two methods are being considered. Under the first, each citizen would establish a list of enterprises in which he/she was interested and at what price. The second method would involve organizing formal auctions, meetings of interested voucher holders, at which the whole or part of an enterprise's capital could be sold off using a Dutch auction system.

This programme raises many questions. The first concerns the concrete organization of the proposed auctions. In particular, the implementation of a large auction at national level seems quite unrealistic, partly for practical, administrative reasons and partly because of the likelihood of massive oversubscription for some firms and lack of interest in others. This might make the whole programme appear to be a failure, and undermine the government's entire approach to privatization.

The proposed programme comes up against severe problems of information. It will be very hard for an inexperienced population to assess the future profitability of firms in a very uncertain environment, not least in the presence of subsidies which are bound to bias judgments. People's judgments, which will determine their future wealth, will inevitably be based on very uncertain appraisals, and if there were many mistakes the outcome could generate socially dangerous feelings of injustice and disappointment. This danger is intensified by the fact that diversification of portfolios will probably be very difficult. In this respect, the creation of mutual funds can be expected to help, but it is not clear whether they are expected to evolve spontaneously or whether the government will actively help to establish them.

Another negative aspect is the creation of a dispersed ownership which does nothing to provide strong, effective management. For, as stated in the introduction to this paper, the principal goal of privatization should be the improvement of efficiency. Even though trade in shares will begin after the implementation of each auction, lack of information, the limited domestic capital market and the dispersion of shares will hinder the emergence of shareholders with a significant share of the capital. Moreover, the government will initially retain a part of the capital. To this extent, the creation of strong managerial control might be postponed until, for instance, the intervention of a foreign investor. In this respect, the Czechoslovak programme seems to be less fully developed than the Polish one.

It is also the case that the proposed reliance on auctions ensures that the government receives very little revenue except from the 'small' privatization. Because of the already sound budget situation, however, this may be less important than in, say, Hungary, where the government has placed great emphasis on its need for revenue. In addition, there could be some danger of inflationary pressures, engendered both by the sale of shares soon after the auctions and by early distributions of dividends.²⁸ But the latter might well be fairly limited in the next few years (in which case, one wonders why the population should be interested in acquiring shares), while the former depends on household saving behaviour (here it is worth noting that most of the population would not understand very well that share purchases were part of their savings). With high uncertainty about the future, precautionary saving could be very important, even if longer-term expectations of an improvement in the economic

situation led to a higher permanent income which might stimulate current consumption (see CEPR Report, 1990).

The more optimistic observers see April 1991 as the date for the initial implementation of the 'large' privatization in Czechoslovakia. But the unaddressed practical problems will probably delay everything by some months. Interestingly, too, some of the problems referred to above have already led to some rethinking of the vouchers scheme. Specifically, the Polish approach of combining vouchers with the development of new intermediary financial institutions (holding companies, or privatization funds) is now being considered.

6. Policy issues compared: lessons and conclusions

From the above review of the beginnings of privatization in three countries, we have seen that a number of different methods are going to be used. The 'small' privatizations in Hungary and Poland involve selling or leasing the shops and other small business establishments under local authority control, while in Czechoslovakia the same expression denotes a rather wider phenomenon, including all businesses which can reasonably be sold to a single buyer. Various forms of auction will play a part in selling or leasing these smaller businesses in all three countries. This part of the respective privatization programmes is expected to proceed relatively quickly, being substantially completed within two years. It is also expected to be generally popular. However, some delays or complications may arise from the restitution issue (whether/how to restore property to former owners), which is already a live political issue in Czechoslovakia, is becoming one in Poland and, at present, is least important in Hungary.

As regards the 'large' privatization, the transfer to private ownership of the largest State enterprises, the approaches being pursued in the three countries exhibit greater variation. Thus Hungary is committed to the British approach to privatization, with firms being transformed into joint-stock companies and their shares sold through the stock exchange or other suitable channels. At the same time, some firms will put forward their own plans for voluntary privatization, while it is also possible for third parties to make offers for Hungarian businesses. Only limited proportions of the shares in Hungarian companies will be sold to workers at a discount, or transferred to pension funds, insurance companies, and so on to form their initial capital.

²⁸ In the case of share sales, most transactions would involve low income people with a relatively high marginal propensity to consume selling shares to better-off people who would probably have saved in some other way, in any event. Hence there would be a net increase in consumption demand. With dividends, the position is less clear. But if shares are initially distributed fairly evenly across the population, a high proportion of dividend income would certainly be consumed too, especially in the early years.

In contrast, the other two countries both favour methods of privatization which involve the free distribution of vouchers to the population, these vouchers then being used to buy companies being privatized. In Poland, the vouchers would actually purchase companies indirectly, via newly created privatization funds; but the initial conception in Czechoslovakia involved people bidding directly for shares in individual companies (although, as indicated above, there are now signs of rethinking about this). In both countries, free distribution would be used to dispose of only about half of each company, the rest being sold in larger blocks over a longer period to ensure a sufficient concentration of share ownership to provide a strong interest in good (i.e. profitable) management of the companies concerned. Despite the variety of methods envisaged, Hungary, Poland and Czechoslovakia all expect to privatize 50 to 60% of their respective capital stocks within the next three years.

Whatever method or mix of methods is chosen, several practical issues arise. First, there is the whole complex of issues surrounding the valuation of a company being privatized (if shares are to be given away, this is not such an urgent issue, of course, except for questions of capital gains or losses), which should depend on judgments about future profitability. But profitability in turn depends on action in several other policy spheres, such as prices and taxation, credit and the treatment of outstanding debts, labour market policy, and so on. Hence in practice, especially if privatization proceeds swiftly, it will be necessary to 'guess' at suitable valuations using extremely imperfect information, so the purchase of shares will be more risky than it would normally be.

Second, once shares have been sold it is necessary to consider their marketability, through various forms of markets for financial assets. There is much discussion in Eastern Europe about establishing stock markets as soon as possible. There is, however, no particular ugency about this step, except to the extent that it is viewed as a symbolic demonstration of the commitment to market-type reform. Aside from this consideration, trading in shares (debt and equity) can be expected to take place on an informal basis at first, among a very limited number of traders (including through the banks), only gradually to develop to the volume of business at which a fully fledged stock market would be called for. However, from the point of view of potential foreign investors an effective stock market may be seen as more urgent, since a well-functioning secondary market in shares and enterprise debt facilitates exit and could thereby improve investor confidence (by reducing the perceived riskiness of investment, and hence raising the price investors would be willing to pay for shares in East European firms). To some extent, however, this point could be met by floating shares

on foreign stock exchanges (as has already been done by Hungary, which floated part of the Ibusz offering in Vienna).

In all three countries studied here, the banking system is presently carrying substantial amounts of poor quality enterprise debt. Much of this will have to be written down or converted to equity in the course of privatization, and it is inevitable that the banks themselves will require financial help and restructuring in the near future as a result. If this is not undertaken very soon, the financial difficulties in the newly emerging financial sectors of Eastern Europe could seriously impede the successful and reasonably expeditious implementation of privatization programmes. This restructuring is one of the most urgent tasks in the privatization programmes of Eastern Europe, since a well-functioning banking system is a sine qua non for successful progress. In addition, other financial institutions such as merchant banks, insurance companies, pension funds, etc. must be developed in the near future.

Moreover, it also needs to be emphasized here that enterprise balance sheets themselves will generally require restructuring prior to privatization, a process which will, in many cases, entail the writing off of substantial enterprise debt. This is unavoidable if the newly privatized firms are to have a reasonable chance of success in open market competition, but it is an issue that has received relatively little public discussion in the debates on privatization to date.

Third, if one of the principal aims of privatization is to improve management, then it is clearly essential to specify the new management arrangements that would result from a privatization. In most cases, general (and sometimes very detailed) guidance about this is provided in the relevant company legislation in each country. The formal composition of company boards (including the extent of workers' involvement, if any), and finding suitable people for them, will be critical tasks in the next few years. In addition, the appointment of new managers (through merger, joint venture formation, board decision) is also likely to make an important contribution to improving enterprise performance.

In this connection, too, it is important to distinguish between formal ownership and effective control of the newly privatized firms. In particular, it is not enough to have a board of directors and a management structure meeting formal legal requirements, together with the usual requirement to present audited accounts and a report on the business to an annual meeting of shareholders. At least some of the shareholders should have a sufficient financial interest in the success and profitability of the business that they will take their monitoring responsibilities seriously, supporting managers who have good ideas about future development, removing those who do not. Inserting this sort of 'selection process' into East European management practices is an essential element in improving long-term economic performance. Given this, the plans by all three countries to ensure that at least a significant fraction of each company will be sold in large blocks of shares are to be welcomed; it remains to be seen whether this is enough.

Fourth, the relative speeds of development in different sectors of each economy obviously exert their effects on both the magnitude and pattern of unemployment that can be expected to accompany privatization (and the rest of the transformation 'package', of course). Thus if large-scale firms were to be privatized very rapidly, especially in the presence of stiff import competition, while the 'small' privatization and various encouragements to small business formation were delayed, then unemployment could become very high; rates of unemployment in excess of 15% have appeared in some discussions, although experience to date does not support quite such an alarmist view of the likely situation in Eastern Europe. But if the different forms of privatization (large and small) and support for new businesses move in step, then there is a good chance that unemployment can be kept down to rather lower levels.

Nevertheless, some unemployment is unavoidable. Whether privatized or not, it is clear that firms seeking to improve productivity and to modernize, especially in the initial period when output may stagnate or even fall for a time, will wish to reduce employment. This is already happening to a significant extent in Poland, much more slowly in Hungary, and hardly at all in Czechoslovakia. But it will spread to all the region and become a more serious problem in all the countries concerned. Hence the political acceptability of privatization programmes will also depend on the unemployment compensation and retraining schemes developed in each country (for a review of early initiatives in this area, see Jackman and Layard, 1990). Also, of course, the privatization of State-owned firms will be greatly eased if that part of the private sector composed of new, small firms is able to flourish, since expansion there will eventually provide a major source of the new employment in these economies. In this respect, the early experience in Poland and Hungary in particular is relatively encouraging.

Fifth, different views have been taken about the importance of privatization as a source of State funds, with Hungary placing substantial emphasis on this aspect, Czechoslovakia and Poland much less. Despite the differing views, the question of revenues could eventually be significant in all three countries. For until very recently (and still in Czechoslovakia), much of each country's tax revenue was collected through State enterprises through the traditional ministerial hierarchy, and Western types of company taxation were only just being introduced in the late 1980s (except in Hungary, where a form of company profits taxation has existed since 1968). Hence in countries where privatization is expected to be rapid, it will be especially important to ensure that tax revenue is not lost as a result, given the need to maintain macroeconomic balance. This will require both company taxation and a personal income tax along Western lines, together with new tax collection authorities separate from the traditional planning hierarchy.

As explained earlier, the view taken about public revenue requirements has implications for the preferred methods of privatization, Czechoslovakia and Poland accepting a substantial element of free distribution of shares, Hungary alsmost none. In the Hungarian case, it seems that firms must be sold for relatively high prices if the State is to achieve its goals regarding contributions to the government's budget, unless partial sales are accepted initially. In any event, this raises a general point about the methods and pace of privatization.

For it seems that Hungary's aim of privatizing about half the State sector in three years — rather a rapid rate (given its proposed methods — may be inconsistent with its revenue ambitions. This is because it may simply be impossible to dispose of that share of State assets in such a short period without giving away much of the capital. In other words, the stock markets (both domestic and foreign) may prove quite unable to absorb the amount of Hungarian assets to be placed on the market at anything like a 'reasonable' price. For in all the countries studied here, private domestic savings are not at present high enough to support rapid privatization to new domestic owners, if many of the shares are to be sold at a 'normal' price. And already in the Hungarian case it is apparent that restrictions are being placed upon the acceptable degree of foreign ownership (see Appendix 1), although these are still more liberal than the limits which have been discussed in Poland and Czechoslovakia. In any case, even without such restrictions, foreign buyers may have a limited appetite for East European assets in the next few years (not least because of the already existing debt overhang, which affects Poland and Hungary especially severely²⁹).

²⁹ Analysis of the debt problems in Eastern Europe is beyond the scope of this paper, but some remarks are necessary. The key point is that foreign investors are bound to feel nervous about investing in the region until they have greater confidence that the debt issue is approaching a solution. Sooner or later, in our view, much of the Hungarian and Polish debt will have to be cancelled if these countries are not to be unfairly burdened by the mistakes of the past (mistakes by their former governments, and by the Western financial institutions).

Why have such rapid privatization programmes been put forward, and why would it not be possible to proceed more slowly? There is a political argument favouring a rapid transition, namely that it could eliminate or minimize the risks of any return to the old centralized type of economic management. Also, as we noted above, privatization has to be seen not in a market context (as in the UK), but as making a major contribution towards the creation of a market environment. If such arguments win the day, then sooner or later all the countries studied here will decide that they must give away much of their capital stock or sell it at very low prices. The problem then will be to devise ways of doing so which pay at least some attention to the all-important issue of identifying and recruiting new management. This could include intermediate solutions such as leasing and franchising to enable new management teams to be assessed and evaluated before they are allowed to assume formal ownership of productive assets.

Sixth, even if privatization does proceed quickly, the issue of how to manage the remaining State assets has to be addressed. Rapid commercialization of all State enterprises is an essential first step, distancing firms from the State apparatus and establishing clear 'rules of the game' and incentive structures, as well as company boards interested in the long-term success of the business. Commercialization involves the conversion of State enterprises into joint-stock companies or other forms of partnership, with shares initially held by a variety of State organizations. These could include ministries, banks, insurance companies and pension funds, as well as other enterprises. With more rational prices, management incentives based solely on profitability, and little or no protection for poor performers (other than standard provisions of the prevailing bankruptcy law), there is surely some hope that the performance of the State sector could improve sharply. However, a full discussion of this issue is beyond the scope of the present paper (but see van Brabant, 1990).

Finally, how should the privatization prospects for the three countries be assessed? This section began by indicating the main methods envisaged in each country, and then reviewed some of the practical issues which each country will encounter as its programme is implemented. For Hungary, the outstanding problem is simply whether it will be possible to sell off over half the country's capital stock within three years using the British approach. We doubt whether it will. In practice, therefore, either the programme will proceed more slowly than presently anticipated, or other ways will be found to accelerate it: these will include selling firms at very low prices (probably not a giveaway, as Hungary is still strongly opposed to that approach), or allowing local deals, buyouts, and so on, to occur with relatively little central control. In both cases the likely revenue contribution to the State will be far lower than presently expected, so other taxes will have to be raised, or expenditure cut back, to accommodate this.

In Poland and Czechoslovakia, where many shares will be given away and where there is less concern about budgetary contributions from privatization, there is less reason to doubt the feasibility of the proposed timing. However, a very serious problem for both countries is the sheer administrative complexity of privatization using vouchers. No one has done it before, and the banking system in both countries is illequipped to cope. None the less, with outside help, and a good deal of luck and persistence, the programmes may well be managed.

Since all three countries are really at the start of their privatization programmes, and since privatization is at the centre of their programmes of transition to market-type economic systems, it would be useful to review their progress regularly. This will enable outside agencies and international organizations to target technical and financial aid more effectively, and to increase the chances that these ambitious and exciting developments in Eastern Europe will succeed.

Appendix

Hungary's first privatization programme, 1990

The programme includes the following companies:

1. Centrum Department Stores

Core operating units of Centrum are being privatized by reorganization into a single joint-stock company (Rt.), the shares being held by Centrum as holding company. Foreign participation in this core company is limited to 30%. Some employee shareholding in the Centrum holding company is envisaged, and at least 40% of Centrum shares are to be issued through the Budapest Stock Exchange.

2. Danubius Hotel and Spa Company

Foreign ownership to lie in the range of 30 to 50%, shares to be sold on Budapest and foreign stock exchanges, and employees should be able to acquire 5 to 10% of the shares. Some existing debt may be converted into equity.

3. Forest Machinery Producing Company

A small company with only 180 employees, the SPA guidelines impose no particular restrictions on the method/timing of privatization.

4. Gamma Works

Main activity: production of medical and various computer/ technological instruments. The company may be broken down into smaller units, and may require new technical partners; employee shareholding is to be considered. The privatization should exclude the possibility of a hostile takeover.

5. Hollóházi Porcelain Works

Possibilities of mergers, acquisitions and the identification of suitable partners (for technical, trade or investment purposes) to be explored.

6. Hungarhotels

One attempt has already been made to privatize this company, on terms considered highly unfavourable to Hungarian interests. The company became a joint-stock company in December 1989, but its registration was cancelled by the Supreme Court in March 1990. The attempt should consider whether the company should be broken up, and consider privatization in stages. A Hungarian majority stake should be maintained and, although foreign participation is welcome, there should be protection against hostile takeover. Hungarian small investors should be able to participate in this privatization.

7. Hungexpo

Main activity: organization and execution of exhibitions, and foreign trade. The aim is to privatize quickly, and identify a technical partner to support the company's marketing activities. Some employee ownership is envisaged.

8. Ibusz plc

Main business: tourism, financial services, foreign currency exchange. 40% of this company was already sold by the SPA in June 1990. The public flotation was 23 times oversubscribed. Ibusz shares are now listed in Budapest and Vienna. Note that the State retains voting control of 51% of Ibusz shares as long as it retains 33% of the issued shares. In designing this privatization, the need for a 'golden share' should be considered, as should ways of giving priority to small investors, the nature/extent of foreign involvement, the extent of employee share-ownership, and protection against takeover.

9. Idex plc

Main activity: foreign trade in industrial products.

10. Interglob Company

Main activity: road transport, international transport, freight forwarding, packing and related business. The company comprises nine operating units and two affiliates; alternative organizational structures should be considered.

11. Kner Printing Company

Main business: book printing, production of paper wrapping materials. The privatization should seek to minimize redundancies among the long-term employees of the company, and should seek to retain the production capacity of the Békescsaba factory.

12. Kunep Company

Main business: housing and social construction. The aim here is to enable the employees to own the majority of the company.

13. MÉH Scrap Processing Trust

The trust includes six regional operating units, which may need some reorganization; franchising should be examined. Employees should be able to acquire up to 10% of the shares.

14. Pannonia Hotel and Catering Company

Up to 30% foreign ownership will be allowed, and the company should be floated on the Budapest Stock Exchange, possibly after some reorganization, possibly in stages.

15. Pannonplast

Main business: production of industrial and household artificial materials (e.g. plastics). 52% of the company's assets are in various associations with foreign participation, and the company has several joint venture investments. Privatization proposals should consider how to deal with these issues. Public sale is envisaged for a minority of the shares, employees should be able to acquire 10 to 20% of the shares.

16. Pietra Building Ceramic Company

No special points to note here.

17. Richter Gedeon Chemicals plc

Main business: production of pharmaceuticals, pesticides, cosmetics and other chemicals. During the privatization, share capital is to be raised by 50%, foreign ownership can

be up to 33%, and a Hungarian majority stake is to be maintained. Shares will be sold through the Budapest Stock Exchange, with 15 to 25% to be sold to small investors, 5 to 10% to be acquired by employees.

18. Salgótarján Plate Glass Factory

No special points to note here.

19. Tritex Trading Joint-Stock Company

Main activity: clothing wholesaler. Management and employee buyout considered.

20. Volántefu Company

Main activities: road transport, international transport, freight forwarding and related services. The question of whether the company needs to be split into smaller units, and the possibilities of introducing employee share-ownership are to be examined.

Note: The terms of reference for each company indicate that maximizing the State's revenue from the privatization is regarded as a high priority in determining the method/timing of each sale. In several cases, the privatization was to be designed in such a way as to guard against hostile takeovers in the future. Employee shareholding, foreign partners, and reorganization prior to privatization were to be examined in most cases. Some of the conditions placed on the above privatizations do not seem to be well designed from the efficiency standpoint.

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Foreign exchange, prices and economic activity in Bulgaria

Gordon Hughes¹

University of Edinburgh, Scotland, United Kingdom

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1. Introduction

In the wave of political and economic reform that swept through Central and Eastern Europe during 1989-90 Bulgaria lagged behind many of the other countries in the region. The economic problems which fuelled the dissatisfaction with the former regimes were slower to emerge in Bulgaria, so that it was only in the spring of 1990 that the severity of the economic crisis that was overtaking the Bulgarian economy began to become apparent.

An inconclusive set of elections took place in June 1990 in which the Socialist (former Communist) Party gained a bare majority, while the UDF (the opposition coalition) attracted the support of almost 40% of the electorate. Bitterness engendered by suspicions of vote-rigging, internal divisions within the Socialist Party and the effects of the strong political support for the UDF in Sofia and the other main cities led to a political stalemate in parliament. As a result, the Socialists were not able to form a new government until late September 1990. This government survived for barely two months and was eventually replaced on 20 December 1990 by a coalition government in which the UDF control the main economic ministries. It is envisaged that a new set of elections will be held, but the original intention of holding these elections in the spring of 1991 is unlikely to be realized because of the economic and political problems associated with the implementation of the economic reforms that were initiated in February 1991.

Building upon preliminary work on the design of economic reforms carried out during the second half of 1990, the new government has embarked on a radical and comprehensive programme of macroeconomic stabilization, price liberalization and privatization. In many respects the objectives of this programme are more ambitious than those of the Polish reform introduced at the beginning of 1990. The government hopes that it will be able to achieve the large adjustment from controlled to liberalized prices in a single jump without setting off an inflationary spiral leading to hyperinflation such as occurred in Poland during the second half of 1989.

Radical economic reform was unavoidable. The foreign exchange crisis which overtook the economy in early 1990 would have led to severe economic dislocation even without the political and economic factors which compounded the country's problems later in the year. The breakdown of CMEA trading arrangements, economic problems in the Soviet Union and internal disruptions to production resulted in an estimated 27% decline in real exports in 1990 relative to 1989. Bulgaria is the country in Eastern Europe most affected by the shift from transferable rouble to dollar terms for imports of oil, gas and other raw materials from the Soviet Union. The country has exhausted its international borrowing capacity and was forced to declare a moratorium on repayments of interest and principal on its debts in spring 1990.

Acceptance of the necessity of restructuring the economy is widespread, but even so the current Bulgarian Government has shown exceptional political courage in the scale of its reform programme, given the magnitude of the decline in living standards which it will cause initially. Political and economic circumstances mean that the extent to which the reform package meets its objectives depends upon a number of factors over which the government has only limited control. This paper will attempt to identify the key variables that will determine whether the broad target of achieving price liberalization without any inflationary spiral can be achieved. In particular, it will focus on the roles of the exchange rate and of price reform in the energy sector which are central to the success or failure of the programme. The importance of these two issues arises from Bulgaria's extreme dependence on trade with the Soviet Union and on imported energy, whose extra cost during 1991 could absorb the equivalent of its entire hard currency earnings during 1990.

Lack of foreign exchange and rationing of energy — the two are effectively equivalent in Bulgaria's current circumstances — resulted in a fall in total industrial output of at least 25% during the second half of 1990, and the situation seems to have been even worse in the first quarter of 1991. Thus, a recovery in economic activity depends upon relaxing these constraints by a combination of international borrowing following the conclusion of an IMF stand-by agreement in February 1991 and industrial restructuring that will enable the economy to make better use of its limited resources.

2. Macroeconomic developments, 1980-90

At the end of World War II the Bulgarian economy was based on agriculture with a relatively small industrial sector. The communist government set out to accelerate the pace of industrial development with a bias in favour of the metallurgy, chemicals and engineering industries and an autarkic framework characteristic of other centrally planned economies. During the 1950s and 1960s average growth rates of 7 to 8% per annum in net material product at constant prices were achieved, and the share of industrial production in total NMP grew from 26% in 1948 to 55% in 1970. Despite the shocks which affected other economies during the 1970s, Bulgaria reported an average growth in real NMP of 7,0% per annum during this decade. The share of industrial production declined to 51 % in 1980 as a result of more rapid growth in agricultural output and in miscellaneous branches of material production including transport, communications and other material production.

By the early 1980s Bulgaria had become an industrial country with a reported income per capita roughly similar to those of European countries such as Poland, Hungary, Yugoslavia, and Portugal. However, its economic and industrial structure was beginning to show signs of the weaknesses which have plagued all of the centrally planned economies. A decline in the rate of productivity growth, a failure to develop or adapt new technologies, widespread waste of investment resources, excessive use of energy inputs and the low quality of goods produced were all symptoms of the neglect of economic incentives in a highly centralized system of planning and resource allocation. Still, the country had undergone enormous economic changes over the previous three decades, and the average standard of living was much higher than that in Turkey, with which it might have compared itself, so that the government had some grounds for feeling that its economic policies had been generally successful.

In evaluating Bulgaria's economic progress it is necessary to decide how much reliance to place upon official estimates of national income and its components. There is considerable scepticism about the reliability of Bulgarian statistics. The UN Economic Commission for Europe notes in its *Economic* survey of Europe in 1989/90 that the initial estimates of Bulgaria's growth in NMP for 1988 were reduced by almost four percentage points in early 1990 and that other statistical weaknessses or distortions have been publicly discussed (Economic Commission for Europe, 1990, pp. 81-83). The Central Statistical Office has supplied revised estimates of national accounts aggregates using both the MPS and SNA methodologies for recent years, but there has been no systematic attempt to correct estimates for earlier periods. Within Bulgaria it is suggested that the most blatant manipulation of economic statistics started in 1985 as the bureaucracy sought to hide the scale and nature of the economic problems which were emerging. The resulting distortions affected input-output data and other industrial statistics as well as the national accounts aggregates. There is little option other than to utilize the best available data supplied by the Central Statistical Office, but it is clearly important to be cautious in attempting to identify trends or turning points.

Quite apart from deliberate distortion of the statistics, there are problems arising from the application of the official methodology. After a detailed review of national accounts data for the period 1970-80, Singh & Park (1985) suggested that the overall growth in real NMP over the 1970s should be revised downwards to 5,4% per annum because of problems in the official treatment of the trade sector's contribution to total NMP. It should be noted that the contribution of the trade sector to total NMP during the 1980s has been very erratic, with a large fall from 1980 to 1984. Estimates of growth rates in GDP are subject to even greater uncertainty, since there are few data on the performance of the non-material sectors of the economy. Singh & Park suggested that the share of non-material activities in total GDP contracted substantially during the 1970s, so that they estimated an overall growth rate for GDP of 5,1% per annum over the decade.

These qualifications apply to Table 1 which gives growth rates for total NMP and GDP plus various of their subaggregates for 1980-84, 1984-88 and the two most recent years. The NMP estimates suggest a gradual slowing down of economic growth up until 1988, followed by the developing economic crisis of 1989-90. The aggregate GDP figures would be consistent with this interpretation were it not for the strange behaviour of the contribution of services to GDP. As noted above, this is almost certainly an artificial consequence of methodological problems in measuring the output of the trade sector. It may be concluded that growth during the 1980s was significantly less than that during the 1970s and that there was a general slowdown during the course of the decade culminating in the crisis of the last two years.

The fall in national income during 1989 was not reflected in personal consumption because the burden of the adjustment fell on fixed investment. In fact the situation was even worse than the aggregate figures suggest. Through the 1980s the level of national income was held up by large increases in stocks, which accounted for 5,7% of GDP in 1980 and 7,7% in 1988. By comparison, in Austria the increase in stocks accounted for no more than 2,5% of GDP for any year during the 1980s. The dramatic fall in net fixed investment in 1989 was the culmination of a related trend which became increasingly important during the decade. In 1980 investment in unfinished construction was equivalent to 2,4% of GDP, but it was 4,0 % in 1988 and 5,8 % in 1989, while net fixed investment had fallen from 12,0 % in 1980 to 7,4 % in 1988 and 2,1% in 1989. Throughout the decade there was a deficit on the balance of trade — financed by increasingly heavy international borrowing - so that it is probable that the high levels of stockbuilding represented goods for which no market could be found. In effect, the appearance of economic growth was sustained by stockpiling unsaleable domestic output while goods were imported to meet domestic needs for intermediate and final consumption.

Growth rates of national accounts aggregates, 1980-90

	Real growth rates			
	1980-84	1984-88	1989	1990 (estimate)
Net material product				
Total	4,2	3,5	-1,5	-10
Industry	7,4	4,6	-0,5	-14
Personal consumption	3,9	2,3	1,7	
Gross domestic product at market prices				
Total	3,5	3,9	-1,9	-11
Agriculture	0,8	- 5,0	-2,4	
Industry	7,1	4,5	-0,3	-15
Services	-2,5	7,1	- 5,4	
Private consumption	3,9	2,9	1,7	
Net fixed investment	-0,1	-2,1	- 70,8	
Export of GNFS	5,1	9,2	-0,1	-25
Imports of GNFS	4,3	10,1	-7,5	-9
Source: Central Statistical Office.				

The figures in Table 2 on the composition and utilization of GDP show the impact of a decline in agricultural production after 1982 and the erratic movements in the level of valueadded in the service sector. The share of government consumption in total GDP increased significantly in the early 1980s, largely at the expense of private consumption, while later in the decade there was a shift from gross fixed investment towards private consumption. The deficit on the balance of trade contracted in the late 1980s after it had been as high as 6,7% of GDP in 1986. The improvement on the trade account was achieved both by increasing exports as a share of GDP and by reducing dependence upon imports, but the better export performance could not be sustained after 1988 so that the resource gap was widening rapidly in 1989 and precipitated the economic crisis in 1990.

The improvement in export performance up to 1988 was reflected in heavy government expenditure on export subsidies, especially in support of the agricultural sector. These subsidies, combined with special investment credits which were excluded from the regular State budget, led to a rapid deterioration in the government's financial position from

1985 to 1988 and a general budget deficit equivalent to 5,6 % of GDP in 1988. This deficit was temporarily reduced in 1989 but widened dramatically again during 1990. The underlying problem is that during the mid-1980s the government was increasing the share of government revenue in GDP - from 52,6% in 1984 to a peak of 60.6% in 1987 — and was allowing government expenditure to grow in line with this revenue expansion. However, since 1987 government revenue has declined as a share of GDP because trade problems and the economic difficulties of enterprises have reduced the government's non-tax revenue, while government expenditure has not contracted in line with revenue. The government deficit was cut in 1989 by reducing special investment credits with the consequent increase in unfinished construction work noted above. This proved no more than a temporary palliative, and the government's attempts to maintain economic activity during 1990 resulted in a deficit equivalent to 13 % of GDP. The main reasons for this deterioration were a huge jump in interest payments on foreign debt (though much of this was accrued), accompanied by increases in expenditure on social security and price subsidies as well as a decline in revenue from profits taxation.

(0/ par annum)

Composition of gross domestic product, 1980-90

	Share in GDP at market prices				
	1980	1984	1988	1989	1990 (estimate)
Value-added in					
Agriculture	14,4	15,8	11,4	11,3	
Industry	53,8	60,0	61,0	59,4	
Services	31,8	24,2	27,6	29,3	
Components of value-added					
Compensation of employees	50,8	49,8	50,2		
Depreciation	13,8	13,8	15,4		
Use of resources					
Private consumption	62,2	60,6	61,1	63,4	
Government consumption	5,6	7,5	7,2	7,3	
Gross fixed investment	28,3	25,6	26,8	23,5	
Increase in stocks	5,7	7,6	7,7	6,0	
Exports of GNFS	25,9	28,3	32,6	30,8	
Imports of GNFS	26,6	31,6	34,2	33,2	
State budget					
Total revenue	50,5	52,6	57,7	56,9	55,7
Tax revenue	36,7	44,9	47,4	48,4	45,7
Profit taxes	8,9	19,0	21,2	23,4	19,2
Turnover and excise taxes	13,3	12,3	11,6	11,3	10,5
Total expenditure	49,9	51,9	63,7	60,2	66,9
Current expenditure	45,2	44,2	53,0	53,4	61,4
Subsidies	12,1	12,5	17,6	15,2	15,9
Social security	9,3	9,3	10,2	10,4	13,2
Capital expenditure	4,8	7,8	10,7	8,5	5,6
Extra-budgetary surplus/deficit			0,4	1,9	-1,8
Surplus/deficit	0,5	0,6	- 5,6	-1,4	-13,0
Source: Central Statistical Office					

The country's foreign transactions are described in Table 3. This shows that Bulgaria has been running an increasing surplus on its trade in transferable roubles, though it is clear that this surplus was achieved by extending substantial credits to its trading partners. There must be considerable doubt whether some of these debts will ever be repaid. The convertible currency account shows that exports to the dollar zone declined in real terms throughout the 1980s while imports grew rapidly until 1988. The result was an increasing deficit on the trade account financed by borrowing from

international capital markets. Again, the situation is rather worse than the simple trade figures suggest because the level of convertible currency exports was only maintained in nominal terms by extending substantial credits to developing countries and other centrally planned economies which purchased Bulgarian exports. As a result, the country was owed nearly USD 2,8 billion by such borrowers at the end of March 1990, of which USD 750 million represented arrears of payments.

Balance of payments and exchange rates, 1980-90

	1980	1984	1988	1989
Non-convertible currencies (million t.r.)				
Current account	46	- 222	696	933
Merchandise exports fob	4 706	7 405	9 135	8 892
Merchandise imports fob	4 864	7 946	8 553	8 013
Services: net receipts	204	311	74	29
Capital account	-113	109	-619	- 874
Short-term borrowing	0	-220	- 314	-437
Medium- and long-term borrowing	-112	335	- 293	- 327
Loans extended to LDCs	- 1	- 6	-12	-110
Convertible currencies (million USD)				
Current account	907	727	- 840	-1 306
Merchandise exports fob	3 338	3 299	3 539	3 1 3 8
Merchandise imports fob	2 532	3 011	4 511	4 337
Services: net receipts	43	365	54	-170
Capital account	- 756	- 332	1 882	596
Short-term borrowing	- 347	2	188	51
Medium- and long-term borrowing	-280	-7	2 1 3 9	712
Loans extended to LDCs	-129	- 327	- 445	-167
Exchange rates (period averages)		1985		
LV per USD				
Official rate ¹	0,86	1,03	0,83	0,84
Commercial rate	0,99	1,19	1,67	1,82
LV per t.r.				
Official rate ¹	1,30	1,30	1,30	1,30
Commercial rate	1,00	1,00	1,05	1,05

¹ The official rates are used only for accounting purposes and for the calculation of the currency leva, which is an accounting unit for foreign trade transactions.

Source: National Bank of Bulgaria and Bulgarian Foreign Trade Bank.

The deterioration in the trade account after 1984 led to a rapid growth in the country's external debt. Its foreign liabilities in convertible currencies increased from USD 3,2 billion in 1985 to USD 9,1 billion in spring 1990, while international reserves contracted from USD 2,1 billion to 0,5 billion. During the same period Bulgaria shifted from a debt of 1,4 billion transferable roubles (t.r.) to a net credit of 0,4 billion t.r. This emphasizes the extent to which the country was borrowing convertible currencies in order to sustain exports to other CMEA countries funded by matching loans. Relative to US dollar earnings from exports of goods and services its convertible currency debt grew from 80% of gross export earnings in 1985 to 227% of these

earnings in 1989.² This was slightly better than Hungary which had a ratio of about 250 % in 1989 but, in combination with a downward trend in export earnings and the decline in domestic production, it is hardly surprising that the country was forced to suspend its debt service payments at the end of March 1990.

t.r. = transferable roubles.LV = leva.

In fact this ratio puts an overly favourable gloss on the country's debt servicing position. Approximately 10% of gross merchandise exports for hard currencies in 1989 were derived from re-exports of crude oil and exports of petroleum products obtained by processing crude oil received under barter trade deals with countries such as Iraq and Libya. The basis on which the associated imports of crude oil are recorded is confused, so that it is difficult to adjust trade statistics and the balance of payments for these transactions. However, a crude adjustment suggests that a corrected ratio for 1989 would have been close to 250%.

Until May 1990 Bulgaria operated a system of multiple exchange rates for different types of trade transactions similar to that in other centrally planned economies. The commercial rates given in Table 3 were used for the purpose of most trade transactions, though the 'valuta' system in terms of foreign currency leva (LV) converted at the official exchange rates was used for accounting purposes. From May 1990 to February 1991 there were three exchange rates for US dollar transactions: (i) the basic commercial rate of USD = LV 2,97 in June 1990; (ii) a market rate determined in a relatively thin auction market of USD 1 = LV 7,06 in June 1990; and (iii) a rate for cash transactions linked to the

market rate of USD 1 = LV 7,17 in June 1990. The commercial rate was linked to a basket of currencies and floated up to USD 1 = LV 2,78 by the end of 1990 as a result of the depreciation in the dollar against other hard currencies. The market and cash rates moved down in expectation of a substantial devaluation to about LV 10 per US dollar at the end of 1990 and about LV 14 per US dollar just before the exchange liberalization in February 1991.

The composition of merchandise trade is shown in Table 4. In constructing an overall balance of payments a notional exchange rate for 1989 of USD 1 = 1,73 transferable roubles

(%)

Table 4

Composition of merchandise trade

	Shares of CMEA or non-CMEA exports/imports			
	1980	1984	1988	1989
Trade with CMEA member countries				
Exports				
Fuels, minerals and metals	4,4	4,1	4,2	3,4
Processed foodstuffs	20,9	19,4	12,1	12,0
Chemicals	3,3	3,0	2,7	2,8
Machinery and equipment	52,9	55,5	64,9	65,4
Industrial consumer goods	10,2	11,9	11,2	11,7
Imports				
Fuels, minerals and metals	45,1	49,5	37,6	36,1
Chemicals	3,9	2,8	3,4	3,4
Machinery and equipment	38,9	37,0	47,3	48,5
Industrial consumer goods	4,7	4,0	4,7	4,8
Trade with non-CMEA countries				
Exports				
Unprocessed foods	5,9	5,5	6,0	7,5
Fuels, minerals and metals	40,8	31,3	22,0	33,0
Raw materials	2,5	4,3	6,4	7,8
Processed foodstuffs	10,6	11,5	9,9	9,6
Chemicals	6,0	9,1	7,4	7,3
Machinery and equipment	23,7	23,7	36,9	24,2
Industrial consumer goods	5,7	4,6	8,0	7,6
Imports				
Unprocessed foods	6,9	3,4	7,2	9,1
Fuels, minerals and metals	34,5	36,6	33,5	32,2
Raw materials	12,5	13,6	13,3	12,1
Chemicals	15,2	15,3	12,1	9,8
Machinery and equipment	22,2	22,3	22,6	25,2
Industrial consumer goods	3,5	4,5	6,3	6,3

Source: Central Statistical Office

has been used by the IMF. On this basis, imports of energy represented about 24% of total merchandise imports while machinery and equipment constitued 50% of total merchandise exports. The share of energy and other raw materials in total imports declined through the 1980s as the country became more dependent upon imports of machinery and equipment and of industrial consumer goods, especially from non-CMEA sources. The relative weakness of the domestic agricultural sector is reflected in the growth of imports of foodstuffs from non-CMEA exporters which was accompanied by a decline in exports of foodstuffs to CMEA markets.

After a major price reform at the beginning of 1980 the rate of inflation as measured by the GDP deflator averaged just 1,4% per annum from 1980 to 1988. Table 5 shows that the retail price index and wholesale price indices for industrial output increased rather more rapidly than this, but the general level of price rises was quite modest with a slight decline in inflation in the second half of the period. This price stability was achieved at the cost of an increasing isolation of domestic prices from international price levels, especially as the commercial exchange rate for the lev in terms of the US dollar was substantially depreciated after 1984. Despite the improvement in the terms of trade as a result of the decline in international prices for energy and raw materials, the wholesale price of tradables should have increased by at least 4% per annum during the period 1984-88 in order to match international prices.

Table 5

Inflation and wages, 1980-90

	1980-84	1984-88	1989	1990 (estimate)
Rates of price increase (% per annum)				
Implicit GDP deflator	1,7	1,0	4,4	
Consumer price index	2,8	2,6	6,2	26,3
Food	2,2	1,6	1,7	
Non-food	3,3	3,4	• 10,1	
Wholesale price indices				
All industry	3,5	1,1	2,8	
Electricity and heat	0,6	2,3	1,2	
Chemical and petroleum products	3,1	-0,1	-0,1	
Machinery and equipment	2,2	1,2	3,1	
Textiles	5,3	0,7	2,1	
Clothing	8,4	3,4	1,8	
Food, drink and tobacco	5,7	0,9	3,5	
Trade prices (in foreign currency terms)				
CMEA exports	2,1	2,9	- 3,8	
CMEA imports	6,1	2,6	- 3,5	
Non-CMEA exports	-1,7	-1,6	-0,8	
Non-CMEA imports	-1,0	-4,9	-0,3	
Growth in wages (% per annum)				
Average monthly wages				
All socialist sector	3,3	5,0	6,0	23,3
Industry	3,2	5,7	5,2	
Retail and wholesale trade	2,4	4,7	8,4	
Education	1,8	4,4	3,2	

The cost of this price isolation was an increasing level of expenditure on price subsidies for agricultural products and other traded goods. As noted above, this expenditure could not be sustained in the face of the rapid increase in the government budget deficit, so that these subsidies were reduced after 1988. In consequence, price increases began to accelerate in 1989 and the initial stages of price liberalization and exchange-rate adjustment in 1990 resulted in large increases in the annualized rate of inflation during the course of the year. For the first two quarters of 1990 prices were 10 to 11% above those one year earlier, but the deregulation of most agricultural prices increased the year-on-year rate of inflation to 30% in the third guarter. Increases in the prices of petroleum products in July 1990 — as a form of rationing and taxation in response to the shortfall of Soviet deliveries of crude oil - followed by industrial price rises pushed the year-on-year inflation to 53% for the final quarter.

The increase in average monthly wages for the entire socialist sector comfortably outstripped the rise in the consumer price index for the period 1980-88 but there was a significant detorioration in the position of those working in service activities or in social sectors such as education and health. Average real wages declined marginally during 1989 and then fell by 2,4 % in 1990. However, the annual averages for 1990 mask large intra-year variations since there was a sharp increase in real wages in the first half of the year followed by erosion of this increase and then an abrupt decline in the final quarter. For political reasons the government granted substantial wage increases before the elections in June, which were overtaken by accelerating price inflation later in the year. Comparing real wages with their levels one year earlier on a quarterly basis shows that they were 8% higher in the first quarter, 14% higher in the second quarter, 2% lower in the third quarter and 20 % lower in the final quarter.

3. The reform programme of February 1991

The new government which took office in December 1990 faced an economy which was almost in free fall. It had all the symptoms of a centrally planned economy in transition — a large monetary overhang, a budget deficit increasing out of control, massive price distortions combined with an overvalued exchange rate and rapidly accelerating inflation, a breakdown in most mechanisms of central allocation of resources and a general paralysis of the enterprise sector. However, the rapidity with which the crisis had developed and its severity created a political climate in which the government felt able to implement a stabilization plan which will bring a larger short-term decline in living standards than that which occurred in Poland during 1990.

The key elements of the reform programme, which was agreed with the IMF at the beginning of February and implemented in the first half of the month, are outlined below.

3.1. Price reform

To reduce the monetary overhang the general level of prices has been allowed to rise sharply by a combination of deregulating most prices and introducing large price increases for those products - mostly energy and foods items - which are either still controlled by the government or are subject to a monitoring regime with maximum price targets. Administered pricing now operates for energy products alone, which accounted for less than 5% of consumer expenditure in 1989. As shown in Table 6, the prices paid by households for these items have been increased by amounts ranging from 67% for premium gasoline to 650% for brown coal, while the increases for industrial consumers were even larger in some cases. For essential foodstuffs such as flour, bread, meat, milk, dairy products, vegetable oil and sugar plus public transport fares - accounting for 18% of consumer expenditure — the government has removed price controls but has said that it will intervene in the markets if prices exceed target maximum levels. The intention is that intervention should take the form of increasing supply by additional imports except for items such as flour, bread and public transport, for which direct price controls on monopoly suppliers are threatened. The maximum price targets represent an average increase of about 350% in the prices of these goods.

Price controls have been removed from all other goods and services. As a result of this price reform it is expected that the level of retail prices will increase by 225% between the final quarter of 1990 and the second quarter of 1991. It is hoped that the rate of inflation will decline to 5% per quarter in the latter half of 1991 and thereafter settle down to less than 10% per annum.

3.2. The foreign exchange regime and trade policy

The system of multiple exchange rates has been abolished, and a single interbank market for foreign exchange has been established. Commercial banks are free to buy and sell convertible currencies against leva with the exchange rate being established by the balance of supply and demand in the market. The only restriction on convertibility is that
Table 6

Changes in controlled consumer prices, 1990-91

	JanJuly 1990	July 1990-Feb. 1991	July 1990	Feb. 1991
Exchange rate assumed				
(LV per USD)			2,97	10
Product	% price increases		Ratio of domestic	
Casalina	80	111	0.92	0.52
Gasoline	80	111	0,82	0,52
	100	150	0,77	0,37
Heavy fuel oil: industry	90	277	0,84	0,94
Natural gas: industry		558	0,27	0,53
Steam coal: industry		746	0,15	0,32
Brown coal: industry		704	0,21	0,49
Electricity: households		339	0,09	0,12
Electricity: industry		421	0,31	0,43
Flour		350		
Bread		511		
Meat: poultry		463		
Meat: lamb		333		
Milk		400		
Cheese		377		
Vegetable oil		400		
Sugar		200		

¹ The European prices are typical rates paid by households or industry in Austria or Germany including any consumption taxes but not VAT for industrial users. Sources: State Committee on Prices; author's estimates based on IEA report 'Energy prices and taxes' and miscellaneous sources.

enterprises and individuals must deal through the commercial banks. The government has stated that its reserves will not allow it to support any particular exchange-rate target, but it hopes that tight monetary policies combined with the wages policy discussed below will provide the nominal anchor for price expectations necessary to prevent a continuing depreciation of the lev against the US dollar. The black market exchange rate had fallen to LV 20 to 25 per dollar in early February, and it was expected that the liberalized exchange rate would gradually rise from this level as individuals and enterprises concluded that they would not gain by speculating against the currency. This expectation proved correct and the exchange rate had reached LV 14 per dollar by mid-March. The reform programme is based on the assumption that after the initial price and other adjustments the exchange rate will settle in the range of LV 7 to 10 per dollar. For the purpose of modelling the effects of the

reforms, a target exchange rate of LV 10 per dollar in July 1991 is assumed.

Quantitative import restrictions have also been removed and replaced by a special import tax if 15% on a wide range of products — except for special trading arrangements with the country's former CMEA partners. Some export restrictions and duties remain, primarily for food products and raw materials, in order to protect domestic prices from the full impact of moving to world prices in a single step. The government intends to remove the remaining export barriers as soon as is consistent with meeting its inflation targets. As part of the general dismantling of CMEA trading arrangements, trade with the Soviet Union and other CMEA trading partners will based on US dollar prices, so that Bulgaria will be paying dollar world prices for its imports of energy products from the Soviet Union.

3.3. Wages policy

The system of wage indexation which operated briefly during 1990 was abolished at the beginning of 1991 and replaced by limits on the total wages bills of public-sector enterprises and organizations. The intention is that there should be a large further reduction in real wages in the first quarter of 1991. Average wages were increased by 66% at the beginning of February, and a further adjustment will be made at the beginning of April whose amount will depend upon the extent to which the actual increase in the cost of living of those on the minimum wage has exceeded the projected increase. Under an agreement with the trade unions the wage adjustments take the form of an identical money increase for all workers which is calculated to maintain the real value of minimum wages. Since the ratio of average to minimum wages in the final quarter of 1990 was 2,25, this implies a severe compression of wage differentials and a sharp reduction in real wages for most workers. In calculating wage adjustments it was assumed that inflation between December 1990 and March 1991 would be 100% so that, adjusting for inflation in the last quarter of 1990, the minimum wage was increased by 128% in February. The April adjustment will provide only 70% compensation for the increase in the cost of living of those on the minimum wage in order to exert strong downward pressure on real wages if the actual rate of inflation exceeds the target rate. Given the inflation projections and the wage adjustment formula, it is expected that average real wages in the second quarter of 1991 will be only 54% of their level in the final quarter of 1990 and 43% of their level in the final quarter of 1989.

It is envisaged that this dramatic decline in average real wages will be reversed in the second half of 1991, so that the overall decline from the final quarter of 1990 to the final quarter of 1991 will only be 25%. Even so, this implies a reduction of almost 40% in real wages over a two-year period which is more severe than for any other similar reform programme in Eastern Europe. Since enterprises will only be subject to ceilings on the growth of their wage bills, the recovery in real wages could allow for a widening in wage differentials. This will be most difficult in the government sector whose overall wages bill will not be allowed to grow by more than the targeted rate of inflation for the second half of the year. Flexibility in setting new wage levels will depend upon enterprises and other organizations shedding labour in order to reward those who retain their jobs with higher real wages. Thus, any recovery in real wages will be accompanied by a sharp increase in unemployment in the second half of the year.

3.4. Fiscal policy

The reform programme involves changes both in the structure and levels of taxation and in government expenditure, which are designed to reduce the budget deficit from 13,0% of GDP in 1990 to 3,5% of GDP in 1991 while also lowering the share of government revenue and expenditure in national income. Government revenue is expected to fall to 41% of GDP and government expenditure to 44% of GDP in 1991. On the revenue side the largest adjustment involves a shift from reliance upon non-tax revenues arising from differentials between world and domestic prices for imported goods towards revenue from the special import tax — effectively a rationalization of trade taxes. Other non-tax revenues derived from intervention in production activities will also be greatly reduced. Income taxes and social security contributions are projected to fall from nearly 15% of GDP to 9% as a result of the reduction in real incomes.

The government is also embarking on a longer-term programme of tax reform which will involve the replacement of the turnover tax by a value-added tax combined with a general broadening of the tax base and a reduction in reliance upon profit taxes. As steps towards these objectives the existing turnover tax has been simplified and its coverage has been extended, while the general rate of profits taxation has been reduced from 70 to 50% (including the 10% rate levied on behalf of municipal authorities). To provide funds to pay unemployment benefits the government has effectively raised the payroll tax falling on enterprises from 30 to 44%. In microeconomic terms these changes will encourage firms to shed labour and will enable profitable enterprises to retain a higher proportion of their earnings to finance new investment.

On the expenditure side the major saving will involve a reduction from 13 to 3% of GDP in expenditure on domestic price subsidies, export subsidies on CMEA trade and production subsidies to unprofitable activities — notably in agriculture and metallurgy. Special credits which were used to support investment in the energy, metallurgy and agricultural sectors will also be eliminated. It is likely that the government will encounter more difficulty in dealing with unprofitable enterprises and sectors than it has allowed for, so that the reduction in expenditure on production subsidies and investment credits may be slower than planned. The government also intends to reduce its own expenditure on wages and on the purchase of goods and services by shedding labour and postponing maintenance of public infrastructure. In the medium term these reductions in expenditure may lead to difficulties associated with the deterioration in the public capital stock, so that it is important that new methods of financing public services should be developed.

In view of the anticipated increase in unemployment, total expenditure on social security payments is expected to amount to 12,9% of GDP as compared with 10,2% in 1989 and 13,2% in 1990. This will involve a shift from pensions and family benefits towards unemployment compensation. The budget is sufficient to cover an average unemployment rate of 6,8% through 1991, but pessimistic assumptions about the rate of inflation or the rise in unemployment suggest that expenditure may overshoot the budget provisions.

3.5. Monetary policy

Price liberalizations has reduced the monetary overhang, but the government recognizes that it is crucial to maintain tight monetary control in order to ensure that new liquidity is not created to offset the reduction in real money balances. The target for growth in the net domestic assets of the banking system is that this should not exceed 7,5% in each of the first and second quarters of 1991. On this basis real money balances will have been reduced by the beginning of July to 35% of their level at the beginning of January. To enforce this monetary contraction the minimum reserve requirements for commercial banks have been raised from 5 to 7% while the base interest rate was raised to 45% per annum in February 1991. Since the price rises in the first quarter of 1991 effectively amounted to a step change in the general price level, the real rate of interest should be calculated by looking forward to anticipated inflation in the second and later quarters of the year. The target increase in the retail price index is 10% from March to April followed by an average monthly increase of 2% for the rest of the year. On these projections an annual interest rate of 45% implies a real return of 6% for the year from March 1992. Initial sales of Treasury bonds and bills in December and January at linked interest rates were successful, but it cannot be expected that large amounts will be invested in fixed-term deposits until the future outlook for inflation is more certain. Nonetheless, the increase in interest rates has stimulated a large-scale repayment of housing loans and has reduced speculative holdings of US dollars, thus exerting upward pressure on the free market leva-US dollar exchange rate.

The treatment of past loans to enterprises remains uncertain. The problem is that many enterprises will not have the cash flow necessary to pay high interest rates on their outstanding debts, especially in view of the large decline in economic activity. On the other land, capitalizing interest payments will undermine the government's monetary targets and encourage distress lending to the least viable enterprises. There is also the danger that high interest rates will encourage a rapid growth in inter-enterprise credits, as has occurred in both Hungary and Poland, which could threaten both the effectiveness of monetary controls and the financial stability of large sections of the industrial sector. The combination of tight monetary controls, high interest rates and inexperienced financial management in a period of restructuring is bound to lead to mistakes being made if the financial and industrial system remains highly centralized.

This reinforces the need for a rapid transfer of financial responsibilities to individual enterprises, which have the most direct interest in ensuring that their long-term activities are safeguarded.

This paper concentrates on the elements of the reform programme which are concerned with short- and medium-term stabilization of the economy. These policies are accompanied by plans for rapid privatization and measures to control the exercise of monopoly power. While crucial to the longerterm development of the economy, these will contribute little to the immediate impact of the reform on prices and economic activity. The following section examines whether the inflation targets of the reform can be achieved.

4. Prices and structural reform

In order to assess the prospects of the reform meeting its targets for the reduction of inflation later in 1991 through 1992 I have constructed a model designed to explore the impact of key policy variables on the medium-term behaviour of prices. The model takes account of the main structural reforms, such as exchange rate and price liberalization, which affect the manner in which domestic prices are set. It is designed to provide a framework for investigating the sectoral impact of the changes which have occurred or are expected in the near future. Because of uncertainty about the way in which the financial and monetary sector will operate within this time horizon, no attempt has been made to incorporate an explicit monetary sector in the model, though, as indicated later, it is possible to allow for the effects of monetary policy via the exchange rate.

The pricing model is based on a modified input-output pricing framework which has been developed to investigate the impact of energy prices and tax reforms in various countries — see Hughes (1987). The key feature of this model is that many of the sectoral prices may be determined by exogenous constraints, such as foreign competition or administrative price controls, rather than by the usual assumption of cost-plus pricing. Price and trade liberalization combined with the retention of effective government controls over prices for key products means that 18 out of 32 sectors in the model are subject to these external constraints on price-setting behaviour. Models of this type are usually static, but in this case the dynamics are based on the behaviour of the exchange rate, wages and the implementation of government policies with respect to the phasing out of price controls and the performance targets set for enterprises.

The key features of the model are as follows:

(a) The model is based on a revised version of the 30-sector input-output table for the year 1988 with some changes in the sectors included. Because explicit price controls have been retained for most energy products, the number of energy sectors has been increased by separating oil refining from the chemical sector. Separate sectors covering two groups of petroleum products have been introduced: (i) gasoline and automobile diesel oil plus similar products which are heavily taxed, and (ii) industrial diesel oil and heavy fuel oil plus other products which are primariliy consumed by industrial users. These sectors are supplied by the oil-refining sector which transforms crude oil into petroleum products and plays no other role in the model.

The food, drink and tobacco sector has been divided into one sector covering food products still subject to price intervention and another for all other items. To reduce the number of sectors the two construction sectors have been merged, as have miscellaneous and private industry. However, it has not been possible to introduce sectors covering non-material (service) activities, though a crude adjustment has been made to allow for the contribution of services to the consumer price index.

(b) It has been assumed that sectors such as iron and steel, machinery and equipment, electrical goods, chemicals, clothing and footwear which produce tradable goods and for which either imports or exports represent a significant fraction of total sales will have their prices governed by actual or potential competition from imports. The main agricultural sectors have also been treated as operating under a regime of traded goods pricing. In the first half of 1991 this involves large relative price adjustments — upward for iron and steel, downward for clothing, footwear and agricultural output - as the sectors adjust to international price levels. The information on comparable international prices has been obtained in the manner described in the accompanying paper on industrial competitiveness in other East European countries — see Hughes and Hare (1991). For the energy sectors and controlled foodstuffs it has been assumed that the government will increase domestic prices to international price levels at a rate which represents one of the policy variables in the model.

(c) Price liberalization and other reforms should lead to changes in the profitability of different sectors. This will be determined by the productive efficiency and costs of those industries which are subject to external constraints on their pricing decisions. For cost-plus sectors, changes in prices will be linked to changes in their target gross profit rates expressed as a fraction of total sales. Two cost-plus sectors non-ferrous metals and agricultural services - had negative gross profits in 1988, and it is assumed that these sectors will raise prices sufficiently in the first half of 1991 to cover their input and wage costs. Thereafter, target gross profit rates have been set for each cost-plus sector using equivalent data for the Spanish economy in 1980, and it has been assumed that prices will adjust to generate these gross profit rates at a speed which is another policy variable. Apart from the two sectors mentioned, the main adjustments will be increases in the gross profit rates for building materials, pulp and paper, and other material output with decreases in the gross profit rates for printing and publishing, miscellaneous industry and communications.

(d) In implementing the reform programme the government was concerned that large enterprises not subject to domestic or international competition would take advantage of their monopoly power to push up their prices and gross profit rates during the period of transition. To investigate the possible importance of such behaviour the model contains a monopoly profit multiplier. This parameter, whose default value is 1,0, multiplies the gross profit rate in each of the cost-plus sectors in determining the output prices for these sectors. Thus, a value of 1,5 for the monopoly profit multiplier implies that all of the cost-plus sectors are able to obtain gross profit rates which are one and a half times those expected in a more competitive economy.

(e) The pricing dynamics are modelled quite simply, but it is possible to investigate a variety of alternative hypotheses by an appropriate choice of parameter values which allows for a wide variety of assumptions. Time is measured in periods of six months. Prices are assumed to adjust within each period to reflect the current exchange rate, the average wage rate and the prices charged for inputs into production. This rules out an inflationary process generated by a selffulfilling set of inflationary expectations, but equally it means that there is no tendency for inflation to subside as a result of delayed price adjustments. In fact, enterprises are likely to experience downward pressures on the real prices which they can charge because of the substantial reduction in aggregate economic activity and the implementation of tight monetary controls, so that the model is more likely to overstate than understate the speed of inflationary adjustment.

(f) It is assumed that in the first half of 1991 nominal wages will follow the path described in the previous section.

Thereafter, the wage equation allows for a weighted combination of two incomes policy rules. The first is an increase in line with the change in the consumer price index for the previous period — subject to the proviso that nominal wages cannot fall. Since expected inflation has already been taken into account in setting wages for the first half of 1991, the adjustment in the second half of 1991 depends upon the difference between actual and expected price rises in the first half of the year. The second rule provides for the recovery in real wages anticipated after the sharp fall between mid-1990 and mid-1991. It assumes that the government has a target level for real wages relative to their level in 1990 and adjusts nominal wages to achieve this real wage level at the previous period's prices. By varying the real wage target and the weight placed on the two policy rules it is possible to achieve a range of wage paths corresponding to different government policies. On the basis of the assumptions built into the reform programme it will be assumed that the two policy rules are given equal weight and that the real wage target is 80 % of the 1990 level.

(g) The government has liberalized the foreign exchange market and has said that it does not wish to intervene in the market. However, it will be shown that the behaviour of the exchange rate is absolutely crucial in determining the success or otherwise of the reform programme. In this paper, it is assumed that the government has a target exchange rate of LV 10 per dollar in July 1991. Thereafter, the simplest rule is to assume that the exchange rate adjusts in line with purchasing power parity starting from a notional equilibrium exchange rate of LV 10 per dollar at the expected price level for July 1991. The major difficulty with this assumption is that it would imply a real appreciation of the lev relative to the dollar of about 28% since July 1990, although similar calculations for December 1990 and July 1989 show a real depreciation of 8 to 10% over the shorter and the longer periods. It is unlikely that the July 1990 real exchange rate is an appropriate reference point, since this would take no account of the price increases which followed the exchangerate adjustment in May 1990. However, Bulgaria's recent trade performance and the problems caused by the breakdown in the CMEA trading arrangements suggest that a substantial depreciation in the real exchange rate relative to its level in 1989 will be required in order to generate the export earnings necessary to sustain an economic recovery. For this reason I have assumed that the government has to follow some kind of policy based on an explicit or implicit real exchange-rate target. As with the wage equation, this is incorporated in the model by specifying an exchange-rate equation based on a weighted average of the purchasing power parity adjustment and the real exchange-rate target. To highlight the role of this target I have assumed that a further real depreciation of 20% below the expected level in July 1991 will be required to achieve balance-of-payments equilibrium.

The main results of simulating the impact of the reform programme on the rise in prices over the next three years are shown in Tables 7 and 8. Table 7 focuses on the effects of alternative exchange-rate policies. In interpreting the results it is important to note that the model suggests that the government's expectations about the extent of inflation in the first six months of 1990 may be too pessimistic if the exchange rate really does settle at around LV 10 per dollar by the middle of the year. The base run yields an increase in prices over this period of 159% on this assumption, as compared with the forecast of 226%. The lower than forecast rate of inflation implies that the real exchange rate falls by 28% from December 1990 to July 1991 rather than the 10% implicit in the government's projections. This overshoots the intended purchasing power parity level so that there is a 10% appreciation of the lev in the second half of the year which exerts downward pressure on the general level of price increases. The lower than expected inflation also means that the decline in real wages is much less severe than anticipated, so that nominal wages barely change in the second half of the year because real wages are only slightly below the real wage target in July 1991.

If the government adopts a policy of targeting the real exchange rate and adjusting the nominal exchange rate in each period to achieve this real level, the appreciation of the leva in the second half of the year is only 3%, so that inflation is rather higher. This effect dies out within two years, after which the benefits of a lower real exchange rate in terms of the boost to economic activity have no further impact on the rate of price increases. On the other hand, it is possible to achieve a substantially lower average rate of inflation after July 1991 by sticking to the purchasing power parity adjustment to the nominal exchange rate target of LV 10 per dollar. In this case, the undershooting on expected inflation leads to an appreciation of the lev throughout 1991 to a rate of about LV 8 per dollar in January 1992. Even later in the period considered the half-yearly rate of inflation remains below 5%. The difficulty, of course, is that the real exchange rate is only slightly lower than that prevailing in 1989, even though the effective terms of trade have moved sharply to the country's disadvantage. Its imports of energy and raw materials tended to be undervalued under CMEA trading arrangements while its exports of machinery and other industrial goods were substantially overvalued. Thus, whether Bulgaria continues to concentrate on trade with the Soviet Union or switches towards West European markets, it will be obliged to export more or better quality goods in order to maintain the level of its imports. This should imply that there must be substantial increases in the prices of

Table 7

Simulations of inflation under alternative exchange-rate policies

Reform scenario	% increase in consumer price index over six-month period to					
	July 1991	Jan. 1992	July 1992	Jan. 1993	July 1993	Jan. 1994
Base run	159,3	1,5	7,3	9,7	10,7	11,3
Immediate adjustment to real exchange-rate target	159,3	5,7	8,9	10,2	10,9	11,3
No adjustment to real exchange-rate target	159,3	-2,8	1,7	3,4	4,1	4,5
July 1991 exchange rate of LV 12 per USD	177,1	3,0	7,9	9,9	10,7	11,2
July 1991 exchange rate of LV 15 per USD	203,8	6,0	8,9	10,3	10,8	11,2
Exchange rate of LV 15 with immediate real exchange-rate adjustment	203,8	-0,4	6,6	9,4	10,5	11,1
Exchange rate of LV 15 with no real exchange-rate adjust- ment	203,8	12,3	18,2	20,4	21,5	22,1
Source : Author's estimates.						

tradables relative to the general price level of producer prices. Under the purchasing power parity adjustment policy the producer price of machinery and equipment rises by 5% relative to the producer price index by January 1994, whereas the comparable change under the real exchange-rate target is a rise of 14%.

Table 7 (rows 4 to 7) shows what happens if the exchange rate settles at a lower rate than LV 10 per dollar by July 1991. For an exchange rate of LV 12 per dollar the initial level of inflation is somewhat higher but the path of price increases rapidly converges to that for the base run. At LV 15 per dollar the effects of alternative exchange-rate policies are quite different from those observed for a higher exchange rate. In this case the initial level of inflation is similar to that forecast by the government, and it converges quite quickly on the underlying rate of 10 to 12% per half year observed in the base run. Now, however, it is the policy of adjusting immediately to a real exchange-rate target which offers the prospect of a reduction in the level of price increases during 1991-92, while adjustments to the nominal exchange rate in line with purchasing power parity lead to a doubling of the underlying rate of inflation from 1993 onwards. The reason is that this nominal exchange rate implies a real depreciation of 44%, whose ramifications in terms of higher prices for tradables and for goods subject to government price controls have strong feedback effects on future levels of prices.

In summary, it seems that the government should be able to follow a policy of targeting the real exchange rate in order to achieve a 25% depreciation relative to the end of 1990 without running serious risks of increasing the medium-term rate of inflation. It is possible to reduce this level of inflation by targeting a higher real exchange rate, but only at the cost of accepting a large reduction in the incentives which will be needed to achieve the necessary improvement in the balance of trade. There is some advantage in terms of price increases during 1991-92 to smoothing the adoption of a real exchange rate target. It is even more important to avoid the adjustment of the nominal exchange rate in line with purchasing power parity if the exchange rate remains significantly below the projected level of LV 10 per dollar.

The model suggests that price increases from 1993 onwards will be substantially higher than the quarterly increase of 2% envisaged in the government's programme. The reason for this can be explained by reference to the resuls in Table 8 (rows 4 to 6) which deal with changes in the speed of adjustment in prices subject to government controls. Recall that it is assumed that the government has the objective of increasing these administered prices to target levels linked to the international prices of energy and food products. Despite the large price increases implemented in early February, the prices of many energy products are still well below European prices for the same products converted at

Table 8

Simulations of inflation under alternative wage and pricing policies

Reform scenario	% increase in consumer price index over six-month period to:					
	July 1991	Jan. 1992	July 1992	Jan. 1993	July 1993	Jan. 1994
Base run	159,3	1,5	7,3	9,7	10,7	11,3
Real wage target of 90% of 1990 level	159,3	2,3	8,3	10,6	11,6	12,2
Real wage target of 90% of 1990 level with immediate adjustment	159,3	3,3	8,4	10,6	11,6	12,1
Slow adjustment of administered prices: coefficient $= 0,1$	159,3	-1,3	3,7	5,5	6,2	6,6
More rapid adjustment of administered prices: coefficient = 0.5	159,3	6,1	12,5	15,0	16,1	16,9
Immediate adjustment of administered prices	159,3	15,4	19,5	21,9	23,2	24,1
Immediate adjustment of gross profit rates to target levels	159,3	2,1	7,6	9,8	10,7	11,3
Monopoly profit multiplier of 1,5	166,0	2,9	8,5	10,7	11,6	12,0
Source: Author's estimates.					1.1	

an exchange rate of LV 10 per dollar — see Table 6. The prices of these items must increase substantially faster than the general level of prices over the next two or three years in order to close the gap between domestic and world prices. These relative price adjustments are the main reason for the persistence of moderately high inflation after the initial adjustment period.

For the base run it has been assumed that the gap between domestic and international prices is reduced at the rate of 25% per half year. By slowing down the speed of convergence to 10% per half year it is possible to reduce the medium-term rate of inflation to 13% per annum, but this implies that it would take over three years to halve the gap, which would allow distorted energy prices to persist for many years. Accelerating the rate of convergence establishes a high underlying rate of inflation which persists even after the adjustment in the controlled prices is complete. The problem, of course, is a classic price-cost spiral in which relative price increases for key items are eroded by the consequent decline in the exchange rate and rises in the prices of other goods.

It is essential for the efficiency of resource use in production and consumption that the government should not try to resist the necessary changes in energy and food prices. An inflationary spiral can only be avoided by accepting that the price increases must result in a reduction in living standards and real wages. The reduction need not be large - no more than 5% — and it will eventually be fully offset by improvements in resource allocation induced by more appropriate relative prices. Thus, the best policy would be to implement a final price reform — probably in conjunction with the introduction of the value-added tax in either 1992 or 1993 — in which all remaining price controls are removed. The elimination of disparate rates of turnover taxation will lead to substantial relative price changes, so that it will be necessary to consider how the adjustment should affect living standards and wages. It should, therefore, be easier to devise a sensible strategy for minimizing the impact of the price changes on the underlying rate of inflation in these circumstances.

Table 8 (rows 2 and 3) shows that neither the real wage target nor the speed of adjustment to this target has a substantial impact on the rates of price increase. This may seem counter-intuitive but it illuminates the factors which drive inflation in this model. Under the higher real wage target with immediate adjustment the nominal level of wages in January 1992 is 13% higher than the equivalent level for the base run. However, the level of price increases in this period is only 1,8% higher than for the standard framework.

The feedback from wages through prices back onto wages is quite weak so that by January 1994 the difference in nominal wage levels between the two sets of assumptions has only increased to 17,5%. The crucial point is that external constraints on pricing decisions, whether from price controls or competing traded goods, greatly reduces the importance of wages in determining the transmission of inflation. Rather, it is the exchange rate and the government's policies concerning administered prices which are the crucial factors influencing the inflationary outlook.

The slight impact of wages on medium-term inflation should not be interpreted as indicating that wages have no effect in this model. Indeed, the external pricing constraints mean that they have a very powerful effect on the profitability of enterprises and thus upon the level and composition of output. The government cannot set its real wage target arbitrarily, because one that is too high could force many enterprises making goods which are traded or subject to price controls into bankruptcy, so that either the real wage target would have to be lowered or prices increased by depreciating the exchange rate or relaxing price controls. Thus, an excessive level of wages will feed through into higher prices but the transmission mechanism is likely to involve important changes in real variables.

For similar reasons a rapid adjustment of gross profit rates to their target levels or a general increase in gross profit rates as a result of the exercise of monopoly power do not have a major impact on rates of inflation in the medium term. Again, these changes may have important effects on the real economy, especially in terms of the composition of demand for the goods produced by different sectors.

5. Conclusion

The analysis has highlighted the crucial importance of the exchange rate and the traded goods sector in determining whether the reform programme will meet its goals for inflation. The government's expressed intention is to allow the exchange rate of the lev against the US dollar to be determined in a free market without significant government intervention. However, the model presented in this paper suggests that the government cannot be neutral about the level of the exchange rate. If it settles at less than LV 12 per dollar, the prospects for sustained reduction in inflation later in 1991 are good. On the other hand, an exchange rate of

LV 15 per dollar would seriously jeopardize the reform programme unless the government were to intervene in pursuit of a real exchange-rate target.

The exchange rate is also crucially important for the level of economic activity. Lack of foreign currency to buy energy, raw materials and spare parts during much of 1990 contributed to a decline in real GDP of 11% and a further decline of 10 to 15% is expected for 1991. The implicit target of LV 10 per dollar in the reform programme is almost certainly too high to induce the response from the producers and consumers of traded goods that will be required to achieve a substantial improvement in the balance of trade. An exchange rate of LV 12 per dollar by mid-1991 should permit a real depreciation of almost 25% since 1989 while not jeopardizing the government's inflation objectives. Thereafter, the government should accept the necessity of managing the exchange rate in order to maintain this real depreciation. This should not imply a long-term commitment to intervention, but the short-run feedbacks from the exchange rate to both prices and the real economy are simply too stong to ignore. Once inflation and economic activity have stabilized, the government can step back from its intervention and allow the foreign exchange market to develop on the basis of more stable expectations.

In effect, this paper argues that an anchor is required for the success of the reform programme in the manner of the commitment to a fixed exchange rate for the zloty against the dollar that was made by the Polish Government. Since the level of uncertainly about inflation in the course of 1991 is high, it is unlikely to be sensible to make a commitment to a fixed nominal anchor. Hence, the argument must be for a real exchange-rate target which would be consistent with an acceptable and stable rate of inflation in the medium term.

Finally, one reason that has been suggested for not adopting an exchange rate anchor is the lack of foreign exchange to sustain any intervention. This is not a very convincing objection since the foreign exchange market is relatively thin, so that the scale of any intervention need not be large. A proportion of the funds provided by the IMF could easily achieve the objective, provided that the government does not attempt to sustain a fixed nominal exchange rate. In any case the crucial issue is one of expectations. Once the government's target is clearly spelled out and the uncertainty associated with the initial burst of price increases subsides, it is likely that minimal intervention would be required.

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The Romanian economy: a survey of current problems

J. M. Montias

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1. Introduction

So little is known about the Romanian economy in the United States of America and Western Europe that a specialized paper dealing only with the transition to a market economy would miss the significance of the context in which this transition is taking place. I propose, therefore, to deal first, in some detail, with the economic background of the December 1989 Revolution.¹ In Section 2 of the paper, I describe in broad terms the evolution of the Romanian economy in the last years of Ceauşescu's rule; in the third section, I trace the changes that have occurred since the Revolution of 22 December 1989; in the fourth section, I finally broach the transition itself: the privatization of State firms, the creation of small private enterprises and foreign participation. The fifth section deals with macroeconomic equilibrium and the price increases that went into effect on 1 November 1990. My survey concludes with some speculative notes on the direction of change and the prospects for the Romanian economy in the next two or three years.

The statistical material that I use was kindly made available to me by various economists I talked with during two visits; the first, a week's visit in May 1990, during the elections, and the second, a 10-day working trip, at the end of October 1990. (I also took part in a seminar with Romanian economists just before the Revolution, between 12 and 19 December 1989, but this was a time of nearly complete statistical black-out; and I collected virtually no statistical information on that occasion. It did allow me, however, to observe the paltry state of the consumer market at the time.) My conversations with Romanian economists in May and October 1990 were very frank. I had the impression that they were trying to get at the truth, just as I was, and that they did not have a particular 'line' they were pursuing.

Is the statistical material cited in the present survey reliable? It is well known that Ceauşescu's spokesmen falsified the results of the 1989 cereals harvest to an egregious degree: they declared it to be 60 million tons, whereas the revised figure announced after the revolution was a bit less than 18 million tons. However, I was informed that agricultural specialists worked with the smaller figure all along: there was no systematic falsification of the books. According to my informants in the Comisia nationala pentru statistica (the statistical office), there was some degree of exaggeration in the statistical value-of-marketed output figures before the Revolution, which they estimate grossly at 15-20%. It was probable also that the rate of accumulation was somewhat overstated. In 1988 this rate was about 25% rather than the 28% or so recorded in the official statistics. It should be stressed, in any case, that the officially reported figures on industrial output for the years 1981 to 1987 were 'in current prices of each year, taking into account the changes in prices that occurred since the preceding year'.² I take it this means that the indexes in current prices were deflated by some sort of price index, but I have no information about the nature of this index. Inappropriate deflation may have been an important source of the exaggerated growth figures that were reported. The value-of-marketed output indicators that have been released since the Revolution are presumed to be in constant prices, but I have not seen detailed methodological notes describing this procedure.

2. The state of the economy before the Revolution

By the end of 1989, the Romanian economy had gone through 40 years of intensive, semi-autarkic industrialization, with a stress on heavy industry that, even by the standards of communist economies, may be considered unusually strong. Three statistics resume this evolution: (1) The percentage of the active population engaged in agriculture declined from 74,1% in 1950 to 28,2% in 1987.3 (2) Crude steel production increased from half a million tons in 1950 to 14,4 million tons in 1989.⁴ (3) The proportion of the total value of industrial output represented by the extractive industries, fuels, metallurgy, machine-building and electronics, and chemicals increased from 37,1% in 1950 to 62,6% in 1989.5 Industrialization was propelled by high rates of accumulation (roughly, net investment), officially estimated at 24,3% in 1951-55, 35,3% in 1976-80, and 27,9% in 1981-85. Even after discounting for overstatement, we are left with very high rates, in excess of 25%. The share of personal consumption, for which precise figures are not available, was of course much lower, since a significant fraction of the 'consumption fund ' went to finance such social expenditures as defence, security, and the construction of prestige facilities, such as palaces, for the top élite. The Ceausescu regime also had a predilection for building Pharaonic projects, such as the Danube-Black Sea Canal, the

² Direcția centrală de statistică (1990), p. 21.

³ Direcția centrală de statistică (1990), p. 20.

⁴ Ibid., p. 28; and National Institute for Economic Research (1990), p. 28. These percentages are somewhat distorted by price changes and revisions in methodology introduced since 1950, but I believe them to be broadly representative of the true state of affairs.

¹ On the political background of the Revolution and its aftermath, see Verdery and Kligman (1990).

Alba-Porta-Midia-Navodari Canal, the Bucharest-Danube Canal, and the notorious 'House of the People' in Bucharest, which were exorbitantly expensive, in terms of investment funds and human lives, and made a very small contribution to the net output of the economy.⁶ Industrial giants without a sound fuel or raw material base were also characteristic. One such instance, the aluminium plant at Slatina, had the distinction of consuming as much electricity as the entire consumer market of Romania.⁷ In general, Romanian industrialization was highly resource- and fuel-intensive. The fuelintensive branches of industry - ferrous and non-ferrous metallurgy, chemicals, construction materials - were equipped with 45% of total industrial fixed capital and received over half of the total energy resources allocated to industry, but they produced only 18,9% of the value of industrial output.8 The steel industry alone, which operates to an overwhelming extent on the basis of imported raw materials, absorbed 20% of all the energy resources of industry, while producing less than 10% of marketed industrial output (and of course a smaller percentage of value added). The singleminded concentration on heavy industry had the effect, as elsewhere in Eastern Europe, of generating levels of pollution that would be intolerable in developed market economies.9

Judged on its own success criteria — continuous increases in industrial output, high and growing rates of investment — the Romanian Government's strategy was more or less successful until 1980, when it began to break down. From that year on, investments, even reckoned in current prices, ceased to grow (the extent of price increases for capital goods and construction services is not known, but it is believed to have been small in the 1980s). The value of industrial output at current prices 'corrected for price changes' continued to increase, however, until 1987, when the economy really started to unravel.

The proximate cause of the slowdown and ensuing decline lay in the deterioration of the balance of payments, particu-

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larly after the decision taken in 1985 to repay all external debts in foreign currency. (Romania's external debt reached a maximum of USD 9 billion in 1981 and declined to USD 6,5 billion by the middle of 1985, after which no more information on the country's liabilities was communicated to international agencies.) From 1980 on, machinery imports from market economies ('convertible currency area') plummeted (in current prices, from USD 702,8 million in 1980 to USD 142,3 million in 1989). After about 1981, imports of fuels, ores, and semi-fabricated metals from both the market economies and the CMEA area declined, with serious consequences for the provision of industrial inputs for State enterprises. (My approximate calculations show that these imports, from all regions combined, had already dropped by about 22% between 1980 and 1985). Throughout the 1980s, enterprises were starved of inputs (for raw materials and semi-manufactures and for capital renewal and repairs); and exports of both producer and consumer goods were mobilized 'at any cost' to meet balance-of-payments' constraints. Thus, between 1980 and 1989, exports of machinery and equipment to the CMEA area more than doubled and exports of manufactured goods to the same area increased by about 50%, all in current US dollar prices, while exports of these two categories of goods to the market economies remained on or about the same level.¹⁰

The following statistics give some idea of the consequences of the government's investment and foreign-trade policies for the domestic market. In the industrial sphere the combination of curtailed machinery imports, especially from the developed market economies, and forced exports of the best Romanian machinery to the CMEA countries greatly retarded the modernization of Romania's capital stock and slowed down the retirement of worn-out and obsolete machinery. According to calculations made for 1989, the fixed capital of Romanian industry was used or worn out to the extent of nearly 40%. This figure does not mean much of itself, since the concept is a statistical abstraction with no precise economic meaning. But it is interesting that the degree of depreciation was greater than average in industries on the technical edge, such as the electrotechnical industry (41,3%), the electronics industry (45,4%), the industry producing calculators and business machines (54,5%), the petrochemicals industry (54,5%), the organic chemicals industry (54,9%), the chemical dyes industry (52,1%), and the medical drugs industry (54,5%). According to this same source, on 1 January 1989, in the manufacture of 1 025 products representing three-quarters of industrial production, one

⁶ The 'House of the People' may have made a negative contribution since it was built on space formerly occupied by numerous houses and churches, which had to be destroyed to make room for this gigantic and almost useless project.

⁷ Comisia națională pentru statistică (March 1990), p. 6.

⁸ Ibid.

⁹ The sulphur dioxide concentration in milligrams per cubic metre was three times higher in Romania in the late 1980s than in the USSR and three and a half times as high as in Germany (West). Pollution surpassed 'permissible levels' for this pollutant by 447% in Media, by 482% in Zlatna, by 920% in Copşa Mică. In this last town the concentration of lead and lead compounds exceeded the permissible level by over 50fold. In these major industrial centres, as well as in Galați, Giurgiu, Hunedoara, and Slatina, pollution levels for 'suspended dust' were way in excess of permissible levels. For a detailed map, see *Economistul*, No 34, 23-25 Oct. 1990, p. 1.

⁰ All foreign data cited above are derived from the absolute figures in National Commission of Statistics (1990) and the percentages in Direcția centrală de statistică (1988), pp. 76-80.

quarter of industrial capacity was unutilized chiefly, apparently, because of defects in equipment. (In the case of 60% of these products, the equipment for making them was 85% depreciated.¹¹) In the case of integrated circuits, the combination of excessive service life and technological obsolescence left production stranded, in the late 1980s, at the technological level of 1970-76.¹² The export policy for manufactured consumer goods laid the home market bare to an extent that may have no precedent in any other country: 76% of the furniture produced was exported, as were 85% of the output of garments, 88,4% of the leather footwear, 61,3% of the televisions, 75% of the refrigerators, and 93,7% of the gasoline.¹³

Deliveries of foodstuffs to the home market were substantially below the levels of 1980. According to recently published statistics, 1989 sales of slaughtered meat in State and cooperative stores (which accounted for virtually all urban consumption in the 1980s) were only 49% of what they had been in 1980.14 The corresponding percentages were 39% for fresh dairy products, 69% for powdered milk, 60% for cheese (there was no cheese at all to be found in December 1989), 46% for rice, 44% for refrigerators, 64% for television sets, 79% for passenger cars, and 61% for bicycles.¹⁵ At the same time, the role of the peasant market in supplying the population with foodstuffs was brought down to near-zero level, in particular by prohibiting peasants carrying food from crossing the lines between departments ('județi'). I was able to observe myself, in December 1989, that electric power allocations and heat, both for private and municipal uses, were cut to what I can only describe as European-wartime levels. There was also, and there still is, a shortage of light bulbs and lighting equipment. (In all three of the private apartments I visited in October 1990 - two in Iasi and one in Bucharest — the entrance hall and the stairwell were pitch dark.) The infrastructure of transport and communication services — passenger trains, buses, lifts, telephones — was, and is, also in a parlous state.

The curtailment of deliveries to the consumer market led to queues at government stores and to empty shelves. But it was in part also accompanied by financial measures that kept surplus demand within limits. In 1982, price increases

¹⁵ National Commission of Statistics (1990), p. 55.

were decreed for a number of food products that, according to an informant in the Ministry of Finance, averaged about 40%. Electricity and gas tariffs were raised to a much greater extent, although higher prices were not sufficient to restrict demand to the reduced level of supply, and stringent quantitative restrictions were imposed. (The electricity and gas expenditures of a family of three living in three rooms with an average endowment of power-using equipment were said to have risen four- to five-fold after these price increases took effect.¹⁶ On average, households were allowed to consume enough electricity for about one lightbulb per room for two or three hours per day; heat was also limited to a few hours a day, and apartments were kept at about 15°C.) Another way the regime found of sopping up purchasing power was to force workers to make direct 'obligatory payments' to the State. These are said to have increased from an average of L 667 (L = lei) per year in 1978 to L 1 218 in 1985. This amounts, at the latter date, to a little over 4% of the average annual salary of L 29 924. These levies were raised again, to an extent that I was not able to ascertain, in 1988.17 Constrained, in part at least, by their limited disposable incomes, consumers were compelled to change the structure of their expenditures to adapt to the new structure of prices. In the household budgets studied by the statistical commission, the share of food and drink in urban household budgets, which had been declining until 1980, rose again in the 1980s. From 45,6% in 1980, it increased to 51,1% in 1989. The share of clothing and footwear fell from 17,2 to 15,7% between the two dates. In peasant budgets the share of food and drink (including the value of food and drink produced in the household) rose from 63,7% in 1980 to 69,9% in 1989, while the share of clothing and footwear declined from 12,6 to 11,0%. Purchases of services - the supply of which were, and are, at a particularly low level in Romania — absorbed only 12,3% of expenditures in the urban household budgets sampled in 1989 and 5,3% in peasant budgets.18

Agricultural output, in spite of the relative neglect that the sector suffered, continued to increase, according to official estimates, until 1987, when an excellent harvest (31,7 million tons of cereals) was brought in, thanks to good weather. After that, it declined seriously. As a result of a lack of fodder the cattle population, including hogs, fell off, reverting back to the levels of 1980-81. The average milk production per foddered cow in State farms dropped to levels below 1965-70, in cooperatives (CAPs), to levels below 1966. The average

¹¹ Comisia națională pentru statistică (March 1990), p. 6.

¹² Pelinescu (1990), p. 42.

¹³ Comisia națională pentru statistică (March 1990), p. 6.

¹⁴ According to 1989 official statistics (albeit unpublished at the time), total consumption of meat and meat products in slaughtered meat equivalents in 1988 had been 59,4 kg per inhabitant. A revision of this statistic issued by the Comisia natională pentru statistică brought this figure down to 52,4 kg. The deterioration in the quality of meat products had made the revision necessary. The reported figure (unrevised) for 1984 was 61,4 kg per inhabitant (interview material).

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid.

egg production per laying hen was said to have fallen under the level of 1967 in State farms and under the level of 1972 in CAPs.¹⁹ It is a remarkable commentary on the extent of the energy shortage towards the end of the Ceauşescu regime that about one quarter of the agricultural land area set up for irrigation could not be irrigated in the second half of the 1980s because of the shortage of electricity.²⁰ (It would be interesting to compare the marginal value product, in terms of shadow prices, of a kilowatt hour of electricity used in producing aluminium in Slatina and in irrigating farm land.)

The year 1989 was the worst on record in virtually every sector. Only the output of crude steel, aluminium, and electric copper continued their irresistible ascension. National income fell 10% compared with the previous year, the marketed output of industry by 2,1%, gross agricultural output by 4,3%, and the volume of investments by 2%; 'accumulation' declined to 18,2% of national income; the value of foreign trade (imports plus exports) with CMEA decreased by 0,4% and with the convertible currency area by 0,7%;²¹ and the number of housing units delivered was down by 3%. Ceauşescu, the genius of the Carpathians, was toppled before he had to explain these figures.

3. The new government policy

The post-revolutionary Government almost immediately issued a number of decrees and orders that brought relief to hard-pressed consumers. Foodstuffs earmarked for export and for the build-up of State reserves were reoriented to the consumer's market. Large and expensive construction projects were halted. (In the first nine months of 1990, investments were down 44,6% compared with the same period of the preceding year.²²) Energy and thermal-heat

²² Roman (1990), p. 2.

resources were redirected from industry to municipal and private uses. This was done in part by curbing the output of the most energy-intensive industries (steel output was cut back by 30% compared to the preceding year and aluminium by 36%). Foreign exchange was used to buy coffee and other items that had been missing for months on the home market. Quantitative restrictions on the use of electricity, heat, and gas were done away with. Two measures were introduced that gave a strong incentive to the peasants to increase their sales on the free market. Price controls (the famous 'posted prices' or 'mercuriale' that peasants had to comply with before December 1989 and had caused the market to atrophy) were abolished; the law that prohibited peasants from transporting foodstuffs and other agricultural products for sale from one 'judet' to another was abrogated. Much more important, from the point of view of agriculture, was the transfer of nearly a quarter of the arable land of the CAPs to private cultivation and the emancipation of these private farms from controls on production, after the abolition of forced deliveries from private peasants in January, which led to extraordinary changes in patterns of cultivation. In the course of a few months, peasants increased their sowings of wheat and corn, from 480 000 hectares in 1989 to 1,6 million hectares in 1990 at the expense chiefly of oil and sugar beet, which, in view of their high costs of production and relatively low state purchase prices, peasants did not consider advantageous to cultivate.²³ (The purchase price of corn was raised in May 1990 from L 1,5 per kilogram to L 2,1; the purchase price of sunflower oil went up from L 1,8 to L 4 per kilogram, but this was still not enough to make the crop profitable.) Altogether the surface of non-food crops under cultivation decreased by about 750 000 hectares in the course of 1990.24

The supply-increasing measures that I have listed were accompanied by concessions on the demand side that, while perhaps politically necessary, had adverse repercussions on macroeconomic equilibrium during the course of the year following the revolution. Obligatory payments to the State (the direct taxes that had been raised so much in the 1980s) were abolished. The higher tariffs for electricity and gas introduced in recent years were rolled back. Finally, perhaps the most imprudent move, which had clearly a supply-reducing effect, was the curtailment of the working week. Prior to the revolution, all wage and salary earners worked 46 hours a week (five days plus three Saturdays out of four each month). This was now reduced to a 40-hour week, with the understanding that the decline in hours worked would be compensated by higher productivity (which did not materialize). (In

¹⁹ Ibid., pp. 30-31.

²⁰ Ibid., p. 26.

Actually the foreign trade situation was a bit better than in the previous year since imports rose (by 6,8% from the CMEA area and 16,1% from the convertible currency area), while exports fell (by 7,3% and 8,4%, respectively). Nevertheless, an export surplus of USD 2,5 billion, used to repay the last part of Romania's outstanding debt, was still generated. One of the last acts of Ceauşescu's regime in December 1989 was to announce that the entire debt had been repaid and that the country now had a positive net balance in foreign currency. Popular dissatisfaction rose to a pitch earlier in the year, when it was announce that, despite the impending repayment of the debt, there would be no substantial change in economic policy in the immediate future. The data cited in the text are from National Commission of Statistics (1990), pp. 3.-4.

²³ Vătăşescu (1990), pp. 4 and 6.

²⁴ Ibid., p. 4.

the coal-mining industry, the working week was reduced to 30 hours, with catastrophic effect on the supply of solid fuels.) Under pressure from the newly independent trade unions, which initiated a series of episodic strikes, the Government felt compelled to make wage concessions that increased the wage fund by 11,2% in the first nine months of 1990, compared with the same period of the preceding year. Budget expenditures were raised for scientific research, the maintenance and repair of roads, the upkeep of municipalities, and social-cultural needs. As a result of increases in transfer payments and the higher prices paid to peasants for farm products, money incomes of households as a whole rose by 26,1% from the first period to the second.²⁵

Statistics available for the first nine months of the year show the positive aspects of these new policies (improvements in supply of key food products and of electric power and heat) and their costs, in terms of lowered productivity, higher imports and lower exports, and an increase in repressed inflation. Table 1, based on an October 1990 report by Anton Vătăşescu, the economics minister, shows the main changes in State supplies sold to the population, based on actual deliveries in the first nine months and projections for the rest of the year.

To make these increases in deliveries to the home market possible, the Government had to import coarse grains for fodder at a cost of USD 250 million, of soya beans, of USD 105 million, and of hormones and veterinary products, of USD 50 million, most of which was incremental. (The response of animal breeders was prompt, and the decline in animal herds and in slaughterings recorded in the last few years was reversed.) In addition, the Government had to earmark, for the entire year, USD 85 million for imports of sugar, USD 12 million for powdered milk, USD 150 million for edible oil, USD 85 million for pesticides and USD 50 million for various inputs needed by the food processing industry.²⁶

The increases in oil and sugar imports were in part a consequence of the changes in cultivation that I have already mentioned. The sunflower crop decreased by 20% from 1989 to 1990 and the sugar beet crop by 43% (mainly because only a very small part of the lands that peasants took over from cooperatives was given over to the cultivation of these non-food crops). The only crop that increased at all (by 3% over the preceding year), in what was on the whole a very mediocre year, was corn, to which the peasants devoted most of their newly acquired lands, chiefly for the purpose of securing themselves enough fodder for their cattle.

I have already mentioned that electrical power and thermal energy were redirected from 'productive' to private and municipal uses. In the first nine months of 1990, total electric power consumption decreased by 10% compared with the same period of 1989. Yet power allotted to private uses increased by 21,7% and to municipal uses by 11%. As a result of this reallocation, power used in industry and for other productive uses declined by 22,4%. Thermal energy consumption as a whole increased only slightly in the first three quarters of 1990 (by 2,5%), but the population received 34,9% more than in the first three quarters of 1989. Allocations for productive uses dropped 10% from the first

²⁵ Roman (1990), p. 2.

Table 1

State supplies to the population

	Actual 1989	Estimated 1990	Percentage increase
Meat, total (tonnes)	677	1 060	56,6
Milk, total (hectolitres)	18 450	21 680	17,5
Eggs	2 546	3 369	32,3
Bread products (wheat equivalent, tonnes)	3 600	3 650	1,4
Oil, total (tonnes)	267	305	14,2
Sugar, total (tonnes)	526	614	16,7
Wine (hectolitres)	2 945	2 796	- 5,1
Source: Větězerou (1990) p. 2			

²⁶ Vătăşescu (1990), p. 6.

period to the second.²⁷ Most people I talked to agreed that there had been some improvement in the food situation (one should keep in mind that not only was more food made available to consumers in State shops but the peasants delivered to the free market quantities of produce that added considerably - though to an extent I have not seen quantified - to the available supplies, particularly of vegetables and fruits). In other domains, however, with the exception of electric power and heat already discussed, the perception of consumers with whom I talked in October 1990 was that the situation had deteriorated. This perception is correct, at least in the case of clothing, shoes, and detergents. In the first nine months of the year, deliveries of various types of cloth declined by anywhere from 6 to 12% compared with the previous year; shoes were down by nearly 15% (probably those made of leather by a good deal more); deliveries of soap and detergents fell off by 2,5% and 7,5%, respectively. Most consumers do not seem to realize that deliveries of some durable goods increased (televisions by 29,7%; refrigerators and freezers by 43,3%; electric light-bulbs by 13,7%, if those may be qualified as 'durable' — in fact, there were none to be found on the market in October; furniture made of wood by 21,3%; and car tyres by 12,6%, all in the first nine months of the year compared with the same period of 1989). Deliveries of washing machines, cooking stoves, and cars declined (by anywhere from 8 to 27%).28 Such increases in deliveries as have taken place may not have been appreciated by the public because they may actually have been taken out of circuit before they reached the ordinary consumer. Many desirable items, especially among durable goods, were sold by managers of retail stores directly to 'speculators', generally in exchange against 'cadou' (literally a gift, but in fact a bribe), for resale either domestically at much higher prices or abroad. (Throughout the first nine months of 1990, there was a lively arbitrage trade, by passenger car and train, between Romania, Hungary, Yugoslavia, Bulgaria and Turkey. This has now been slowed down by administrative measures on the part of all the countries concerned.)

These illicit transfers were, and probably still are, albeit to a lesser extent than before, an artefact of the economic system. Almost all prices of government-sold goods were very low, compared with what they could bring on the free market, in part because they incorporated imported inputs, which were converted into lei at a rate of approximately L 21 to the US dollar during the first nine months of 1990, compared with a black market rate of over L 100 to the US dollar. I return to this point later in this paper. Altogether the decline in deliveries of industrial goods did not quite compensate for the improvement in food supplies, and the 'consumption fund' as a whole declined by 0.9% in the first nine months of 1990 compared with the same period of 1989 (this despite a 2% increase in the official retail price index, which is probably understated).²⁹

The overall effects on foreign trade of the Government's pro-consumer policy were the following. In the first nine months of 1990, as compared with the same period in 1989, imports from the convertible currency area were up 54,3%, which more than offset the decline of 14% in imports from the CMEA area. (A minor part of this increase in the value of imports was due to higher petroleum prices, which, after the oil crisis, rose from USD 120 to 245 a ton. The full impact of these higher prices will be felt in the fourth quarter of 1990 when they are expected to raise the import bill by USD 0,5 billion or half the projected deficit in the balance of payments with the convertible area.³⁰)

Exports to the convertible and the CMEA area in the first nine months of 1990 were about 54% of what they had been in the corresponding period of the previous year. To finance the deficit with the convertible area, Romania had to run up a debt of about USD 1 billion, which may be considered very moderate for a country of Romania's population and economic potential.³¹

The consequences of the Government's labour policy, and particularly of the decision to cut back on the working week, emerge when we analyse detailed statistics of the use of labour time in large-scale State-owned industry.³² In the first half of 1990, compared with the same period of 1989, the number of non-working hours earmarked for Saturdays, Sundays, and holidays increased by 13,7%. Because of a small increase in employment, however, the total number of labour hours available for work declined by only 3%. But the number of unutilized labour hours, out of the total available 'fund' of working time, rose nearly 50% (from 203 million to 299 million labour hours.) In the first half of 1990, these unutilized hours represented 7,3% of the available 'fund'. The total time lost to 'interruptions and downtime' (e.g. lack of materials and breakdowns of equipment), which had been fairly negligible in 1988, except in light industry

²⁷ Ibid., pp. 15 and 16.

²⁸ Ibid., pp. 28-30.

²⁹ Roman (1990), pp. 2-3. 30 Větě accesu (1900) = 20

³⁰ Vătăşescu (1990), p. 20.

The foreign trade data cited in the text are from Comisia natională pentru statistică (September 1990).
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¹² These unpublished statistics were kindly made available to me by researchers in the National Institute for Economic Research.

and food-processing,³³ amounted to 14,6% of unutilized labour time in metallurgy, 15% in machine-building, 10,5% in construction, 13,7% in the lumber industry, 16,5% in light industry, and 13,1% in food-processing. Altogether nearly four times as many hours were lost to interruptions and breakdowns than in the previous year (12,7% of total unutilized labour time in 1990). Strikes accounted for only 0,6% of unutilized time (3% in mining, 0,8% in light industry, less in other industries). Other sources of unutilized labour time apparently reflect a slackening of labour discipline and/or a more humanitarian approach towards workers by management. (This, at least, is how my informants interpreted the figures.) It is remarkable, for instance, that maternity and child-care leave should have increased by 60% and unpaid leave by 150% over the previous year. Only 'unjustified absences' stayed more or less at previous levels, which may have more to do with a more generous definition of what was considered 'justified' than with anything else.

When we consider that industrial output in the first nine months of 1990 decreased by slightly over 20% and labour productivity (presumably computed per person rather than per hour) fell even more (by 22,8%), it is clear that the labour utilization data conceal a great deal of hidden unemployment. This phenomenon is generally recognized, and widely commented on, in the press. A few aggregated statistics for the performance of the entire economy in the first nine months of 1990 form the necessary background for the discussion of the macroeconomic balance of the economy which follows. National income was down 27,7% compared with the same period of 1989. We have already seen that money incomes were up 26,1% and that total sales to the population in current prices were down by 0,9%. In his report to Parliament of October 1990, Prime Minister Petre Roman pointed out that one of the reasons why the drastic cuts in exports had not brought about a greater improvement in the domestic supply situation was that a large volume of consumer goods had been 'immobilized' in inventories and in unfinished production. He estimated these at L 328,8 billion or 53,7% of the total value of goods earmarked for sale to the public projected for the entire year, as compared with an inventory-to-sales ratio of 32,5% in 1989.34 He termed this deterioration 'anti-economic and anti-social', although, in my view, it is not really surprising

³³ It is surprising that, despite pervasive materials shortages, there was so little unutilized working time in heavy industry in 1988. Perhaps, in a more authoritarian environment, workers were kept working at menial tasks when shortages of materials (or equipment breakdowns) occurred. I was told that, in 1990, workers would check in in the morning, start their machine, and, if there were no materials to work with, turn off the machine and go home.

at all. One would expect, in a period of transition from a command economy oriented towards heavy industry to a very loosely coordinated system with limited market elements, such as had been introduced in the last nine months, that many State enterprises and shops would receive an assortment of deliveries that no longer corresponded to current demand and that would, at least temporarily, have to be added to inventory. In the middle of 1953, in the process of introducing the New Course in Poland after Stalin's death, resources were switched from the producers' to the consumers' sector, inventories rose to unprecedented heights, and the rate of accumulation increased despite the curtailment of investments in fixed capital. Natural as this accumulation of inventories may have been, it did of course diminish the outflow of goods actually available to consumers and complicated the task of implementing a proconsumption policy.

Macroeconomic disequilibrium is reflected in the cumulative gap between household disposable income from State sources and the outlays of households on purchases of goods and services from State shops and other payments to the State. There is no question that the situation has deteriorated in this respect (though not nearly as much as in the Soviet Union in the last year). The money incomes of households rose by 26% from the first half of 1989 to the corresponding period of 1990, as compared with only a 5,8% increase throughout 1989. The expenditures of the population on purchases of goods and services from State and cooperative stores and other payments to the Government rose by 13% in the first half of 1990 as against 2,9% throughout 1989. Currency in circulation plus household savings deposits rose by 13,4% in the first half of 1990, compared to 10,4% in the year 1989 as a whole.³⁵ Some absolute figures that have recently been released make it possible to analyse these monetary developments in some detail. In the first eight months of 1990, the cumulative gap between the money incomes of households from State sources and their expenditures on government-supplied goods and services amounted to L 41 billion, according to figures announced in October 1990 by Minister Vătăşescu. Corresponding roughly to this gap was an increase of currency in circulation and savings bank deposits of L 46 billion.36 (The two figures should technically be equal, at least if all currency and savings were held by households, but this is almost certainly not the case.)

Official budget statistics would seem to suggest that the Government had the budgetary process well under control in the months after the Revolution and that it did not

³⁵ Comisia națională pentru statistică (September 1990), p. 1.

³⁶ Vătăşescu (1990), p. 32.

³⁴ Roman (1990), p. 3.

contribute to the repressed inflation reflected in the rapid growth of currency and savings. Officially, total budget receipts in the first nine months of 1990 exceeded expenditures by L 7 billion or 3,5%. However, this does not give a correct picture of the budget's impact on macroeconomic equilibrium, principally because most losses of State enterprises were not automatically 'covered' by the budget, and there was a significant deficit after adding these losses to expenditures. (Losses originally appear as overdue loans to the banks; from time to time, as budget revenues allow, uncovered losses are 'normalized' by the treasury.)³⁷

From the beginning of the year until 31 August 1990, the losses of State enterprises amounted to L 34,5 billion or, projecting this figure on a nine-month basis, to L 38,8 billion. This is consistent with an estimate of Danielescu, who claims that uncovered losses of State enterprises will exceed the nominal budget surplus by at least L 30 billion for the entire year. If the budget were to cover these losses, as it normally should, the total deficit would be L 31 billion, or 9% of expenditures, including the subsidies. The gap would then amount to 8,4% of national income for the first nine months of 1990, which may be estimated roughly at L 370 billion.³⁸

The other source of macroeconomic disequilibrium was the creation of credit. It is instructive to separate the two sources (the budget deficit and credit creation) and to estimate their respective contributions to the increase in currency and savings. Suppose that there were no banking system, and neither households nor State enterprises could obtain bank credit. Suppose also that the Government could only lend to, or borrow from, households. The receipts of State enterprises would then be exactly equal to their sales. Clearly then, if the Government ran a budget deficit, it could only do so by borrowing the amount of the deficit from households. The budget deficit of the Government would be equal to the increase in currency held by households plus the increase in their savings deposits (these two instruments being the only ones enabling households to lend to the Government). Simple manipulation of macroeconomic accounts may be used to confirm this identity.³⁹ Thus, if the total budget deficit was L 31 billion in the first nine months, then, under the no-lending assumption, currency held by households and savings deposits should have increased by that sum. In fact, as we have already seen, they rose by L 46,5 billion in the first eight months or, extrapolating this figure on a ninemonth basis, by L 52,3 billion. It is easily shown that the L 21,3 billion difference between the two figures must be due to net credit creation (increases in loans to State and cooperative enterprises minus increases in the bank deposits of these institutions plus net increases in loans to households).⁴⁰

This accounting exercise shows that, contrary to the belief prevailing among the banking specialists that I spoke with in Romania, the macroeconomic effect of financing the losses of enterprises from the budget or of extending (or renewing) loans to subsidized enterprises is the same.⁴¹ (The

(2) Y = Y - TO + S (definition of national income at factor prices) (3) $\overline{D} = Y - TD + TR$ (definition of disposable income)

Adding the three identities and rearranging terms yields:

D + TD - TR + TO = C + I + G + S

But $D - C = \underline{M}$ (since households, in the aggregate, can only buy State goods and services or hold back part of their disposable income in the form of currency savings deposits) and TD - TR + TO - C - I - G - S = B

(by definition of the budget surplus)

Hence, after further substitution and cancellation of terms $\underline{M} = - \underline{B}$.

- ⁴⁰ To see this, one need only add the net loans extended to State and cooperative enterprises on the right side of Equation (1) of the preceding note and the net loans extended to households in Equation (3). The left side of the two equations then shows the total money receipts of enterprises (sales plus net loans received) and the total money receipts of households including net loans received. Summing the three equations and rearranging terms, we are left with the increase in currency held by households and savings deposits on one side and the total of the budget deficit and the increase in net loans to enterprises and to households on the other.
- ¹¹ In previous years very large nominal budget surpluses had been offset by the reimbursement of losses of State enterprises. In 1989, for instance, total receipts were L 276,7 billion and total nominal expenditures L 204,7 billion. The difference was more or less 'used up' to cover both current and previous losses of enterprises. In the first nine months of 1990, the nominal surplus was only L 7 billion (L 216,1 minus L 209,1 billion), which was much less on a yearly basis than the losses reimbursed in the previous year. Yet, because of wage increases, the curtailment of working time, and other cost-raising factors, losses could be expected to run higher than last year, at least until the price increases that went into effect on 1 November 1991. I suspect that the figure cited above by Danielescu (L 30 billion) is a minimum estimate.

For an interesting discussion of this practice, see Danielescu (1990), pp. 1 and 3.
 Ibid., p. 3.

³⁹ Let Y = national income at market prices, defined as sales of goods and services by the State; \underline{Y} = national income at factor prices for all goods and services produced by the State; D = disposable income of the population; C, I, and G = sales of consumer goods and services by the State, State investments, and government services (at factor cost), respectively; TO = turnover or indirect taxes on goods and services sold by the State; TD = direct taxes paid by the population to the State; TR = transfer payments by the State to the population; S = subsidies to State enterprises.

⁽¹⁾ Y = C + I + G (this identity defines national income at market prices)

source of finance, however, may make a difference, if the pressure placed on enterprises to reduce their losses is greater when it is exerted by the Ministry of Finance than by the National Bank or by one of the specialized banks, such as the Investment Bank or the Bank for Agriculture and the Food Industry.)

As for the fiscal year 1991, the prospects of a budgetary deficit can no longer be denied. The deficit is forecast at L 37 billion or 10% of total budget revenue.⁴² It is not clear whether the net losses of State enterprises, which should have diminished as a result of the 'price liberalization' (described in Section 5 below), are included in the projected expenditures of the Government.

To place in context the system reforms that are described in the next section, it should be kept in mind that the old planning system, in the first 10 months of post-revolutionary rule, was weakened without being dismantled. The old industrial ministries were placed under a newly created Ministry of Resources and Industry, which apparently also took on some of the functions of the defunct Planning Commission. It continued, for instance, to draw up material balances as a basis for allocation decisions. According to the Prime Minister's report of October 1990, the number of these balances was reduced from 2 200 in 1989 to about 600 to support allocations in the year 1991.43 This reduction may be more illusory than real if it corresponds to the aggregation of materials formerly planned according to a more detailed nomenclature. In any event, it is said that the system has become chaotic, since no one is sure precisely how much State enterprises will produce in the coming months, in part because they have gained a measure of autonomy, in part because they themselves do not know what materials allocations they will receive, under conditions where these allocations will determine how much they will produce. According to one economist I interviewed, many enterprises would like to return to a more coercive type of planning that would more or less assure them of obtaining the allotments of inputs laid down in the plans. A comment made in a recent article shows how poorly adapted the allocation system is to the new conditions, and especially to the scaling down of output in most enterprises of heavy industry. 'It is true', the author comments, 'that under the dictatorship the input norms were in large part erroneous, without justification in the technology or in the real conditions of production. But now ... there no longer exists any policy toward [industrial] consumers [italics in the original], and there is an incredible waste of the meager resources that can actually be obtained,

as if we had a cornucopia at our disposal. Many enterprises have been allotted as much copper, aluminium, and steel sheets as last year [in 1988], even though they are producing only 50-60% or less than what they were producing last year.'⁴⁴ A senator, who is a member of the National Salvation Front, the dominant government party, declared recently, in the same vein, that 'the system, which is still centralized, is devoid of any coordination : conferring autonomy on State enterprises in conditions where centralized institutions are maintained ... can only lead to disorganization and anarchy'.⁴⁵

The facts I have cited support the following conclusions about the Government's policy since the revolution. The Government has certainly tried to improve the consumer's lot, but it has done so through short-term measures and improvisations rather than through any basic rethinking of long-term strategies (which is not really surprising given the short time that has elapsed and the political constraints under which the Iliescu Government was operating). Such a rethinking might have involved the closing of extremely inefficient plants that presently still consume inordinate amounts of scarce inputs, including raw materials, fuel, and power, particularly in metallurgy and heavy machine-building, and the redeployment of their employees towards other occupations. Services, as we have seen, are woefully underdeveloped in Romania, and require relatively little capital. Indeed, Prime Minister Roman in his report of 18 October suggested that the unemployed should be directed towards that sector.⁴⁶ But what the Government actually did, instead of grasping the nettle and shutting up the most inefficient plants, was to scale back the output of most plants in heavy industry by 30 to 40%, thus effecting limited economies of raw materials, fuel and power, while keeping the employment of these factories virtually untouched. Wage concessions, the loosening of factory discipline, increases in budget outlays, the rollback of previous price increases for electric power and gas, and other measures that some Romanians have termed 'demagogic'47 compounded the Government's difficulties. The budget deficit and credit expansion together caused a significant (though hardly catastrophic) increase in the monetary overhang. We shall see, when discussing the

⁴² Barac (1991), p. 1.

⁴³ Roman (1990), p. 14.

⁴⁴ Cârlan (1990), p. 2.

⁴⁵ Stelian Dedu in Adevárul, 20 October 1990.

 ⁴⁶ Roman (1990), p. 19. Roman pointed out, in this connection, that 27% of the Romanian population was engaged in services as compared to 68% in Belgium and 53% in Austria (p. 20).
 ⁴⁷ See, for instance, the isonic asticle by Serbaneou (1000) in Remarking

¹⁷ See, for instance, the ironic article by Şerbănescu (1990) in *România Liberă*, in which the author ascribed most of the Prime Minister's recent economic problems to the concessions that his Government had made shortly after the Revolution.

price increases of 1 November 1990, whether this monetary overhang, however it may be defined, was the principal justification for these increases.

4. Private activity

In this Section, I report on the 'transition to market economy' along four fronts: (1) the privatization of farm land, (2) the creation of private non-farm enterprises by Romanian nationals, (3) joint enterprises with foreign participation, and (4) the conversion of State enterprises to private or mixed State-and-private firms.

Collectivization, carried out in the years 1960 to 1962, left in private hands farms in isolated, generally mountainous, areas and the garden plots of collective farmers. These generally were limited to half an acre (a quarter of a hectare), and were subject to confiscation by the management of the cooperative if the users did not work a sufficient number of days on the collectivized part of the farm. One of the first decisions taken by the post-revolutionary Government was to increase the permissible area to half a hectare per member of the collective. Previous restrictions on the use of these plots were also removed. In addition, 320 cooperatives were liquidated and their lands distributed to individual peasants.⁴⁸ The results that have taken place in the distribution of land are shown in Table 2 below.

Since the beginning of 1991, a new law on real estate property ('legea fondului funciar') has been expected, which will enable peasants to obtain land now owned by cooperatives.

48 Vătăşescu (1990), p. 6.

(As of January 1991, it was still bottled up in Parliament.) The Prime Minister, in his speech before Parliament of 18 October 1990, promised that peasants would be allowed to withdraw from membership in the cooperative to which they belong at any time they wish 'with land equivalent to that with which they entered the cooperative'. However, in order to encourage 'exploitation in common of a larger surface of land, which would be preferable from a technological point of view', peasants will not be given a monetary equivalent for the land they contributed to the collective.49 (This wistful reference to the advantages of cooperative enterprise may reflect the values of a government made up, to a significant extent, of former Communist Party members.) The decision not to give the peasants money for their land presumably implies that they will not be able to sell it. (Such a restriction would be reminiscent of the prohibition against the alienation of peasant allotments after the emancipation of the serfs in Russia in 1863.) In the same spirit, the Prime Minister also made clear that no one would be allowed to own large amounts of land, because such large holdings 'could discourage the formation or conservation of peasant communities, which are the backbone of [our] authentic national spirit'. 50 Even though, with the approaching winter season, there was a widely perceived need to legislate stable ownership conditions to remove the uncertainty that was discouraging peasants from launching the growing season, the projected law on land ownership remained bottled up in parliamentary committees. This was not necessarily the result of bad will. The problems of accommodating the heirs of cooperative members who have long left the farm (some of them are now abroad), of the formerly landless labourers and the technicians, who may have to be given land even though they brought none in, and of evaluat-

(× 1000 hectares)

Roman (1990), p. 21.

49

Table 2

Changes in the distribution of farm and arable land by category of ownership, 1989-90

Farm land of which, arable Category of ownership 1989 1990 Difference 1989 1990 Difference Cooperatives (CAPs) 8 685 6 526 -21596 593 4 842 -1751Members of cooperatives 1 273 3 148 +1875706 2 0 2 2 +13162 270 +355484 645 +161Peasant farms 1 914 State farms 2 073 2 073 1 651 1 651 9 4 3 4 9 160 Total 13 945 14 017 +72-274Source : Vătăsescu (1990), p. 6.

⁵⁰ Ibid., p. 21.

ing the different types of land so that recipients may be awarded equivalent plots of consolidated land are formidable.⁵¹

The first decree liberalizing the conditions under which private non-agricultural enterprises could be founded and operated was issued in March 1990. At least until November 1990, it still regulated the private enterprise sector, although, as we shall see, a much more liberal law was already in preparation. Decree No 54 (called by some wags the 54 obstacles to private enterprise) limited employment to 20 individuals. It specified certain activities for which permits would not be issued, including the making of alcoholic beverages, the extraction of petroleum and minerals, the printing of books, and the organization of games of chance, of any sort. (This last provision was undoubtedly introduced to rule out the very popular shell games that were set up in many busy streets prior to the June 1990 events.) The law specifies that fuel and electric power could be obtained from central distributors or municipalities 'on the basis of contracts'. The Ministry of the National Economy was empowered to sell raw materials, spare parts, and other inputs to private enterprises, who could apply directly to producers for these goods.52 However, 'to stabilize the structure of activity of private enterprises, it will be necessary to take into account that [certain] materials are in deficit supply for the economy'. These included a long list of basic semimanufactures, such as basic products of aluminium, copper, brass, zinc, natural and synthetic rubber, lacquers, and synthetic chemical products.53 It is not clear whether these centrally distributed products are not to be sold to private enterprises or only under special conditions, at the discretion of the Ministry. Finally, machinery and equipment may be sold to small private enterprises and family associations, provided that the prices charged are not below the depreciated value of the assets.⁵⁴ The way some of these provisions have actually been carried out is discussed below.

The taxation provisions of the laws — profits are taxed according to a progressive schedule which reaches a maximum of 50%, when yearly profits of L 420 000 have been attained⁵⁵ — are said to be inhibitive, given the lack of capital of entrepreneurs and the need to build up capital from profits. (Recall that at the market rate of L 100 to the US dollar, which prevailed during the summer and autumn of 1990, profits of L 420 000 amounted to only USD 4 200.) This is a basic problem requiring further discussion. Since

March 1990, 140 000 requests for permits to start a private business have been submitted to the Government commission charged with issuing these permits. Of these, 50 000 have been approved, and 20 000 are still under examination. (I was told that permits were refused mainly in cases where the applicants did not have enough capital to launch their business or did not exactly know what they were going to do.) Over 80% of the permits are issued for trade (almost all retail) and only 20% for manufacturing and other ventures. The average amount of capital of entrepreneurs who received a permit was about L 50 000 or USD 500 at the free market rate of the US dollar. About 20 permits were for businesses with a capital value in excess of L 500 000, only 2 or 3 permits for businesses with a capital value in excess of L 1 million (USD 10 000).56 The unavailability of capital explains why many private bars have been opened but very few restaurants. (It is possible to obtain a bank loan but only against collateral, such as a privately owned house, and few people have enough assets to obtain a sizeable loan.)57 In a country where, at the end of 1989, only 10% of the wage and salary recipients in the State sector earned more than L 4 000 a month (USD 40 at the free market rate) and where total savings and currency held by the public amount at present to a mere L 3 500 per household, 58 there is not enough 'primitive accumulation' to get free enterprise going. The claim is frequently made that the only individuals who can put enough capital together to start a manufacturing venture are those who earned money illegally in the past, by engaging in illicit arbitrage trade, by using State enterprises as a basis for conducting commercial or manufacturing operations, usually on the basis of stolen State property, by bribing employees in State enterprises to obtain scarce goods for resale or further processing, or, last but not least, by exploiting their position in the 'nomenklatura'.

Once a permit is obtained, the obstacles in the way of operating a private business profitably are daunting. These are essentially of four kinds: (1) lack of space to conduct operations; (2) inability to buy materials, machinery, or goods for resale from the dominant State distribution network; (3) price controls on the goods and services that private enterprises offer for sale; (4) incomplete or unclear legislation regarding certain private activities, such as import and export transactions.

⁵¹ Gib (1990), pp. 1 and 2.

⁵² Curier economic-legislativ (1990).

⁵³ Ibid., p. 7.

⁵⁴ Ibid., p. 6.

⁵⁵ Ibid., pp. 12-13.

⁵⁶ Interview with officials of the Commission on private enterprise.

One former manager of a poultry farm obtained a credit of L 15 million — an extremely large sum by Romanian standards — by mortgaging not only his own assets but those of all his relatives and acquaintances. But 'idle tongues' have it that he received the loan not because of the collateral he brought in but because of special protection. [Pop (1990), p. 3].

⁵⁸ Interview material, Ministry of Finance.

(1) According to an article published in autumn 1990, the lack of space has provoked a veritable 'chase' after available rentals. 'Legends abound about the official steps, some of them not so official, that must be taken to enter into possession of a much coveted renting contract.'59 'Unofficial steps', as the article makes clear, are illegal arrangements made with the managers of State- or municipality-owned quarters. (2) The Ministry of Resources and Industry has issued instructions prohibiting any State or cooperative enterprise that is the sole producer of a given product in the country from supplying this product to a private enterprise. Since many Romanian State enterprises are very large 22,7% of all republican (State-wide) enterprises employed more than 5 000 workers in 1985⁶⁰ — monopoly producers are quite common. Indeed, if the products they sell are defined in fine enough detail, most producers can be considered to have a monopoly of the goods they produce. The Ministry of Agriculture and of the Food Industry and the Ministry of Health have gone a step further. They have forbidden all their units from concluding contracts with private enterprises.⁶¹ The result is that frequently supplies can be obtained only against 'cadou'. But it must be remembered that suppliers receive gifts even from approved State consumers, so business goes on much as it always did (except that the gifts are now presumably larger). (3) Law No 201 of 1990, passed by Parliament in the late summer, was aimed at 'protecting the population against illegal commercial activities and at preventing private enterprises, in their attempts to get rich quickly without producing anything of their own, from destabilizing retail trade by acquiring for resale various types of goods, especially from the food sector, which goods should be made available to consumers through the State commercial network at [State-imposed] retail prices'.62 To implement these righteous aims, the law set 'drastic penalties' against those carrying on such activities 'damaging to trade'. As the author of the source cited points out, it is difficult to see how entrepreneurs can make a profit from reselling goods from State sources without raising their prices above State-imposed levels, since, in buying such goods from State wholesalers, they are not even given wholesale rebates.⁶³ Most licensed traders try to sell the goods they have somehow obtained from the State at prices that are not sufficiently out of line with approved retail prices to attract the attention of State officials. It is not surprising, in view of these obstacles, that, by October, only about 10% of the individuals who had received permits in the preceding months had begun their activities.⁶⁴ I will not dwell on the

fourth type of obstacle (unclear or confusing legislation), except to state that it is one of the more common complaints of private entrepreneurs.⁶⁵

When I asked, in an interview with officials issuing permits, if there were many applications for wholesale trade, including the purchasing of farm products directly from farmers, I was told that there were virtually none. The reasons: relatively high capital requirements, the necessity of securing storage space to stock products in several localities, and the difficulty (or impossibility) of buying or leasing trucks to transport the goods collected to market. In the case of farm products, a further reason was invoked: the surpluses that peasants had for sale were so small and they were so geographically scattered that it did not pay wholesalers to enter the business. (Peasants use their horse-drawn carts to bring their goods to city markets; in the case of more valuable commodities, such as wine, they bring their produce - in jerrycans — directly to the city by train, often without paying the fare. These are presumably less efficient forms of distribution than wholesalers-collectors equipped with trucks would be.)66

One revealing piece of evidence of the lack of integration of the Romanian farm-products market is the high degree of variation of free-market prices, even for storable commodities, such as wheat and maize. In the month of September 1990, wheat prices per kilogram, recorded by the National Commission for Statistics, varied between L 4 a kilogram (in the city of Orad) and L 13 a kilogram (in Odorheiu Secuiesc in the Harghita 'judet').⁶⁷ They even varied within a single 'judet' (between L 7,67 and L 9,94 a kilogram in the Alba 'judet', between L 6 and L 9,32 in the Caraş-Severin 'judet'). It is hard to see how such large differences could be due to quality or to period-to-period differences within a month — which would themselves testify to the lack of storage space (and of efficient speculative activity). In the case of maize, prices varied from L 6 (in Lipova of the Arad 'judet' and in Caracal of the Olt 'judet') to L 13 (again in Odorheiu Secuiesc). In many localities wheat and maize prices were approximately the same; in some maize cost

 ⁵⁹ Popescu (1990), p. 1.
 ⁶⁰ Běltěpoiu (1990)

 ⁶⁰ Băltănoiu (1990).
 ⁶¹ Horomaca (1990).

 ⁶¹ Horomnea (1990).
 ⁶² Bîrlă (1990), p. 2.

⁶³ Ibid.

⁶⁴ Horomnea (1990), p. 2.

⁶⁵ In the weekly *Profitul Românesc*, published by the 'entrepreneurs of Romania', this is a recurring complaint. For an interesting and fairly detailed list of complaints about the law, see Săndulescu (1990), p. 3. One of Mr Săndulescu's complaints was that the State did not do enough to prevent 'bişniţari' (fly-by-night businessmen), presumably operating without a permit, from buying goods from the State sector illegally and reselling them abroad or at a high mark-up on the domestic market.

⁶⁶⁶ State enterprises are not buying the peasant surpluses either. According to a recent report, 'not a single procurement or acquisition agency is buying wheat [directly from farmers]'. Rumours that these agencies would be privatized have apparently paralysed their trading activities (Dumitriu, 1990, p. 5).

⁶⁷ Comisia națională pentru statistică (September 1990), p. 4.

50 to 100% more than wheat. The prices of piglets less than two months old ranged from under L 500 a piece (localities in the Alba, Bistrita-Năsăud, Cluj, Iaşi, and Sibiu 'judeţi') to over L 1 000 (Bucharest, localities in the Teleorman, Tulcea, and Caraş-Severin 'judeţi'). Granted that the piglets that were offered for sale in these different places did not necessarily have the same average weight, the very large differences recorded must also reflect unutilized arbitrage possibilities. The situation in this respect is reminiscent of early nineteenth century Russia, when the price of wheat was said to double if it had to be carried over 100 kilometres, before transport by rail — by wagon loads, not by handcarried bags — began to unify the market.

Enterprises incorporating foreign capital are not subsumed under Law No 54 but under special laws regulating their creation and operation. The principal of these is Decree No 96 of 14 March 1990, which was still in force at the time of writing. While it is more generous towards foreign investors than the previous legislation, it is still frequently criticized for being overrestrictive, especially in comparison with similar laws in the other ex-socialist countries. It does not allow majority control by foreigners, and it permits the repatriation of profits in foreign exchange only to the extent of 8% of the initial contribution of foreign capital to the firm. As one critic pointed out, this is very small if one considers the rates of interest on long-term bank deposits in Western Europe, which have the advantage of being perfectly safe.⁶⁸

Prior to the December 1989 Revolution, there were only six joint ventures (one with a German company to build machinery and equipment, one with a Japanese company to produce cattle feeds, one with the US firm Control Data, one with the French firm Citroën to produce motor cars, and one each with Italian and Libyan firms to engage in maritime transport).⁶⁹ After the new law of 14 March 1990 was promulgated, a large number of applications to launch firms with the participation of foreign capital were submitted. By mid-October, 567 applications had been received, of which 362 had been approved. Most of the firms are small and tend to be concentrated in trade and services. Only 10% of the mixed firms actually in operation are engaged in manufacturing. The proportions of the different activities are roughly the same as for private enterprises that are exclusively in Romanian hands.⁷⁰ The obstacles cited in connection with the latter also prevail here: lack of domestic capital, shortages of office, storage, and other space, difficulties of procuring material inputs, an uncooperative bureaucracy, and so forth.⁷¹ The half-hearted encouragement of the administration only began to change a month or two after the elections, during which the National Salvation Front had proclaimed the slogan: 'We shall not sell off the country!' ('Nu ne vindem tara!'). This attitude towards foreign investment reverted to an old Romanian tradition of self-reliance and opposition to the intrusion of foreign capital, which was expressed in the slogan of the dominant Liberal Party in the early 1900s, 'Pre noi insa' ('Only through our own efforts').

On 20 September, 1990, an important draft law concerning commercial corporations was approved by the deputies of the Romanian Parliament. If it is approved by the Senate and becomes law, it will replace both Decree-Law No 54/ 1990 on private enterprise and Decree-Law No 96/1990 on foreign investment. The draft law adopts many provisions of the French commercial code, to which it adds provisions on limited liability. All commercial firms will have to be constituted on the basis of one of the following five basic types: (1) simple partnerships with unlimited responsibility of members; (2) limited partnerships with unlimited liability of members but with the liability of contributing partners limited to the extent of their contribution (in French law, 'commandite simple'); (3) limited partnerships by shares, where the entire capital is divided into shares, and partners have unlimited liability, but shareholders are only responsible to the extent of their shares (French 'commandite par actions'); (4) shareholding corporations, where shareholders are only liable to the extent of their shares; (5) limited liability corporations whose partners are liable only to the extent of their contribution to the corporation's capital. The draft law foresees no limitations on employment, in the case of either purely Romanian or mixed foreign-Romanian corporations. The provisions on the repatriation of profits are potentially more liberal than in the present law. Any corporation in which the State is not the unique shareholder will be able to repatriate 50% of its 'net receipts in foreign exchange', while the remaining part must be exchanged with the Banca Romana de Comerts Exterior against lei at the prevailing (i.e. official) rate of exchange (Art. 215). Of the annual profits in lei, it will be possible for foreigners to repatriate in foreign exchange 8 to 15% of the contribution they have made to the corporation, which transfer will be effected by the Banca Romana de Comerts Exterior. The actual rate will be determined upon the advice of the Roman-

⁶⁸ Botezatu (1990), p. 2.

⁶⁹ Maniu and Dobrescu (1990), p. 1. In 1990, the joint venture with Citroën, named Oltcit, went bankrupt. It had liabilities estimated at USD 1.7 billion in October (*Dreptatea*, 20 October 1990, p. 4.)

⁷⁰ Maniu and Dobrescu (1990), p. 1.

⁷¹ Prime Minister Roman in his report to Parliament of 18 October complained about all the 'frustrations' to which private firms, including those with foreign participation, were subject, owing to the 'tendencies on the part of the bureaucracy and the municipalities to minimize their activities' (literally, to 'marginalize' them) (Roman (1990), p. 11).

ian Agency for the Promotion of Investments and Foreign Assistance (Art. 218). All enterprises created under Decree-Law No 54/1990 will be able to continue their activity by converting, within six months, to one of the forms of corporation foreseen in the new law.

The draft law on private partnerships and corporations is quite general and does not reflect, in any detail, the concrete circumstances of the economy in which it will be carried into effect. It remains to be seen how its provisions will be filled out through further decrees and administrative decisions, especially with regard to pricing, supplies obtained from the State sector, and the securing of real estate.

In the mean time a law reorganizing State enterprises (No 15/ 1990) was passed by Parliament. Under the terms of this law, all State enterprises, regardless of the government units to which they were subordinated, are to be transformed either into autonomous State corporations (French 'régies') or into commercial firms ('societați commerciale'). The 'régies' are to be organized in all the 'strategic branches of the economy' — armaments, electric power, mines and the exploitation of natural gas, the post office and the railways - 'as well as in other domains specified by the government'.⁷² The capital of the 'régies', in the form of factories and equipment, is provided by the State, which seems to be its sole owner (although this point is not made explicitly). A 'régie' may operate at a loss, requiring a State subsidy, only for fundamental reasons, such as the carrying out of activities in the public interest. However, to cover its current expenditures during the course of the year, in cases where the means placed at its disposal were to prove inadequate, it could obtain a credit from the National Bank equal at most to 20% of its gross receipts in the preceding year. (These last two provisions, in my opinion, will make it possible for these State enterprises to operate with more or less unlimited subsidies, thus subject to a soft-budget constraint, just as they did in the past.)

The law in principle rules out monopolies and restraints of trade ('any agreement... tending to restrict or distort the play of competition or the exploitation in an abusive manner of a dominant position in the market...'.) However, Art. 38 states that 'disloyal competition' (by which is understood both competitive and non-competitive practices that the State judges to be undesirable) does not encompass 'decisions to associate or concerted practices contributing to the amelioration of production or the distribution of products, the promotion of technical progress or the competitiveness of Romanian products on external markets.' Monopolistic pricing is also limited by Art. 48, according to which 'régies' and commercial firms with State capital may conclude contracts with each other and with other firms at prices corresponding to supply and demand, with the exception of situations where there exist only three domestic producers or fewer, in which case prices will be set by the government.

'Régies' and commercial firms have the right to retain 30% of their net revenues in foreign exchange. From 1 January 1991 this share was to be raised to 50%.

But the most innovative clauses of the law concern the distribution of a part of the shares of newly founded commercial firms to the public (Arts 21-24). Initially the capital of these firms is to be held by the State in the form of shares. The transfer of these shares is to be supervised and coordinated by an agency for privatization ('Agentia pentru privatizare'), subordinated to the Government. All commercial firms will transmit to the Agency for Privatization claims on their assets ('titlu de valoare') equal in value to 30% of their capital. On the basis of these claims, the Agency for Privatization will issue certificates ('inscrisuri') with a nominal value of L 5 000 each, which it will distribute to every Romanian citizen residing in the country having reached the age of 18 by 31 December 1990. The trading or the transfer of these certificates will be permitted only one year after the law takes effect, and then only among resident citizens. The certificates can be utilized to acquire stock or shares in commercial firms that have been created from former State firms, subject to laws and regulations to be issued.

Other measures to privatize State firms were left for the future, the Government only committing itself to present to Parliament an 'action programme' that would set the extent of privatization in each sector of the economy and 'create a regime of protection for the employees of commercial firms to be privatized'. This programme will help accomplish the Government's goal, announced by Prime Minister Roman in his report of 18 October, of privatizing 50% of the value of the capital stock of Romania within three years.⁷³

It is too early to assess the reforms that are being put into place by the Romanian Government. Their effectiveness will depend in part on the detailed regulations that will be issued to fill out the many gaps and interstices left at present in the rather general laws that have been passed, or will soon be passed, by Parliament. It is clear, in any event, that the trend of legislation in recent months has been increas ngly liberal.

⁷² Parlamentul României (1990).

⁷³ Roman (1990), p. 28.

Yet it is by no means certain that legislation of the type I have described, which in some ways reads like a statement of intentions rather than like laws that are written in a precise enough way to be appealed to, or challenged, in courts of law, will be able to overcome the determined opposition of an entrenched bureaucracy.

To conclude this Section, a hypothesis with comparative system aspects may be put forward that may help to put the efforts to reform Romania's economic system in perspective. It would seem that progress toward reforms, whatever may be the aims of the legislators, will be slower in an economy that was fully socialized, hyper-centralized, and super-mobilized in the period preceding the reforms (such as Romania) than in one in which some decentralization (including privatization) had already taken place and the degree of mobilization of resources had declined (Hungary, the former GDR). At least three reasons may be invoked to support this hypothesis. (1) In an economy emerging from a hyper-centralized State, individuals have little or no capital to invest in private ventures; (2) in the exfoliated State network, where nearly all resources are apportioned by State bureaucrats, there is maximum resistance to the intrusion of private firms (since materials and machinery are nearly all in 'deficit supply', private firms cannot be accommodated); (3) employees of State enterprises with responsibility for input or output decisions or for distributing the scarce products of their enterprise frequently find it more advantageous to 'deal' with their enterprise (by collecting 'cadou' or otherwise) than to set up a private enterprise of their own: in the former case, there is less risk involved and there is no need for capital; the tighter the rationing system and the scarcer resources are, the more rents can be reaped from the system.

5. The price liberalization of 1 November 1990

The first comprehensive reform of prices charged by Stateowned production and trading enterprises was issued on 23 October 1990. According to its preamble, Decree No 1109 aimed at 'the general liberalization of prices, which is the decisive condition for the creation of a market economy'.⁷⁴ In fact, the provisions of the decree stopped a long way short of this overarching goal. Art. 5 and its appendix set wholesale prices for all basic raw materials used in industry (from crude oil to lumber) at levels that were, for the most part, two to three times higher than those that had prevailed previously.⁷⁵ The prices of raw materials that are either imported or exported by Romania were based on 'long-term tendencies in world prices' and on a new exchange rate of L 35 to the US dollar (devalued from the previous rate, which had averaged L 21 in the preceding few months). According to officials I interviewed in the National Bank, the new exchange rate is derived from the average cost in lei of exporting goods necessary to acquire one US dollar's worth of foreign exchange. (The approximate marginal costs, i.e. the highest cost incurred to obtain one US dollar's worth of foreign exchange, was said to be L 60-65).

The new administered prices for raw materials were not high enough to cover the domestic costs of extracting coal and iron ore or of smelting copper, lead and zinc, the producers of which were slated to receive 'temporary' subsidies. Prices of all imported products and machinery items other than the basic raw materials already referred to were to be set, first, by multiplying their price in foreign exchange by the new exchange rate, and then by adding any customs tariffs, taxes and distribution mark-ups to which they might be subject.

For the purpose of setting retail prices, the decree divided consumption goods and services into three categories. The first, consisting of electric power, fuel used in home heating, and urban transport services, were to be priced at previous levels. Apartment rentals were also to remain unchanged. The second, consisting of 16 basic food items, including bread, sugar, oil, and meat, together with school uniforms and a few other goods considered to be of prime necessity, were to be assigned new prices only after the beginning of the new year. In the mean time their prices were to be 'stabilized'. The new prices would be based on the same principles underlying the general 'liberalization' described below. However, wage earners, pensioners and other recipients of pension payments would be compensated for the resulting increase in their cost of living (for these key items exclusively). The Government announced, in early November, that wage earners would receive L 750 per month and pensioners L 400 per month in compensation. Retail prices of all remaining goods were subject to change by 1 November.⁷⁶

⁷⁴ Guvernul României (1990), p. 3.

⁷⁵ The increases in the prices of oil products were extremely differentiated. While gasoil rose nearly five-fold, prices of certain types of gasoline remained unchanged.

⁷⁶ On the calculations underlying this compensation, see the interview with Cornel Prisacaru, director of the section 'Quality of Life' in the National Commission for Statistics, in *Adevărul*, 8 November 1990.

The guidelines for setting retail prices — for such goods as price changes were permitted — appear to be very simple. If a product is 'realized and sold' ('se executa si se comercializea') by at least three agents, its retail price will be based on its wholesale price negotiated between producers and traders ('comercianti'), to which are to be added the trading markups of commercial units. For products and services for which there do not exist at least three agents, retail prices will be set by the Government 'after negotiation with economic agents' (Art. 13). The decree does not specify whether the three agents in question are necessarily to be residents of Romania, although this would seem to be the case. It apparently did not occur to the legislators that the necessary degree of competition, at least for tradable goods, could be achieved through imports.

Only the part of the decree concerning the prices of goods in the third category — those which were to be introduced on 1 November — has been, at least in part, implemented. In late November it was announced that the increases in prices for basic foodstuffs and other essential items that were to be introduced after 1 January would be postponed for six months, this in response to popular protests.⁷⁷ It was also announced that the compensation for the price increases that had been deferred would, nevertheless, be paid.

It was expected that the increases in prices of goods in the non-essential category would generate an approximate doubling of prices (although I could not find anyone who would tell me what methodology was used in arriving at this forecast). Officials of the National Bank were of the opinion that the price increases would have the effect of raising government revenue and thus, other things equal, of decreasing the budget deficit. Whether or not these forecasts were initially sound, they were upset by the decision to pay compensation (at the rate of L 750 per month for wage earners and L 400 for pensioners) for the price increases for essential foodstuffs that were not put into effect. As I already mentioned in Section 3, an open deficit equal to 10% of projected receipts was officially acknowledged at the beginning of 1991. At that time, it was generally acknowledged that, as a result of the Government's timorous policy (the postponement of price increases and the non-deferred payment of compensation), the suppressed inflation had become even worse than in the previous months.78

Data are not yet available that would make it possible to assess the reform of prices of non-essential goods, but a few observations on the way the decree is being implemented can already be made.

Two aspects of the reform soon became clear. (1) Producers are expected to 'justify' the prices they propose on the basis of accounting costs and legitimate mark-ups; the idea of setting prices at a level high enough to equilibrate supply and demand remains suspect, at least in the eyes of local officials responsible for supervising the reform; (2) accounting costs and mark-ups are, to a large extent, arbitrary; within limits set by the supervising bureaucrats, they can be manipulated to justify almost any price increases. Newspaper articles suggest that the magnitude of price increases depended more on what producers and traders thought they could get away with than on any economic principles.⁷⁹

The new exchange rate, which nearly doubled the prices of imported goods, rapidly pushed up the costs of goods incorporating imported inputs. Its effects reverberated throughout the economy, inasmuch as most products made in Romania contain, directly or indirectly, such inputs. We have seen that the rate of L 35 to the US dollar was calculated on the basis of the average domestic cost of exports needed to acquire a US dollar's worth of foreign exchange. As soon as new prices were recalculated that factored in the new costs of imports, it emerged that the average cost of obtaining a US dollar was greatly in excess of L 35. The furniture industry offers a striking example of the problem. It exported goods worth some 10-12 million transferable roubles per year at a cost of L 30 per US dollar equivalent. As a result of the devaluation, the industry's exports now cost, on average, L 90-100 per US dollar earned.⁸⁰ This effective rate came much closer to the black market rate of the US dollar, which climbed from L 110 before the reform to about L 130 immediately afterwards, than the previous export-cost per US dollar earned. By January 1991, however, the black market rate had risen to L 180 to the US dollar, so that the furniture industry's exports, in terms of this opportunitycost standard, remained profitable.

What has been the effect of the price decree on market supply for goods whose prices were supposed to have been liberated? In the first weeks after the decree was promulgated, the effect was almost nil or negative, since most producers and trading establishments had not recalculated

⁷⁷ According to an article in *Adevărul* published on 25 January 1991 (Ion Marin, 1990), the Government may still introduce new prices for these essential consumer goods before 1 June 1991. Apparently, the political decision had not been taken as of this date.

⁷⁸ On the calamitous shortages of foodstuffs that afflicted the Bucharest market in January 1991, see *Adevárul*, 15 January 1991.

⁷⁹ See, for example, the three articles under the general title of 'Ascensiunea preţurilor' in *Adevărul*, 8 November 1990 and 'Medicamentele, secetă şi preturile', *Azi*, 14 November 1990.
80. Tradevišć (1000)

⁰ Ţigănilă (1990).

their prices — owing in part to uncertainty about the new costs of their inputs — and supplies were withdrawn from the market pending the posting of new prices. Shelves as a result were still bare.⁸¹ Where new, steeply higher prices were introduced, they met substantial opposition from the press and local authorities because the increases were claimed to have been obtained illegitimately.82 Many newspaper articles - not only in the opposition press but among those supporting the Government - complained that the new prices reflected the monopoly power and the inefficiency of the State sector; some suggested that it would have been better to wait until privatization had gone forward before prices were freed.⁸³ This is not a trivial argument, although I think it must ultimately be rejected, in view of the immediate and weighty efficiency losses that market disequilibrium imposes on the economy.

6. Conclusions

Since January 1990, the macroeconomic situation of the country has markedly deteriorated. The budget deficit (first concealed in the form of bank credits to cover the losses of State enterprises, then open) has been increasing the volume of currency held by households and savings deposits. A large part of these increases in savings are 'forced', in the sense that if the market had been better supplied with consumer goods, households would have chosen to consume more and to save less. (The prospects of acquiring attractive goods for their money would presumably have induced workers and employees to work harder as well.) Wage controls, undermined by the demands of newly independent trade unions, had already begun to break down in the first months after the revolution. The decentralization of wage formation, which was on the Parliament's agenda in December 199084 and was expected to be promulgated in early 1991, is likely to cause wage increases to accelerate, at least in the absence of hard budget constraints that would restrain the wage payments of State enterprises.85 The worsening macroeconomic disequilibrium is already causing a serious flight from the currency. More and more goods are sold only for US dollars, both in State shops and by private traders. Since almost all incomes accrue in lei, households wishing to buy goods sold for US dollars must pay the transaction costs involved in converting lei into US dollars. These costs are always significant, but they are likely to be especially high in small, isolated towns where black-currency markets are thin or non-existent. Like bribes and 'cadou', the profits of currency converters are tantamount to a tax or levy on the hard-pressed Romanian consumer.

The Government's decision to pay 'compensation' for price increases (the introduction of which has been postponed for at least six months) places in doubt its power and will to demand from the population the temporary sacrifices that are necessary in order to bring the country back to economic health. Yet the case remains strong for a real price reform, more or less of the 'cold bath' variety, such as was instituted in Poland (where privatization was also just getting started). In its absence, several problems will continue to plague the economy: (1) Goods sold in government stores at artificially low prices can be obtained only by queuing for long hours or by corruption; the first wastes time (especially when people shop during working hours, as they frequently do); the second is inequitable and tears the social fabric. (2) A significant portion of the scarce goods supplied at low prices are resold at higher prices either to individuals who can afford not to stand in line or abroad in one of the neighbouring countries; the profits made by the arbitrageurs who engage in this resale activity are widely held to be unjustly gained and create more opportunities for corruption. To the extent that these individuals belong to an ethnic group, such as the gypsies, against whom a severe prejudice already exists, their 'speculative activities' breed further dissension in the population. (3) Because there is little that can readily be bought, at least at State-administered prices, the incentive effect of wages and salaries is blunted; wage-earners work less hard than they would if there were attractive goods available in stores. (4) Not only is the level of State prices too low, on average, but there exist substantial distortions in relative prices, because of the uneven extent of price controls. Now that the prices of many less essential goods have been raised closer to their equilibrium level, the relative prices of government-supplied foodstuffs are especially out of line; customers who have privileged access to them (because they can afford to wait in line or because they have acquaintances who can accommodate them) buy more than they 'need' — and more than they would buy if the prices of such goods were not so low.

It is important to observe, despite all the well-known inefficiencies bred by a state of excess demand, that there is no

⁸¹ For a reportage on the supplies in retail stores, see Agin and Alexandrescu (1990), p. 2. On the cancellation of sales contracts in the expectation of higher prices, see Munteanu (1990), pp. 1-2. (The opposition paper *România liberă* was one of the most vocal opponents of the price liberalization.)
82 Eircer (1900) and 12

⁸² Fireacr (1990), pp. 1-2.

⁸³ For one impassioned plea of this sort, see the article by Bălănescu (president of the Commission for Ecological Balance and Protection of the Environment of Romania's Chamber of Deputies) (1990), p. 3.

Adevărul, 11 December 1990 ('O lege pentru cei 7 milioane de salariați').
 In a recent article, appropriately titled 'The dollar strangles the leu', the

⁸⁵ In a recent article, appropriately titled 'The dollar strangles the leu', the author pointed out that even peasants bringing cream into Bucharest are beginning to demand payment in US dollars (Fecioru (1990), p. 4).

popular consensus in favour of restoring equilibrium in the market. Almost everyone has adjusted in one way or the other to the situation: pensioners and other people with modest incomes take advantage of the time they have at their disposal to stand in line and resell the goods they so obtain to individuals whose time is more valuable; numerous managers and sales clerks in government stores are anxious to keep the 'cadou' they obtain from privileged customers; most families have built up over the years a network of connections and acquaintances with whom they trade favours and privileges, including access to scarce goods. (Since almost everything that gives utility is scarce — a bed in a hospital, a scarce medicine, a place in the university, a cushy job, a plumber's services - there are almost unlimited opportunities for barter.) Individuals on the edge of subsistence — especially those with growing children — are, of necessity, risk-averse. Many, perhaps most, prefer the maintenance of the situation to which they have adjusted, within their network of connections and reciprocal favours, to price increases, which offer them a mixed prospect of immediate sacrifice and uncertain future gains. This tacit coalition of opponents of price reform in the population with government politicians concerned about the stability of the present administration, which lacks legitimacy and authority, is strong enough to defeat proposals for radical change.

The present authorities in Romania have discovered - as did their counterparts in other formerly socialist States that privatization is an extremely complicated and protracted business. The closer the system approximates to a state of law, the harder it becomes to assign property rights because these rights must be adjudicated among conflicting claims, if necessary in courts of law, which are noteworthily slow in coming to a decision. The fact that some of these claims to property are very old - dating from the pre-World War II period — and that the previous regime made no effort to preserve the records that provided their legal basis, makes the resolution of conflicts particularly difficult. The lack of domestic capital and the unwillingness to sell assets to foreigners at concessionary prices further complicate the problem of privatization. Since it will take several years to establish secure rights to private property to land and other assets, we may expect that the modern sectors of the economy - including most large-scale industry, transport and wholesale trade — will continue to be run by the State for some time. (Some firms may be managed by their own

employees, but I doubt that this will turn out to be a final solution.)

If these arguments have any validity, then, irrespective of any inefficiencies that may inhere in State management, it becomes essential for the Government to manage the resources in its custody as best it can if the economy is not to decline further. It is not certain whether State enterprises can be induced to play by the rules of the market. Perhaps, as Janos Kornai has frequently argued, the managers of these enterprises cannot be impelled to economize, because the authorities that supervise them will always preserve them from bankruptcy and dissolution.86 If so, it may be necessary to re-establish the authority of the plan, at least to the extent of distributing available materials, foreign currency and capital goods more systematically among enterprises. (We have seen that this distribution was chaotic at the present time.) The absence of economic levers coupled with the lack of physical coordination has to be the worst of all possible worlds. The State must also opt for reasonable industrial policies. I described in Section 2 the disasters that a policy of 'multilateral and complex industrial development' had led to. Romania, if it is to recover living standards on a par with at least the poorer countries of Western Europe, must slim down its industrial profile. It must concentrate on producing far fewer industrial products and producing them better. This objective implies not only the necessity of closing down inefficient plants but the vital importance of curbing the excessively wide assortment of products turned out by plants that will remain in operation. Since it would be unrealistic, in the foreseeable future, to expect the Romanian economy to be open to foreign competition, which would have the effect of selecting among Romania's industrial products those that are viable and those that are not, government economists themselves will have to determine which are which. Employees who lose their jobs as a result of these rationalization policies will have to be taken care of. If the 'small privatization' initiated in March 1990, bolstered by the more liberal laws passed by Parliament in the autumn, is vigorously pursued, the small-scale private sector should be able to absorb some of the workers released by plants that have been forced to close down or to trim their work force

⁸⁶ See, for example, Kornai (1990).

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How different is Yugoslavia?

Milica Uvalic¹

European University Institute, Florence, Italy

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1. Past reforms: a brief evaluation

For at least a quarter of a century Yugoslavia has been trying to develop its own model of socialism based on workers' self-management, decentralization, social ownership, and increasing use of the market. Many scholars have therefore considered Yugoslavia very different from other socialist economies, frequently ascribing, in line with the theoretical literature on the labour-management firm,² the economic inefficiency of the Yugoslav economy to the specific features of its economic system (see Lydall, 1989; Brus and Laski, 1989).

However, it has been argued elsewhere (Uvalic, 1991) that in spite of apparent specific features, Yugoslavia has essentially remained a socialist economy characterized by many systemic features (and problems) of the traditional centrally planned economy. Although in Yugoslavia some priority objectives of centrally planned economies have been abandoned (primarily full employment and price stability) along with many of the traditional institutions, other fundamental socialist goals have been retained, including the commitment to non-private property, planning, and egalitarianism.

Socialist goals in Yugoslavia, as in other East European countries, have been pursued through the traditional instrument of the Soviet-type model of persistent State intervention in the microeconomic sphere. What has changed with economic reforms is the level, institutions, and channels of State influence, but not the nature of the enterprise-State relationship, which has continued to be characterized by political 'tutelage', similar to that lamented by Kornai (1980) for the more conventional Hungarian economy.³ On the one hand, political authorities have remained responsible for a number of fundamental issues: the covering of losses by redistributing income from profitable to loss-making firms; the use of enterprise income through regulations limiting enterprise autonomy;⁴ and the entry and exit of enterprises,

where the policies pursued have contributed to industrial concentration, monopolistic practices and a capacity structure inappropriate to domestic and world demand.⁵ On the other hand, with the replacement of State by social property in the early 1950s, enterprises were granted only the right to use socially owned resources,⁶ but were not assigned other functions that ownership usually includes, namely exposure to rewards and penalties according to market performance, which is the essence of entrepreneurship. One of the major consequences of the tutelage system is the persistence of what Kornai (1980) calls the 'soft' budget constraint typical of the Soviet-type economy, i.e. lack of financial discipline and no risk-bearing by the individual firm, and the socialization of losses as an alternative to bankruptcies.⁷

Such political tutelage or State 'paternalism' has seriously undermined the ultimate goal of all economic reforms in Yugoslavia of introducing a market economy, by perpetuating problems typical of the centrally planned economy: economic inefficiency, inadequate incentives and lack of entrepreneurship.

These problems became even more evident during the 1980s. The severe economic crisis led to a short-term austerity package, aimed primarily at re-equilibrating the balance of payments, and to a new economic reform announced in 1982 with objectives similar to those of past reforms of 'greater reliance on market forces'.⁸ However, in spite of some legislative changes and a new course in economic policies from 1981 onwards, the Yugoslav economy was characterized by the actual worsening of economic performance throughout the 1980s, culminating in 1989, when annual inflation (con-

² The literature predicts a number of inefficiencies in the labour-managed firm because it is assumed that under labour management net valueadded per man is maximized instead of total profit as assumed for the capitalist firm. For a survey of the literature, see Bartlett and Uvalic (1986).

³ Political tutelage does not necessarily involve vertical relationships of formal supervision or direct subordination of enterprises to political authorities (see Hare, 1990); in the Yugoslav case, it has continued to be present through informal and indirect channels of interference by local communal authorities in enterprise policies.

⁴ Minimum rate of savings, limits on increases in personal incomes, the obligation to maintain the value of social capital, obligatory investment in less developed regions, etc.

⁵ The industrial structure in Yugoslavia is almost as distorted as in other ex-socialist countries. The almost complete absence of small enterprises (see Vahcic and Petrin, 1989) makes it similar to that in other East European countries (e.g. Hungary; see Hare 1990).

Under the system of social property, capital is officially owned by the 'whole society'; in the 1974 Constitution, it is explicitly stated that 'no one has property rights over social means of production — neither socio-political communities, nor organizations of associated labour, nor groups of citizens, nor individuals' (Part III of Basic Principles, p. 13). See Tyson (1977); Knight (1984). Although deficits in Yugoslavia are

See Tyson (1977); Knight (1984). Although deficits in Yugoslavia are no longer covered directly by the federal budget, but indirectly through the banking mechanism (loans at favourable terms, rescheduling or writing off of debt), by reserve funds of other enterprises or reserves of the commune, by a lowering or abolition of fiscal burdens, they continue to be covered by (or shared with) other agents.

⁸ As set out in the extensive 'Long-term economic stabilization programme' consisting of 17 separate documents; see Komisija saveznih drustvenih saveta... (1982).

sumer prices) reached 2 714%.⁹ Among the principal reasons was the retention of the existing institutional framework based on socialism, social property and self-management. Thus during the 1980s State intervention in daily enterprise policies was even more frequent, persistent and unpredictable than in previous periods,¹⁰ while with the illiquidity crisis of an increasing number of enterprises, the budget constraint became even 'softer'.¹¹

2. Current reforms: a radical change of regime?

A decisive change in the target model took place in Yugoslavia at the end of 1988, away from the self-management model towards private ownership and a mixed market economy. Since November 1988, 39 amendments to the Federal Constitution have been adopted together with over 20 separate laws, among which the most radical departure from past policy objectives regards privatization.

Already since 1984-85, the official policy has been to encourage small-scale private enterprises.¹² Conditions for joint ventures have been eased, offering major protection of the foreign partner's ownership and management rights and abolishing the limits on the amount of foreign capital.¹³ In agriculture, the limits on individual holdings (10 to 15 hectares per family) have finally been raised. At present, laws are being prepared on the privatization of housing, and on the reprivatization of property confiscated after World War II.

Nevertheless, the main problem — low efficiency of the social property sector, which at the end of 1988 still accounted for 87% of gross social product — has been tackled only since December 1988. The first important step was taken in December 1988, when the law on enterprises was adopted,¹⁴ allowing the diversification of both ownership types and enterprise legal forms. Besides the already existing types of property (social, private and cooperative), the law introduced mixed property based on a combination of private and socially owned capital, as well as a variety of legal forms of enterprises: joint-stock and limited liability companies, limited partnerships, companies with unlimited joint liability, and public enterprises.

In the field of self-management, the general direction in the law on enterprises is to limit self-management rights and replace collective responsibility of workers by individual responsibility of managers/directors and capital owners. The law introduced collective bargaining agreements concluded between the director/management board and trade unions, which will also determine labour costs (wages). In mixed ownership companies, the law limited the rights of workers councils (the main self-management organ), to monitoring and consulting (and no longer decision-making). In private enterprises, the law introduced full decision-making rights of shareholders proportional to capital invested.

In line with these changes, the 1989 banking law¹⁵ provided for the transformation of banks from non-profit-making institutions into joint-stock and limited liability banks, introducing the legal form of mixed banks with no limits set on foreign investment. The 1989 law on securities¹⁶ for the first time formally introduced equity shares in the Yugoslav legal system (along with other types of securities existing since 1971, such as bonds, certificates, treasury bills and commercial notes), while abolishing promissory notes.¹⁷ Finally, the 1989 law on the circulation and disposal of social capital¹⁸

⁹ All figures reported are from official sources of the Federal Institute of Statistics, unless indicated differently.

¹⁰ It consisted of a number of administrative measures considered necessary as part of stabilization policies, such as frequent price freezes, direct limits on personal incomes, ceilings on bank credits for investment purposes.

Although there have been a number of bankruptcies in recent years, until 1990 a more frequent policy was to merge loss-making firms with other enterprises. Rehabilitation credits, through which over 80% of total losses were covered in 1980, declined to 50% by 1987, whereas non-reimbursable funds increased from 15% in 1980 to 31% in 1987 (see Knight, 1984; Uvalic, 1991).

¹² This policy has included duty-free imports of equipment and other measures stimulating private investment, especially for Yugoslavs returning from abroad; special credits under favourable conditions reserved for small-scale enterprises; shorter and simplified bureaucratic procedures for setting up private firms, etc.

¹³ The 1988 foreign investment law permits foreign investment in all types of enterprises and participation in decision-making according to share of capital contributed, and significantly enlarges the list of sectors in which foreigners can invest.

¹⁴ See the Yugoslav Official Gazette (*Sluzbeni list SFRJ*) No 77 of 31 December 1988, and amendments to the law, Official Gazette No 40 of 7 July 1989.

¹⁵ Adopted in February and amended in July 1989.

See Yugoslav Official Gazette No 64 of 20 October 1989.
 With monatory patricipations in pagent years, promissory p

With monetary restrictions in recent years, promissory notes were increasingly used for inter-enterprise payments; their use and abuse had grown out of control, adding large-scale quasi-money to overall liquidity virtually outside the reach of monetary policy.

¹⁸ See Yugoslav Official Gazette No 84 of 22 December 1989.
introduced the possibility of selling social capital to domestic and foreign buyers (both firms and individuals) through auctions, the proceeds from sales going to republic funds.

Although these laws were important steps in the right direction, the enterprise law left social sector property intact (despite allowing different private property forms), while the law on the circulation and disposal of social property has been interpreted as 'tacit' nationalization because it officially was to create State property within republic funds, thus recognizing that the seller (and hence real owner) of capital in Yugoslavia is the State. Hence, primarily because of the lack of enthusiasm on the part of workers, no sales under the law took place up to June 1990 (Milanovic, 1990), although in the mean time some of the legislation on the necessary institutions was adopted.¹⁹

3. The 1990 privatization programme

The decisive step for privatization was taken in July 1990 within the economic package of the Yugoslav Prime Minister, Ante Markovic, for the second half of the year. Along with stabilization policies similar to those applied in the first half of 1990,²⁰ the core of the package is indeed privatization, as set out in the federal law on social property adopted in August 1990.²¹ The main instrument of privatization is 'internal shares' (i.e. initially not retradable on the stock exchange). Internal shares have also been introduced by the law on personal incomes, passed in mid-1990, which envisages that, in addition to basic wages, enterprises give internal shares to their workers as part of regular earnings.²²

Internal shares are offered for sale at a discount of 30% to enterprise workers, citizens and pension funds, plus a further discount of 1% for each year of employment to workers employed currently (or for at least two years in the past and retired workers) up to a maximum of 70% of the nominal value of shares. Internal shares give the right to participate in after-tax profits and in management. Payment need not be immediate but the full amount has to be paid within 10 years; once an internal share has been fully paid, it becomes a normal share tradable on the stock exchange. Internal shares can be issued either to raise new capital or to sell an enterprise, and must be accompanied by the transformation of the enterprise into a joint-stock or limited liability company and the reduction of the value of social capital by the approved discount. The first offer must take place within one year from the enactment of the law.

Several limits are imposed on internal share issues: on the total value (up to six times an enterprise's annual wage bill),²³ and on the amount sold to each of the above categories (up to three times the annual wage bill) and to an individual worker (up to three times his annual personal income).²⁴ The part of social capital not subscribed through internal share issues determined by the above global limit would be offered for sale to domestic and foreign enterprises or individuals through public auctions. The price of an enterprise sold at auction would be set by the market; otherwise, the value of assets is to be determined by an authorized agency. If an enterprise issues internal shares for the purpose of raising new capital, the basis is the book value of assets, although it can also be its estimated value (if the management board so decides).

Specific functions of privatization are assigned to different institutions. The management board of the enterprise takes most of the initial decisions.²⁵ Republic funds are the main institutions receiving and investing proceeds from sales.²⁶ They can invest up to 5% of total resources in enterprises, but proceeds from the sale of a given enterprise can be invested in full in that enterprise, and a part can also be used for a once-for-all payment to workers in the form of securities of either the fund or the enterprise, unless workers have already used the right to a discount on internal shares.²⁷ Republic agencies, which function as public enterprises, perform all the expert and consultative functions relating to the

¹⁹ In Croatia the law on the Republic Development Fund was adopted (Croatian Official Gazette No 18, 30 April 1990), while in Slovenia, the law on the Restructuring Agency was passed (Slovenian Official Gazette No 14, 1990).

²⁰ The 1990 package consisted of a 'shock' therapy based on the pegging of the exchange rate to the DM and the introduction of resident convertibility for current transactions, freezing of money wages at their December 1989 level and strict monetary control, along with free prices (except for energy and transport) and further liberalization of imports (95% by the end of the year).

²¹ See Yugoslav Official Gazette No 46, August 1990. This law has virtually replaced the 1989 law on the circulation and disposal of social capital.

²² See Yugoslav Official Gazette No 37 of 30 June 1990.

²³ This limit therefore indirectly links the permissible amount of internal share issues to an enterprise's capital-labour ratio.

²⁴ However, since the dispersion of incomes is not as large as that of capital per worker, throughout the economy the individual limit will tend to equalize access to ownership by workers operating in sectors and enterprises characterized by widely diverging capital-labour ratios.

²⁵ On the issuing of shares, on the transformation of the enterprise into a new legal form, on its sale, and on other issues not defined by the law, e.g. the value of internal shares that can be issued to categories other than workers.

²⁶ Unlike the German privatization agency, Treuhandanstalt, which is specifically forbidden to make further investments and is a self-liquidating agency.

²⁷ The intention of this provision is to compensate workers for the reduction of self-management rights which will result from privatization.

sale of enterprises.²⁸ Officials in the federal government are to determine the various methods for calculating the discounts, limits, etc.

The proceeds from sale would primarily go into republic funds as a permanent share of the republic in the fund, but could also go to an association of enterprises,²⁹ or, if a part of a firm is sold and is organized as a new legal entity, to the parent enterprise. If shares are issued for the purpose of raising new capital, the proceeds belong to the enterprise.

The law on social capital is so far the most serious attempt to change the existing property regime, and the introduction of equity shares implies a radical change in public opinion.³⁰ The law allows a wide diffusion of property rights, taking into account the interests of the various social groups (State, workers, citizens) and hence is a fair compromise between more extreme models of privatization. Moreover, since workers are the most privileged category and are meant to become the principal owners, this should reinforce incentives precisely where they are most needed — within firms. The law should also help resolve some of the most pressing stabilization problems.³¹

This type of privatization, however, is likely to be a very slow process. It does not ensure the transformation of all anonymous social capital, over which at present no concrete legal entity has property rights, into private capital.³² The law is also ambiguous concerning a number of crucial issues, including the valuation of enterprise assets and the definition of social property. The redistribution of property rights is therefore unlikely to proceed without difficulties, especially concerning the rights of socio-political communities.³³ Furthermore, workers' demand for internal shares is likely to be low because of the liquidity constraint imposed by present

wage freezes, the many loss-making enterprises, workers' risk aversion, deficiencies in balance sheet accounting, and the absence of secondary trading in stock markets. Some of these problems are also likely to deter investment by external shareholders.

4. The present debate on privatization

Although the federal law on social property offers a general framework for privatization, there is a lively debate in several republics on how to proceed with its implementation. The dilemmas are similar to those in other transitional economies: whether to implement privatization gradually or as fast as possible; 'from above' or 'from below'; in a more equitable way by distributing property freely to all citizens, or through the sale of assets; by offering privileged conditions primarily to employees, or also to other categories (see Grosfeld, 1990).

The Slovenian government has gone furthest in elaborating its privatization programme, set out in several separate laws presently under discussion in the Slovenian Assembly.³⁴ Some of the basic elements of the Slovenian law on privatization are similar to provisions of the federal law,³⁵ but many issues have been modified or developed further. The main modifications regard conditions of internal share offers, methods of privatization, coverage, agencies and the valuation of enterprise assets.

In the draft law of 11 October 1990, stricter conditions for share issues to workers are proposed,³⁶ while those for Slovenian citizens are more generous. Privatization can be completely autonomous, undertaken with the help of the Privatization Agency, or directly by the agency. Certain sectors are to be excluded from privatization (about 45% of existing Slovenian firms).³⁷ Apart from the Privatization Agency a Development Agency would be set up to manage the proceeds from privatization in the name of the Slovenian Republic. Detailed provisions deal with the valuation of enterprises assets, to be based on the 'corrected' book value so as to ensure a more realistic valuation.

²⁸ They also nominate the organization in charge of estimating the value of an enterprise, give their opinion on sale, and authorize sales to take place outside auction.

²⁹ So-called 'composite organizations', which have the status of a legal entity and perform transactions on behalf of the associated enterprises (see the law on enterprises, Part Va, Article 145a to 145h).

³⁰ Instruments ensuring a permanent right to income on the basis of ownership have persistently been opposed in the past (see Uvalic, 1989).

³¹ It is to reduce inflationary pressures (by withdrawing part of liquidity in circulation) and the present illiquidity problem of many Yugoslav firms (through access to new capital).

³² Even if workers, citizens and pension funds subscribe the maximum permissible amount of internal shares, a substantial part of capital may still remain in social ownership (according to some calculations, about 30 to 50% of total capital — see Lukic, 1990), unless it is sold to external shareholders at auction, which, however, is likely to be limited to the most profitable firms.

³³ Resources of socio-political communities are to be excluded from social capital on sale, but the law gives no clues on the basis for determining the State share.

³⁴ Among which the law on privatization, the law on the Privatization Agency, the law on the Development Fund.

³⁵ Those concerning consultative functions of the agency, proceeds from sales going into the republic fund, the use of the fund's resources, exclusion from sale of resources contributed by the State, etc.

³⁶ Those concerning the maximum discount, minimum length of employment, part to be paid immediately in cash, and limits on an individual's subscription.

⁷ Sectors excluded are energy, telecommunications, transport, communal services, banks and other financial institutions, and agriculture.

In the Croatian government, the debate over privatization got so heated in late September 1990 that it led one of its Ministers, Drazen Kalodjera, to resign. Kalodjera was proposing to proceed with privatization as fast as possible without previous nationalization, by distributing 80% of property to the State, workers, and creditors (banks) according to their contribution to the creation of existing capital; the rest would be offered for sale on the market, the proceeds going to the State. All shares would be immediately tradable on the stock exchange, but a sales tax, which would progressively diminish over time, would discourage their sale (Kalodjera, 1990).³⁸ The main opponent of Kalodjera's proposal was the then vice-president of the Croatian government Mate Babic, who warned against the 'big dangers of simple robbery' that could result from privatization and seemed to advocate nationalization.³⁹ However, Babic has also in the mean time (November 1990) left the Croatian government.

The Croatian law on privatization proposed in January 1991 is similar in several aspects to the Slovenian law. It envisages a smaller discount on internal shares for workers (a maximum of 30%) and for pension funds (20%), and grants certain rights to previous owners who after the war lost their property through nationalization. Proceeds from sales would go either to the Restructuring Agency or to the republic fund. A more realistic valuation of assets is also envisaged. Banks and other financial institutions and insurance companies are to be excluded from privatization.⁴⁰

These proposals on privatization in Slovenia and Croatia have also been interpreted as 'tacit' nationalization, as both governments seem inclined first to renationalize (partly or fully) social property in order to proceed with privatization later, implement it gradually, and initially on a limited scale.⁴¹ According to unofficial sources, republic governments do not seem ready to give up their previous direct influence on enterprises, their implicit property rights and the tutelage system, but want instead to reinforce political power over the economy. This seems to be partly confirmed by the October regulations of the Croatian and Slovenian governments suspending the implementation of the federal law (internal share issues) until republic agencies are officially set up,⁴² a postponement which has effectively frozen the privatization process.

In the other republics, although no official regulations have been adopted to prevent the application of the federal privatization programme, other informal means have been used to slow down its implementation (e.g. bureaucratic obstacles to enterprise registration in court registers). In Serbia, there is still resistance to privatization and the abolition of 'social property',⁴³ but other parties in opposition to the ruling Socialist (ex-Communist) Party, officially represented in the Serbian Assembly since the December 1990 elections, are generally in favour of privatization.⁴⁴

The federal government has in the mean time taken measures to facilitate and speed up privatization. The law on the registration of enterprises in court registers adopted in November 1990 substantially eases the registration procedure by eliminating a number of bureaucratic formalities.⁴⁵ Steps have also been taken to popularize privatization, as lack of information within firms is considered to be one of the major reasons for its limited application.⁴⁶

5. Implementation of privatization

There is some evidence that the existing property structure is changing in favour of private ownership in all parts of the country. Although the process is moving slowly because of the implementation problems, the fact that privatization has started implies certain irreversible changes which in the longer run may produce significant changes in enterprise behaviour.

5.1. Free distribution of securities

As envisaged by the law on personal incomes, all Yugoslav workers employed in the social sector in July 1990 received

³⁸ Kalodjera's model has been elaborated and developed further by a number of economists (see, for example, Baletic, 1990; or Dubravcic, 1990).

 ³⁹ See Ekonomska Politika No 2009, 1 October 1990 and Vjesnik, 20 October 1990.
 ⁴⁰ See Ekonomska Politika Na 2028, 11 E berne 1001 and V

⁴⁰ See Ekonomska Politika No 2028, 11 February 1991, p. 14.

⁴¹ This interpretation is seemingly justified by the constitutional ruling that property literally belongs to no one, but can be rejected, on reflection, because former State ownership has never officially been transferred to other physical or legal persons and therefore must have remained with the State.

⁴² See Croatian Official Gazette, No 43 of 24 October 1990 and Slovenian Official Gazette No 37 of 11 October 1990.

⁴³ The term was retained in the new Serbian Constitution adopted at the end of September 1990.

⁴ The Democratic Party is for example inspired by discussions on privatization in Czechoslovakia, proposing the distribution to all citizens of vouchers which could be exchanged for shares (see *Demokratija*, 27 September 1990, p. 13).

⁴⁵ See Yugoslav Official Gazette No 74 of 23 November 1990.

⁴⁶ A video-cassette *Buy your own enterprise* reporting recent privatization experiences in Yugoslavia has been prepared and is presently being offered to enterprises.

a part of their personal income in the form of shares and bonds (5,4% of the Yugoslav wage bill). The largest part was paid out in Montenegro (36,2%), followed by Bosnia and Herzegovina (17,5%), Serbia (18,1%), Macedonia (15,9%), Slovenia (5,3%), and Croatia (2,4%).⁴⁷ However, trade unions have in the mean time vigorously opposed the law as representing 'forced employee share-ownership' which automatically lowers wages. Thus the recent conclusion of collective agreements regulating wages at republic level seems to have resulted in the non-application of the law in several republics.

5.2. Sale of internal shares

The implementation of the law on social capital has for the moment been limited to internal share issues to employed workers. One of the first enterprises to offer shares at a discount to workers was Ohis of Skopje (Macedonia) for a total value of DM 3,15 million, to which some 3 500 workers subscribed; in Hemofarma of Vrsac (Serbia), 70% of employed workers subscribed the maximum permissible amount of shares of their enterprise, providing a substantial inflow of capital.⁴⁸ A number of other enterprises have followed these examples; the estimate of the federal government is that by the end of 1990 some 600 enterprises throughout Yugoslavia had offered internal shares to workers, or had initiated the procedure.⁴⁹

5.3. New property types and enterprise forms

There is also evidence on the diversification of both property types and enterprise legal forms. By 30 September 1990, there was a total of 51 002 enterprises registered under the 1988 law on enterprises. By type of property, 37 866 were in private, 10 962 in social, 1 202 in cooperative, and 972 in mixed ownership. By legal type, 23 222 were private firms, 15 160 limited liability companies, 9 461 social enterprises, 1 146 cooperatives, 496 public companies, 433 composite organizations, 399 joint-stock companies, 207 contractual

⁴⁷ See *Ekonomska Politika* No 2008, 24 September 1990, p. 14; this suggests a certain correlation between independence of republic governments and respect for federal laws.

⁴⁸ As reported in *Ekonomska Politika* No 2013, 29 October 1990, p. 21.

organizations, 84 financial firms, and 75 enterprises for disabled persons.⁵⁰ However, since many of the newly registered firms in private or mixed ownership are either very small or have not yet started operating, the contribution of the social sector to gross social product is still likely to be no less than 85%.

5.4. Inflow of foreign capital

In 1989, 578 foreign investment contracts were approved, which compares with a total of 371 for the whole 20-year period (1968-88) since joint ventures were first permitted.⁵¹ Their growth was even more pronounced in 1990: the number of contracts concluded with foreign partners from 1 January to 30 November was 2 588, for a total value of almost DM 2 billion.⁵² Foreign investment has been mainly concentrated in the more developed republics (Slovenia, Croatia and Serbia).

5.5. Privatization of banks

Leading Yugoslav banks have been transformed into jointstock or limited liability banks, in which voting rights of owners ought to be proportional to capital subscribed. However, the privatization of banks involves a number of problems which have not yet been resolved. Since Yugoslav banks used to be non-profit 'service' institutions, founded and controlled by member enterprises among which today many are loss-makers, the problem of huge losses of the banking sector (presently estimated to be about USD 13 billion plus bank exposure through guarantees) must first be resolved. A solution is being sought in encouraging debt for equity swaps and finding additional capital to implement a general programme of financial rehabilitation of banks. However, the January 1991 proposal of the Yugoslav Government to implement the programme through federal measures is for the moment encountering resistance; some republic governments are not willing to participate in covering losses of other republics, and do not accept other changes that would accompany the federal programme, which are aimed at decreasing the autonomy of republic governments in the field of monetary policy.53

⁴⁹ Including Agrokomerc, IMR, Ekonomska Politika, Jugohemija (Serbia); Sintelon, Fabrika kuglicnih lezajeva, Termovent (Voivodina); Rudnik, Istra-Jadran, Croatia Osiguranje (Croatia); Uniskomerc, Energoinvest (Bosnia and Herzegovina); MZ Tito (Macedonia). However, no official register of these firms exists.

⁵⁰ Data of the Federal Institute of Statistics, as reported in *Ekonomska Politika* No 2015, 12 November 1990.

See Centre for International Cooperation (1990), p. 12, and Investing in Yugoslavia (1989), pp. 18-19.
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Sekretarijat za informacije Saveznog izvrsnog veca (1990) and Ekonomska Politika No 2021, 24 December 1990, p. 20.

³³ The changes envisage that new money creation would be undertaken exclusively by the National Bank of Yugoslavia, which would directly control republic and local commercial banks.

5.6. Stock exchanges

Stock exchanges have officially been opened in Ljubljana, Zagreb, Belgrade and Sarajevo, but operations are for the moment limited to National Bank of Yugoslavia treasury bills. The only exception is the Ljubljana stock exchange, where, however, in October 1990 only one enterprise was quoted (Grad, a firm producing computers). Hence a serious obstacle to further privatization is the absence of a secondary market for shares.

6. Specific features of the Yugoslav transition

Yugoslavia is presently pursuing similar objectives to the other Central and East European economies — stabilization, restructuring, and reform (see Nuti, 1991). However, in comparison with these countries the transition process in Yugoslavia is both facilitated and hindered by specific factors.

The most important factor facilitating transition in Yugoslavia is a shorter reform agenda. Other possible advantages include a longer experience with stabilization policies and smaller-scale restructuring.

6.1. Shorter reform agenda

Yugoslavia has had a longer than average experience of market-oriented reforms. Part of the institutional changes which are only today being undertaken in several other transitional economies have been implemented through a series of reforms which had already begun in the early 1950s.

(a) Planning reforms in the 1950s replaced centralized planning with a decentralized system of indicative planning, giving more scope to enterprise decisions (especially since the mid-1960s). In the 1970s, self-management mechanisms of policy coordination were introduced, permitting active participation of economic agents in the global planning process.⁵⁴ The most recent (1988) changes have further reduced the role of planning.⁵⁵

(b) Price reforms and price liberalization have permitted the gradual activation of markets for many goods and services, and, together with greater exposure to international prices since the mid-1960s, have led to a more realistic and more flexible domestic price structure.

(c) Financial reforms in the mid-1960s led to the separation of central banking from commercial banking, to the introduction of all-purpose commercial banks, and to greater reliance on enterprise and bank sources of finance instead of budgetary grants. Reforms of the 1970s stimulated the development and diversification of financial intermediation, including both standard instruments (bonds, treasury bills, promissory notes) and those adapted to the Yugoslav self-management system.⁵⁶

(d) Foreign trade reforms in the 1950s replaced the State monopoly of foreign trade with a more decentralized system which increased the autonomy of enterprises in their foreign trade operations, while the reforms of the mid-1960s introduced a uniform exchange rate, reduced foreign trade restrictions, and permitted joint ventures (in 1967). Further decentralization was undertaken during the 1970s, especially after 1977 when foreign trade responsibilities were transferred to republic governments and enterprises were given major incentives to export.⁵⁷ In the mid-1980s, a foreign exchange market was set up, organized by authorized banks in charge of purchasing and reallocating foreign currency to enterprises, and there was further liberalization of imports. Foreign trade reforms have been reinforced by important changes in Yugoslavia's international economic relations.⁵⁸

Foreign trade reforms have meant that compared with other socialist economies the Yugoslav economy has been more open towards the West and more integrated into world markets. Furthermore, its trade has been more diversified, with a higher proportion of convertible currency transactions,⁵⁹ and it has suffered less from the problems of dual dependency on trade with both CMEA countries and the West, typical of other former socialist economies. The gen-

⁵⁴ So-called 'social compacts' concluded by representatives of enterprises and political authorities on prices, wages, foreign trade, etc.

⁵⁵ Annual plans ('economic resolutions') have been abolished; planning is no longer obligatory for an increased number of organizations; and the Federal Institute of Economic Planning has been merged with the Federal Institute of Development.

⁵⁶ Different forms of 'association of labour and resources' which permit direct investment of one enterprise in another, or private investment by an individual in a socially owned enterprise (see Uvalic, 1989).

⁵⁷ E.g. retention of a substantial part of foreign currency earnings on enterprise bank accounts, permitted also abroad.

⁵⁸ In 1948 Yugoslavia withdrew from the CMEA, although since 1964 it has participated in some of its standing committees. It acquired membership in the IMF, GATT, association with the OECD, and has had privileged status with the European Community since 1970, when the first trade agreement was signed.

⁵⁹ In 1990, 63,6% of Yugoslav imports and 59,8% of exports went to OECD countries, 24,2% of imports and 28,5% of exports to socialist countries, and the rest to developing countries (official data reported in *Ekonomska Politika* No 2027, 4 February 1991, p. 25).

eral orientation towards convertible currency transactions has also resulted in a less pronounced discrepancy between the official and black market exchange rates than has traditionally occurred in other socialist countries.⁶⁰

6.2. Longer experience with stabilization policies

Yugoslavia has also had a longer experience in the use of market-type instruments of macroeconomic regulation. In the past, these have included exchange-rate adjustments and anti-inflationary measures, whereas since 1981 a number of new instruments of macroeconomic regulation have been used within IMF-supported stabilization programmes:

- (i) Standard instruments of monetary policy applied by the National Bank of Yugoslavia, including an active interest-rate policy with the intention of abandoning negative real interest rates, which in the past permitted the redistribution of resources from households to enterprises. Other standard instruments of monetary control used in recent years include the discount rate and open market operations, while selective instruments typical of centrally planned economies, such as privileged credits for financing priority sectors, have been abolished.⁶¹
- (ii) An active exchange-rate policy, consisting of several devaluations in the early 1980s followed by the introduction, in 1983, of a floating exchange rate (daily adjustments to a basket of foreign currencies), which has facilitated the turnaround from a chronic current-account deficit to a surplus from 1983 onwards.
- (iii) The acceptance of open instead of repressed inflation following the limited effects of several price freezes in the first half of the 1980s, which together with substantial declines in real wages has contributed to the avoidance of a monetary overhang and to the elimination of shortages.

Although the stabilization policies implemented throughout the 1980s were disappointing,⁶² they implied, in some fields, a radical change in macroeconomic management, thus contributing to the elimination of some systemic problems and distortions typical of Soviet-type economies. The experience obtained in macroeconomic regulation also facilitated more recent stabilization attempts. Thus the 'shock' therapy applied in January-June 1990 brought monthly inflation down from over 50% in December 1989 to zero in May 1990; it introduced convertibility for residents, helped by substantial foreign-exchange reserves (about USD 9 billion in November 1990); and it resulted in a relatively smaller fall in production (10% by the end of 1990) than in some other transitional economies (Poland, GDR). These positive results of the 1990 stabilization programme could have rendered present reform measures easier to implement (see Nuti, 1991), had Markovic's policies not lost their initial credibility in the mean time (see below).

6.3. Smaller-scale restructuring

While the other former centrally planned economies are moving from over-full employment to unemployment, Yugoslavia has already since the mid-1960s experienced unemployment and redeployment of labour.⁶³ Although much surplus and redundant labour will still have to be released from loss-making enterprises, the process is likely to be more gradual than in other transitional economies, which until 1989 had no unemployment and indeed were characterized by chronic labour shortages (i.e. over-employment). The process of financial restructuring has also gone one step further than in other transitional economies, as in Yugoslavia there has been a larger number of bankruptcies. In 1986-89, a total of 141 firms went bankrupt, and the number of bankruptcies in 1990 is likely to have been much higher.⁶⁴

These advantages of Yugoslavia with respect to other former socialist economies suggest that its transition to a mixed market economy may take less time. At the same time, in comparison with other Central and East European countries, the transition in Yugoslavia is hindered by several factors: the severe political crisis, problems linked to undefined property rights, existing features of the banking system, labour market imperfections, and unique factors prompting resistance to change. Although some of these problems are similar to those encountered in other transitional economies, in the Yugoslav case they have acquired specific dimensions.

6.4. Political crisis

The credibility of federal economic policies is substantially reduced by the present serious political crisis, characterized

 ⁶⁰ Facilitated also by foreign currency deriving from tourism and workers' remittances, as well as by major access to international financial markets.
 ⁶¹ Only those for agriculture and promoting exports have been retained.

⁶² The reasons are discussed in detail in OECD (1990).

⁶³ By the end of 1989, unemployment had reached 1,25 million.

⁶⁴ By the end of 1990, for some 1 659 firms employing 755 000 workers the initiating of bankruptcy procedures was required (*Ekonomska Politika* No 2027, 4 February 1991, p. 18). This does not yet imply, however, that these firms will effectively be closed.

by continuous conflicts between the constituent parts of the Yugoslav federation, rising nationalism, concrete moves towards republic independence, including the adoption of laws not in conformity with federal legislation and the imposition of trade tarriffs between republics,⁶⁵ and ongoing disputes on how to find a compromise between Serbian demands to preserve a federation and attempts of other republics to institute a loose confederation or even independent States.⁶⁶ The successful implementation of the January-June 1990 stabilization programme suggests that until mid-1990 increasing regional conflicts were not a serious barrier to effective realization of federal policies.

However, in the second half of 1990, under political pressure from the individual republics, each of which felt negatively affected by the continuation of the stabilization programme, Markovic accepted some compromises which meant a deviation from announced policies, initially concerning monetary restrictions, and in January 1991 the 22 % devaluation of the dinar (also required because of inflation,⁶⁷ and the 1990 threefold increase in the foreign trade deficit with respect to 1989).⁶⁸ Most republic governments have also, contrary to federal regulations, officially permitted wage increases (also because of the political legitimacy of newly elected governments), and have not respected their obligations concerning the financing of the federal budget. The most recent (January 1991) scandal concerns serious violations of monetary regulations by several republic national banks (primarily the Serbian National Bank), namely the spending of part of obligatory reserves.⁶⁹

Since the devolution of powers to the republics has implied a continuous weakening of federal control over economic policies, in January 1991 the Yugoslav Prime Minister proposed a minimum number of State functions which must be performed at the federal level if Yugoslavia is to remain united.⁷⁰ Initially it seemed that all republics had agreed on most of these points (disagreements remained concerning the financing of the Yugoslav army, financial restructuring of banks, and social security programmes), but the February 1991 'dissociation' of Slovenia and Croatia from the Yugoslav federation raises doubts whether Markovic's proposals can effectively be implemented. Nevertheless, disintegration need not necessarily occur, as a compromise may still be possible, if economic interests prevail over nationalism, and if regional devolution is replaced by stricter control at the federal level (at least in the field of monetary and fiscal policies).

6.5. Undefined property rights

Although the current ownership status of firms in several transitional countries is controversial (see Portes, 1990; Grosfeld, 1990), the situation in Yugoslavia is even more confusing (see footnote 6). Consequently, today the State, enterprises and workers all feel they have certain claims to ownership of enterprise assets. Indeed, the specification of property rights as envisaged by the privatization programme may be unwelcome to various social groups. The conversion of self-management into property rights which will result from privatization is bound to reduce workers' decisionmaking power to the level of co-determination.⁷¹ For managers, private property rights will imply their being subject to direct control by shareholders and hence facing a higher risk of losing their present positions. For republic governments, it will imply giving up their long-established implicit property rights and their tutelage over the economy. However, since a number of enterprises have already started privatization on their own initiative, the main obstacle to privatization in Yugoslavia does not seem to be self-management, but other factors which have already been discussed, including resistance of republic governments to implementing federal programmes.

⁶⁵ The federal government has appealed to the Constitutional Court which is to determine the legitimacy of such republic laws.

⁶⁶ Similar problems of regional devolution are also present in other transitional economies, primarily the Soviet Union (see *European Economy* No 45, December 1990).

⁶⁷ The monthly rate of inflation (retail prices) was 7,1% in September and 8,1% in October, and subsided somewhat in November and December; thus annual inflation for 1990 was 121%. Inflationary pressures were also caused by the Gulf conflict which, because of foreign trade links with Iraq and Kuwait, is likely to reduce the balance of payments surplus by some USD 3 billion.

⁶⁸ The trade deficit for 1990 was USD 4,56 million, on the basis of the current exchange rate at the end of December 1990 (*Ekonomska Politika* No 2027, 4 February 1991, p. 25).

⁶⁹ These violations were presumably undertaken with the support of local political authorities, in order to finance the budget deficit, wage increases (as a necessary element of restoring social peace), and to buy convertible currencies on the foreign exchange market, for which demand had increased sizeably in the second half of 1990. Although the violations were of the highest order in Serbia, it is reported that they have occurred in all republics (although sometimes this was not officially registered).

⁷⁰ Concerning convertibility, monetary policy, foreign-exchange reserves, ensuring payments, the normal functioning of a single market, restrictions on personal and public consumption, further property restructuring, international obligations, national defence and the financing of the Yugoslav army, rehabilitation of banks, and social security programmes.
⁷¹ Given the limit on the number of internal shares that may be issued to

⁷¹ Given the limit on the number of internal shares that may be issued to workers.

6.6. Specific features of the banking system

Since Yugoslav banks were directly controlled by member enterprises, including loss-making firms, under the monetary restrictions of recent years loss-making firms sought to put pressure on banks for additional resources. The present problem of huge losses of the banking system is essentially a problem of uncovered losses of enterprises unable to fulfil their obligations. In spite of announced reforms, the actual behaviour has for the moment not changed much and continues to be characterized by monetary indiscipline. Hence the existing banking system has directly facilitated the presence of 'soft' budget constraints in Yugoslavia.

6.7. Labour market imperfections

In the traditional centrally planned economy, even at the peak of Stalinism, the labour market functioned, in that relative wages, somehow or other, had to be adjusted to relative demand for and supply of skills. In Yugoslavia, however, because of different wage regulations in individual republics and firm-specific income-shares linked to realized profits, there is no single wage rate for equivalent occupations and wages differ very substantially across enterprises, sectors, and regions (see Estrin, 1983).⁷² Rationalization of the wage structure is therefore a further hurdle in reform implementation.

6.8. Resistance to change

Several elements which are specific to Yugoslavia seem to cause a greater resistance to change. Among the population, apart from social security and other benefits provided in all socialist countries, Yugoslavs have enjoyed major civil liberties (e.g. free travel abroad since the mid-1960s), which, together with economic democracy through self-management (in spite of all its limitations), seems to have caused a higher degree of popular support for the existing regime. At the policy level there is resistance to change deriving from a higher level of consciousness of what the market may bring (as Yugoslavia has experienced inflation, unemployment and income disparities for over a quarter of a century). These factors may in part explain why, with respect to other former socialist countries, political reforms in Yugoslavia have been implemented with a certain delay and why the outcome of multi-party elections in some republics (Serbia and Montenegro) have led to the restoration of communist powers.

7. Conclusions: What can be learned from the Yugoslav experience?

Specific factors which today hinder the transition process in Yugoslavia are, paradoxically, the direct product of reforms undertaken in the past. At the same time most of these reforms were fully in line with systemic changes needed for the introduction of a market-oriented system. Why have they not produced the desired results? The main reason is that all past reforms were partial. Central planning was not replaced by an efficient system of overall macroeconomic management; markets were allowed to operate only for goods and services, but not for factors of production; financial reforms did not separate fiscal from monetary instruments and did not abolish the practice of creating new money to finance deficits.

At the root of these problems is the most important missing element of past reforms in Yugoslavia - the breaking down of the tutelage system. Along with reforms aimed at liberalization, decentralization and greater reliance on the market, the State ought to have assumed a fundamentally different role, away from protection of enterprises, towards overall coordination and control; instead of ad hoc, unpredictable and highly selective instruments, it ought to have used indirect and generalized measures of regulation; instead of socialization of losses through redistribution, it ought to have used standard Western-type monetary, fiscal, and wage policies. The State ought to have limited its functions to those normally performed in a market economy, thus allowing enterprises to become independent economic agents bearing the full consequences of their decisions.73 Socialist goals could also have been pursued through such policies, while the gains in economic efficiency would probably have been substantial.

Therefore the main lesson to be learned from the Yugoslav experience is that one of the necessary conditions for the success of reforms in a socialist economy is the willingness to abandon the tutelage system (and all of its consequences, primarily the 'soft' budget constraint). The change in the target model through the official sanctioning of private property, the abolition of the Communist Party's political monopoly and the institution of multi-party democracy may not be sufficient, at least in the short run, to attain this task. This seems to be confirmed both by the Yugoslav experience, where the 1988-90 change in the target model has not yet

⁷² For example, in November 1990, the average wage ranged from 6 702 dinars in Slovenia to 3 883 dinars in Macedonia (*Ekonomska Politika* No 2027, 4 February 1991, p. 36).

³³ Some argue that tutelage is also present in private ownership economies; the main difference is that in a socialist economy, it is generally applied to all firms, and not only to specific cases.

produced a fundamental change in the existing regime, and by that of several other former socialist countries (Poland, Hungary). The Yugoslav stabilization programme for the second half of 1990 did not succeed, not only because of problems linked to regional devolution, but because of lack of systemic changes in behaviour at all levels (the hardening of budget constraints).⁷⁴

In conclusion, systemic features inherited from the Soviettype model render the Yugoslav economy much more similar to other former socialist economies than is usually believed. The ultimate objectives of the transition process in Yugoslavia are similar to those of other former socialist economies, namely to improve economic performance and efficiency

and to achieve sustained economic growth; and so are the main tasks to be performed, directions of change and problems arising during transition. In addition to the most important task of abolishing the tutelage system as the major institutional constraint limiting progress towards a market environment (Portes, 1990), the other necessary tasks common to all former socialist economies include the activation of stock markets, substantial fiscal and budgetary reforms, capacity restructuring and demonopolization, financial restructuring, and full convertibility of currencies (see Nuti, 1991). Significant institutional and structural changes are still needed in all transitional economies in order to transform them into mixed market economies. In the Yugoslav case, the incompleteness of the changes is due not to uncertainties about the target model, but to the sheer complexity of the task involved. This suggests that the completion of reforms in Yugoslavia and perhaps elsewhere will be a timeconsuming and therefore gradual process, as a change in the target model cannot immediately produce a fundamental change of regime.

⁷⁴ Monetary indiscipline has also undermined the positive impact of liberalizing 95% of imports; by enabling an increase in demand, it has limited the role of competition from abroad in calming down inflation and bringing about industrial and property restructuring.

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Convertibility and economic transformation

J.C. Asselain

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University of Bordeaux I, LARE, France

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1. Introduction: an old issue in a new context with old constraints

For the student of the CMEA countries, the convertibility issue is an old acquaintance. Although the institution of central planning implied from the outset a deliberate isolation of the national economies from the rest of the world, the disadvantages of trading under a regime of inconvertible currencies and bilateral clearing arrangements soon became more and more obvious, even to Communist governments. The creation, in 1963, of the so-called transferable rouble was supposed to open the way to a regional multilateralization of trade between CMEA member countries. The Comprehensive Programme (1971) again contemplated new monetary developments leading to some kind of convertibility within 10 or 15 years, and some Soviet writers boldly imagined that the US dollar might be supplanted as a world currency. After a few years, the absence of any significant progress was clear evidence that the convertibility of Eastern currencies would remain empty talk so long as Soviet-type planning was the rule: the most fundamental precondition - real or commodity convertibility, i.e. free access to goods for any holder of money — was excluded by the system of centralized allocation. Even the more radical Hungarian economic reform of 1968 failed to make the forint convertible for two dec: es.

Past experience, however, is no evidence that the current efforts are bound to fail once more. The events of 1989, especially, have created an utterly new context. Everywhere, convertibility is given a very high priority, as a symbol of reinstatement in the circle of the advanced democracies. It is now acknowledged as a major component of a comprehensive transformation of the economic system, rather than a specifically monetary question, or a pure item of prestige. To rebuild a market economy is the accepted goal, and the debates concern only the best way (and how fast) to progress. Whatever the specific uncertainties of the Soviet situation, the fact that the USSR no longer opposes a radical transformation process (and would no longer be able to do so) makes a huge difference for all East and Central European countries, in comparison to previous reform experiences. The challenge to the West has given way to a much more realistic assessment of the balance of power: 'Making the rouble convertible cannot aim at raising it to the status of a world currency on the same footing as the US dollar, and even less at challenging the dollar's supremacy'.¹ Even the prospects for some renewed regional monetary arrangements (an East European Payments Union) among CMEA countries are usually linked to strengthened financial relations with Western Europe. More generally, the success of the transformation is deemed to depend to a large extent upon Western support and assistance.

In this new political setting, the old problems come to the fore. The legacy of the central planning system is central to understanding both the pressure for radical reforms and why any solution — global or gradual — is disproportionately more difficult than historical precedents, relating to non-Socialist economies, might suggest. The economic strategy applied by East and Central European countries since the late 1940s may be considered an extreme example of inwardlooking policy, systematically oriented towards import substitution. Its specific feature,² however, was to pursue its autarkic goal at a regional (CMEA), rather than national level, which in practice meant for the East and Central European countries that a large sector of their economy had to be geared to the priority needs of the USSR, with little concern for the exploitation of national comparative advantages. Minimizing East-West relations, on the other hand, did not exclude a permanent tendency to hard-currency deficits, as the capacity to export to the West was gradually weakened by the increasing backwardness of most manufacturing industries, whereas the recurrent deficiencies of central planning required extra imports from the West. The chronic shortage of hard currency soon prompted exports to the West to be given higher priority, but, apart from political obstacles, any reorientation of trade proved difficult: "Special relations" increase the cost of a change of partners ... The more they deviate from the terms prevailing in world trade, the higher the cost of stepping out of these "special" relations' (Nagy, 1989).

The conventional view of the closed, autarkic centrally planned economy, admittedly, did not fit the realities of the 1970s and 1980s. What had been initially a deliberate strategy became more and more a constraint. At the same time, all the centrally planned economies tried to find external cures to their systemic problems — but not to the same degree in every case: much less so, for instance, in Czechoslovakia than in Hungary and Poland; and here is probably the origin of the most significant international differences in the terms of the transformation problem today. The Polish experience of the 1970s best exemplifies the attempt to use a strategy of reopening to the West as a substitute for economic reforms. A sudden inflow of borrowed foreign capital resulted in a temporary surge of import-led growth, with a rising debt burden. The modified centrally planned

¹ Konstantinov, Ju. Ekomicheskaia Gazeta, 22 May 1989, quoted by Ricoeur (1990).

² Köves (1989).

economy, henceforward, was characterized by a mix of traditional and new features: inadequate export performance, in spite of numerous ad hoc incentives; relaxation of central control, leading to open inflation (runaway inflation in 1988-89), together with the persistence of repressed inflation; commodity inconvertibility, no longer ascribable to the centralized allocation system, but to pervasive shortages. The main lesson of the Polish experience was to show the immediate disruptive effect of any departure from the traditional model of a centrally planned economy, if not accompanied by radical reform. However, the uninterrupted Hungarian reform process since 1968, while partially successful in checking the most acute disequilibria, also proved unable to transform the economic system and to master the reopening of the national economy; worse, a long series of half-way measures tended to undermine the credibility of future reforms. Czechoslovakia, at the other end of the spectrum, would seem close to facing a direct transition from the (old, unreformed) centrally planned economy to a market system.

So, the various countries of the CMEA are clearly not embarking on the transformation process from the same starting line. Now, the striking fact is that, in spite of such wide differences in the initial situation, the reopening to the West is considered everywhere (including the USSR) a key condition to the success of reforms, and closely associated with restoring convertibility. Should it be inferred that a more or less uniform conception of the transformation process now prevails, with only some divergence about the suitable pace of the reforms? But it is well-known that the word 'convertibility' has many different meanings, and the classical exercise of enumerating them (the combination of four binary criteria - real vs. financial, resident vs. nonresident, current account vs. capital operations, regional vs. general — yields 16 variants and why not many more?) is of little help in identifying the truly significant alternatives at stake. So it is usual to distinguish only between full convertibility (clearly, no more than a limiting case) and restricted convertibility (all the rest), and many authors proceed as if the chosen acceptance of the word was selfevident. Likewise, the crude alternative between immediate convertibility (obviously, different degrees of convertibility should be distinguished) and ultimate convertibility, postponed to the crowning stage of the transformation (as if all problems had to be solved previously without it), is certainly misleading: the real question, of course, is how to introduce convertibility in the course of the reform process.

The first step of this analysis will be to clarify the main reasons for considering East-West relations as a decisive element in the transformation of (Soviet-type or modified) centrally planned economies. Hence will emerge, as *summa divisio*, a cleavage between two distinct approaches to the convertibility problem, characterized by the priority given respectively to external or to internal convertibility. Then it will be shown that no decisive break with the practices of the administrative economy (for instance, bargaining relations between enterprises and the central authorities) and no decisive progress towards marketization can take place without the institution of internal convertibility and a case will be made for the introduction, as early as possible, into the minimum initial package of reforming measures, of a unified exchange rate, as a precondition to re-establishing congruence with world prices, restoring the possibility of economically founded calculations, and eventually developing new comparative advantages. The implications of such a shock therapy will be discussed (is it feasible, and under what conditions?), and the alternative solution of gradualist measures meant to prepare the way for full convertibility (for instance, exporting enterprises are entitled to retain a gradually increasing proportion of their hard currency earnings) will be examined and tested against the fundamental requirement of a unified exchange rate. Then, in the last sections, the a priori argument will be confronted with a comparative approach of the national experiences and prospects. What countries seem best prepared to achieve a successful transition? Is it possible to draw a sharp dividing line between early reformers (Hungary) and late starters (Czechoslovakia)? What are their respective advantages and handicaps? How to explain the reversal which occurred in 1990 between the relative positions of Hungary and Poland, with Poland leading the reform process for the first time since 1956? Was the previous dollarization of the Polish economy a favourable circumstance? More fundamentally, was such a catastrophe as the Polish (or Yugoslav) hyperinflation of 1989 a necessary condition to overcome opposition and open the way for a decisive break? Or should it be considered that the Czechoslovak economy, with a comparatively low debt and low inflation rate, can afford a less dramatic transition?

2. Two distinct approaches: external vs internal convertibility

The priority given today to convertibility as a proximate goal in most East and Central European countries contrasts with the post-war experience of Western Europe. Facing somewhat similar problems of dollar shortage and bilateral trading, the 15 West European countries adhering to the European Payments Union (EPU, created in 1950) went through a long stage of regional transferability, restricted to their mutual relations, until convertibility *vis-à-vis* the US dollar could be re-established at the end of 1958 for transactions on current account only; it was not until 1990 that the last remnants of exchange controls for capital move-

ments were abolished in France and Italy, for instance. The fact that the East and Central European Countries are now trying to advance much faster is no evidence of lesser obstacles on the way to convertibility — just the opposite. In spite of extended war controls, Western economies in the 1940s remained fundamentally market economies (Bofinger, 1991), where the dominance of private property had been limited to some degree, but not seriously threatened. The return to a competitive domestic economy could be expected to result spontaneously from the gradual alleviation of State controls; opinion, however, generally was not adverse to the persistence of some type of planned regulation especially in the sphere of external economic relations. The immediate task, for the EPU member nations, was to develop their mutual trade (which had been sinking through the depression and war years far below its long-term potential) as a substitute for dollar imports. The share of the 15 EPU economies in world trade was again approaching 60% in the 1950s, and, except for a limited range of products, 'supplies could be found within at competitve conditions' (Steinherr, 1990). A strong political will to develop West European integration accompanied and amplified the spontaneous recovery of mutual trade.

One difference is that the CMEA's share of world trade was, in 1986, including the USSR and the GDR, less than 9%. But the overwhelming contrast is qualitative rather than quantitative. The development of mutual trade within the CMEA is considered to have been artificially boosted by inward-looking policies, which merely extended to the regional level autarkic national policies. While intra-CMEA trade failed to develop internal complementarities, it also effectively impeded the necessary adjustments to the world economy. In the context of the marketization of socialist economies, the organization of intra-CMEA relations appears to be even more alien than the domestic sector to the logic of a market economy. The CMEA contractual prices, negotiated on a case-by-case basis, were actually even farther than domestic prices from being reliable signals (Marrese, 1990); the system of obligatory quotas retained its prevalent influence, even for a 'modified planned economy' such as Hungary (see below); the guaranteed outlets offered by the easy CMEA markets discouraged enterprises from the necessary efforts to sell on competitive markets (Kornai, 1990). While the disruptive effects of an abrupt interruption of CMEA trade relations are fully acknowledged, a disengagement from the CMEA is more or less explicitly³ considered inevitable, even at a heavy cost in the short run, in

so far as intra-CMEA relations hamper the priority objective of transforming the economic system. What can be saved of the mutual relations between the countries of Central and Eastern Europe depends on their prior marketization: 'A united market can come into being only among market economies ... Market economies have to become open to the world' (Köves, 1989).

The importance given now to the convertibility issue is therefore indissociable from a general move to outwardlooking policies. For at least three main reasons, a new pattern of East-West economic and financial relations has to play a major part in the transformation process.

(1) All the East European economies suffer from an inadequate capital stock (in spite of the high investment rates maintained until the 1980s), obsolete equipment and technologies, as in Peter the Great's time, 'when the country badly needed specialists in order to introduce new machines and technologies, and they had to be invited from abroad in large numbers' (Khanin, 1989). A massive inflow of Western capital would be the shortest way to accelerate the modernization of centrally planned economies, beginning by those branches where a transfer of technology is most urgently needed. It might also be instrumental in properly initiating the privatization process, and contribute to creating a favourable international climate.

(2) The arbitrariness of the price structure has always been a major impediment to the participation of the centrally planned economies in the international division of labour, as it has been to an efficient domestic allocation of resources. Successive attempts at price reform on a cost basis, in the absence of a market economy, were unable to achieve a solution, and price distortions soon proliferated again anyway. On the other hand, the prices of the world market provide a ready-made measure of true opportunity costs, at least for tradables, on the sole condition that the centrally planned economy is not completely severed from international trade in hard currency or exposed to gross discrimination. Any restructuring that was not undertaken on the basis of such prices would involve disproportionate losses for the national economy. Whether the correct price information is transmitted to domestic agents depends, of course, on the dismantling of the whole array of multiple exchange rates and subsidies.

(3) Reintegrating the circle of nations with a convertible currency, especially if the national currency is pegged to such a stable currency as the German mark (or perhaps the ecu), would oblige the governments to give a high priority first to monetary stabilization, then to preserving a permanent commitment to sound macroeconomic policies (Holzman, 1990). They would be deprived of 'the freedom to

³ According to the Czechsolovak Minister for Finance, Klaus (Washington, May 1990, quoted in Steinherr, 1990), Czechoslovakia 'should return to convertibility without making a detour with a poor countries club'.

generate inflation and instability', and convertibility would act 'as a binding constraint for macroeconomic management' (Steinherr, 1990). So the irreversibility of the reform process could be protected against possible deviations by the monetary anchor.

The three reasons, of course, are not mutually exclusive, and they all point in the direction of convertibility. But it should be stressed that the underlying approach is basically different, according to whether the main concern is about the first one or the last two.

In the first case, the acknowledgement of the failure of the centrally planned economy leads to the search for an outside solution. Reforming at a stroke the bulk of the domestic economy is considered impossible (this presupposition seems so obvious that, generally, no explicit argument is given); its transformation can be but a gradual protracted process. But some short cut has to be found to start up the modernization : that will be the task of Western capital. But, if the unfortunate Polish experience of the 1970s is not to be repeated, direct foreign investment should be preferred to borrowing as a less costly (the apparent, immediate cost is nil) and more efficient solution. However, the convertibility issue arises: 'If we aim at attracting foreign capital, non-convertibility is the problem. Of what use could profits in Soviet roubles be for Western investors? ... We need Western technology and capital. But we will never have them if we cannot pay in convertible roubles' (Petrakov, 1989). The implications of such an approach are straightforward:

- (i) external (financial) convertibility is the priority; domestic agents are not directly concerned at this stage by financial convertibility (it is out of the question to allow two-way capital flows, except for the repatriation of profits), and the permanent shortage of hard currency means that central allocation must be maintained for current account transactions as well;
- (ii) the reform and restructuring process can therefore start only with some type of dual organization, and the main problem is how to manage the relations between the open, foreign sector and the unreformed — or very slowly reforming — domestic sector for a long transition period.

This approach has been prevalent in the USSR until now; it underlies most of the schemes of a dual economy, elaborated along regional or sectoral lines by Soviet or Western economists. The two sectors would face quite opposite conditions from the point of view of price formation, access to scarce goods and hard currency, exchange-rate regime, etc.; the contemplated introduction of a parallel, convertible currency, circulating only in the open sector, would complete their divorce. No wonder that the problems posed by their

coexistence have challenged the imaginative capacities of the experts. The substantial discrepancies among the six (out of some 600) winning essays in the Moscow competition in summer 1990, on 'How to make the rouble convertible', is clear evidence of the dimension of the unresolved difficulties. Many of them, however, share the presupposition that the progress achieved in the open sector towards a superior efficiency would gradually permeate the residual sector (in spite of the partitioning of the economy). Following the progressive restoration of export capacity, the increase in the share of hard currency earnings that exporting enterprises were allowed to retain, together with the development of foreign exchange auction sales, would lead to the eventual restoration of full convertibility, within 10 or 15 years — curiously about the same time-span as was already mentioned two decades ago, and often with no more explicit proof. The lessons of the Chinese experience, clearly one inspiration of some variants, the risk that the impulse coming from the open sector might be blocked, or worse the risk of cumulative imbalances affecting the residual sector (instead of a gradual convergence) are seldom discussed.

The second approach rests on opposite assumptions. The contribution of foreign capital is regarded as an important but not determining factor. The influence of the reopening to the world economy cannot be confined to one sector. In particular, the *perestroika* of the domestic price structure is not something that might be postponed at will to some later stage of the reform process: 'Without market clearing prices, markets cannot operate at all, since random access to goods and services is unfair, disruptive and inefficient ... it reduces incentives and requires the indefinite continuation of central controls, i.e. the indefinite postponement of radical reform' (Nuti, 1990c). This is true also for that particular price. the exchange rate for hard currency. The autonomy of an enterprise and its adjustment capacity would be reduced to very little if it remained dependent for all its import decisions on the central allocation of hard currency. At the same time, restoring a unified exchange rate, as already mentioned, is necessary to re-establish the correspondence (proportionality) between domestic and world prices. The two reasons converge to make internal convertibility — in the sense of access to hard currency at a unified exchange rate guaranteed to resident enterprises for all their current account transactions — a prerequisite for the restructuring of the economy.

This second approach is not inconsistent with measures designed to further foreign investment, and might lead to full convertibility within a rather short period; in Poland, the introduction of external convertibility was planned to follow internal convertibility after one year. An inflow of Western capital is, of course, helpful to ease balance-ofpayment problems. External and internal convertibility conflict with each other only in so far as erratic capital movements might destabilize the exchange rate, and consequently the level and structure of domestic prices. On the other hand, specific guarantees concerning the repatriation of profits can be offered to foreign investors, until external convertibility is made general. But what really matters is that the main focus is not the same for the two approaches. Internal convertibility directly aims at the remonetization of the whole domestic economy, instead of maintaining a dual structure. It is the intersection of three main axes of the reforms, restoring: (a) enterprise autonomy; (b) the role of price signals; and (c) the interconnection with the world economy. Whereas it seems perhaps not so far-reaching as external convertibility (which immediately affects the international status of the national currency), internal convertibility actually implies a much more radical, once-for-all shift away from the administered economy. But the conditions for achieving such a move are so binding that its feasibility may be questioned a priori.

3. Early internal convertibility with a market-clearing exchange rate: the main implications

Internal convertibility raises at once the objection that there is pervasive evidence in all centrally planned economies of a permanent huge excess demand for hard currency. The black (or grey) market rate can reach several times the official rate. The experience of auction sales (see below) is even more impressive, with a meagre supply facing an almost unlimited demand. The excess demand for foreign exchange is typically considered as inherent in central planning, and bound to worsen during the transition phase. Whereas the outright inability to think in terms of an equilibrium price may be considered a legacy of decades of Soviet-type planning, it would be equally inadequate to imagine that all discrepancies could be eliminated just by choosing the proper exchange rate (the proper rate of devaluation), for the exchange issue is intertwined ('l'imbroglio de la convertibilité', according to Bourguinat, 1990) with two major problems: a distorted price structure and an inflationary process gathering momentum, and a weak and stagnating, or even declining, export capacity.

No equilibrium exchange rate can allow the decentralization of import and export decisions at the level of enterprises, when the domestic price structure is divorced from the world price structure. Decentralization without price reform would lead to mass exports of underpriced goods and abruptly cut the supply to the domestic market, soon calling for offsetting taxes or specific interdictions. Previous experiences have shown that even a limited liberalization of tourist relations between CMEA countries (as between East Germany and Poland in 1974, or Czechoslovakia and the USSR in 1988) can have disruptive effects, through the retail purchase of deficit goods. Moreover, no rationalization of the price structure can take place with an arbitrary exchange rate (if only because it would imply a false valuation of all imported inputs). On the other hand, no correct exchange rate can be determined on the basis of the existing price system. This does not mean, of course, that there is no solution, but that the two problems — the adjustment of the exchange rate to hard currency and the restructuring of the price system have to be solved jointly; they are actually one and the same problem, as was clearly stated by Trzeciakowski (1978). Only then can the most fundamental precondition to convertibility vis-à-vis foreign currencies — that is, the real or commodity convertibility of the national currency — be achieved.

However, the static formulation just outlined, which might be suitable for the traditional centrally planned economy, with rigid prices or at least inflation rates well below the Western average (even after hidden inflation is duly accounted for), no longer fits the current situation in the modified planned economies, where open inflation coexists with extensive shortage inflation. The dismantling of the centralized allocation system is not enough to ensure real convertibility while prices are not market-clearing. On the other hand, any adjustment of the price structure, especially if it first affects underpriced and heavily subsidized basic products, risks having an overall inflationary impact and (with soft budget constraints for State enterprises, lax wage policies, inefficient price controls) fostering cumulative inflation; some possible offsetting effects (pressure of competitive imports, tax cuts balancing the reduction of subsidies) are not likely to be very substantial in the present conditions. The inflationary overhang (abnormally high monetary balances in the hands of individuals and enterprises) also represents a serious danger should there be a more radical move to free prices and to the liberalization of foreign trade. In particular, many enterprises would initially find themselves in a position to finance a large amount of hard currency imports; a strong depressive effect on the exchange rate would result from excess demand, leading, through the increased cost of all imported inputs, to a mechanical push on the domestic price level. The implications concerning the necessity of a drastic stabilization programme and its insertion in the sequencing of reforms will be considered below.

Another problem is the low capacity to export to the West for structural reasons, and the low elasticity of exports to variations of the exchange rate. The historical starting point was typically a gross overvaluation of official exchange rates for ill-defined motives (national prestige?); those meaningless exchange rates played no active role. The overvaluation of most East European currencies is still often regarded as something too evident to require any elaboration, and the solution is supposed to consist in the adoption of a realistic exchange rate, loosely identified with some version of the purchasing power parity. As a matter of fact, a major result of the International Comparison Project of the United Nations (1982) was to show, for each of the three East European countries included in the project (Hungary, Poland, Romania), a marked undervaluation vis-à-vis the Western currencies in terms of purchasing power parity at retail prices. The gap certainly widened through the 1980s — the forint, for instance, being depreciated four to five times in comparison to its purchasing power parity vis-à-vis the schilling, according to Nagy (1989). Whatever the exact proportion (the deviation would be reduced if quality differences could be fully taken into account), the central conclusion that the East European currencies, especially the forint (Marer, 1985a and 1985b), are no longer overvalued in terms of purchasing power parity, but just the reverse, cannot be seriously challenged.

This situation originated in the abandonment of the meaningless historical parities, at various dates from the 1970s, and their replacement by new exchange rates, calculated as the average cost in domestic currency of earning one unit of foreign exchange through exports (or some variant, as will be specified below in the case of the Hungarian and Polish experiences), which may be interpreted as a specific purchasing power parity calculated from the basket of exported goods. Now, the striking fact is that this specific purchasing power parity turns out to be susbtantially more unfavourable than the general purchasing power parity for consumption or GNP. This can be traced to the low efficiency of the export sector: not only were the CMEA countries unable to keep up with Western standards in general, but they failed to develop export specialization relying on cumulative comparative advantages. Central planning had a paradoxical levelling effect. As the political logic of the centrally planned economies ignored price signals, they were characterized by growing discrepancies between the priority sectors of their industrialization or intra-CMEA trade (heavy industry, machinery and equipment goods) and the structure of exports to the West, which was regressing in the long run, with an increasing share of agricultural or other primary products, and of banal manufactured goods, which were particularly exposed to competition from the newly industrialized countries. So, the resulting terms of trade already imply a high cost of trading with the West, which can be ascribed to the previous phase of closed regional development, and would be inevitably increased if the opening to the West were delayed or hampered. At the same time, this situation explains why East European governments have been reluctant to accept a further depreciation of the real exchange rate, even when facing serious strains on the balance of payments.

The question of a devaluation continually arises for two reasons.

(i) The official exchange rate always appears to be overvalued in comparison with black or free market exchange rates, which are directly influenced by the monetary overhang, as mentioned above (disequilibrium of stocks).

(ii) An exchange rate calculated as the average, as opposed to marginal, cost of foreign exchange, is by definition unable to achieve trade balance (or the trade surplus required to balance the current account) without subsidizing a large proportion of total exports, together with other specific incentives to export and direct control of imports (disequilibrium of flows). On the other hand, devaluation is often considered an inefficient weapon for a centrally planned economy, even modified; its ability to restore equilibrium has been questioned, especially by Hungarian economists (see below), who argue that, in the present conditions, a devaluation would fail to check imports and to elicit a substantial supply response from exporting enterprises; its impact would be purely inflationary. If this were so, any prospect of introducing internal convertibility, which cannot be conceived without a market-clearing exchange rate, would have to be indefinitely postponed.

The Hungarian and Polish experiences of the mid-1980s, however, suggest that these rigidities have probably been exaggerated. But, more fundamentally, it would be wrong to infer from the present state of things that there is no alternative to the central allocation of foreign exchange. taking for granted the permanent shortage of hard currency. For what is really at stake is the ability of a devaluation to restore equilibrium in the radically new conditions expected from full marketization of the economic system. The move to convertibility is only one element of a global transformation process. Liberalizing foreign trade and price formation, bringing down subsidies, reforming the tax system and hardening the budget constraint of enterprises are to follow immediately the adjustment of the exchange rate. A general progress in the level of efficiency at micro and macro level should result from a gradual restructuring of the economy under competitive pressure, and the capacity to improve the real exchange rate, after a temporary depreciation, might be taken as a test of the development after some years of new comparative advantages. The differences in the time dimension of interdependent processes, however, should not be overlooked. 'Ideally, demonopolization, price liberation, macrostabilization and privatization should all be done at once. But this is Utopian, and some sequencing is inevitable' (Grosfeld, 1990). The dismantling of monopolies, the creation of efficient capital markets and the privatization process cannot be completed for some years — clearly a longer time than can be afforded before introducing the scalpel of convertibility. The full achievement of the industrial restructuring and respecialization process will require a still wider time-horizon. On the other hand, a policy aiming at the immediate absorption of monetary imbalances, which exert a dominant influence on the formation of market exchange rates, is both possible and necessary at the outset.

The following implications concerning the introduction of convertibility in the sequencing of reforms may be drawn:

(i) Macroeconomic stabilization is a precondition for convertibility. 'It cannot be repeated too often that any form of open or repressed inflation is incompatible with convertibility and stable exchange rates', especially for 'any country inflating faster than its trade partners do' (Haberler, 1954). The market exchange rate emerging in such conditions would imply a disproportionate depreciation of the real rate, beyond any justification, tending to further accelerate the inflationary process.

(ii) However, 'exposure to international trade signals and pressure' (Nuti, 1990b) is a decisive element of the liberalizing phase which cannot be excluded from the initial minimum conditions for making the transition to a market economy viable. Without the liberalization of trade and automatic access to foreign exchange for current account transactions, a major dimension of enterprise autonomy would be missing. Without a unified exchange rate, even a limited decentralization of price formation would lead to further distortions in the price structure, as the pre-1989 Polish experience clearly exemplifies. A reinforcement of central control would, in fact, be justified, since the decisions taken by enterprises should not be allowed to follow wrong price signals. Moreover, the actual impossibility of transforming at a stroke the monopolistic industrial structure and establishing truly competitive domestic price formation is one more argument for early trade liberalization and internal convertibility. They are necessary to allow 'a permanent testing of the economic rationality of domestic prices against international prices ... as a prerequisite to the revealing of comparative advantages' (Aglietta, 1990). Or, in more concrete terms, when domestic competition is weak, firms must be 'free to import components whenever they are unsatisfied with local suppliers ... The priorities for sequencing the reform are to genuinely liberalize trade first and then to worry about competiton policy' (Newbery, 1990). A further depreciation of the real exchange rate may be necessary at this stage, as a condition for achieving a marketclearing rate at the outset of the restructuring process which should not be identified, however, with an alignment on the still much more depreciated private market exchange rate prevailing before the establishment of convertibility.

4. Are gradualist measures justifiable?

Partial measures may be viewed either as an alternative to full internal convertibility, or as a means to prepare for it while minimizing the costs of the transition. They will be discussed here from both points of view.

4.1. Differentiated exchange coefficients

In the traditional Soviet system, the Preisausgleich mechanism amounts to applying a distinct implicit exchange rate (ratio of the international price in foreign exchange P^{*}; to the domestic price P_i) for each traded good. A natural first step, which took place as early as the 1950s in some CMEA countries and only after 1986 in the USSR, was to replace these implicit exchange rates by differentiated coefficients, linking external prices and receipts in national currency for the domestic importing enterprise (costs for the importing enterprise). Even where the coefficients were very numerous and the range of their values very broad, as was the case for the DVKs in the USSR (one is told of thousands of different coefficients, varying in the proportion 1:33, from which it may be inferred that the step between two successive values generally corresponded to only R 0,01 per dollar), their introduction meant little more than a snapshot of the existing state of things. The rationale might be to make future variations in international prices directly perceptible to domestic enterprises, a minor change anyway in comparison to the extent of initial price distortions. The declared intention, however, was gradually to even out the disparities, until the coefficients eventually converged to a unified exchange rate. It should be stressed that reducing the number of coefficients (which first tends to create only minor discontinuities but becomes a more and more serious question as the unification process goes on) is much less important than narrowing their range. On the other hand, to reduce the number of coefficients abruptly to two (one for energy and raw materials, another one several times higher for manufactured goods), as was contemplated in the USSR in 1990, may be considered quite the opposite to genuine progress towards the unification of the exchange rate; incorporating this duality into a reform of the price structure would only solidify the major existing price distortion — the underpricing of basic products. The reform implemented in November 1990, while maintaining four distinct exchange rates (official, commercial, tourist and auction rates), goes a step further towards a unified, strongly devalued (R 1,8 per dollar instead of 0.6) commercial exchange rate. Its real significance, however, remains unclear. What for instance will happen to the export activities that cease to appear artificially profitable, as they no longer enjoy an abnormally high DVK? Will such exports be stopped, as might seem logical? That would not

be justified, yet, in the case of gross domestic overpricing (or in the case of activities using overpriced inputs), as the apparent unprofitability of exports may be misleading then. Even in the case of truly unprofitable exports (and production), the central authorities are not likely to discontinue them altogether; if the exporting enterprise is granted an offsetting subsidy, the latest reform will amount to a cosmetic change, as was previously the case with the abolition of the *Preisausgleich*. The general conclusion is that no amendment of the exchange regime can succeed if it remains divorced from the fundamental problem of rationalizing the domestic price structure; the attempt to minimize the risks by proceeding by small steps was no solution.

4.2. Entitling the exporters to retain a portion of their hard currency earnings

The right granted to exporting enterprises to retain hard currency for their own needs clearly reveals that earnings in domestic currency (regulated by the exchange coefficients) are by themselves inadequate to create a sufficient inducement to export: hence the necessity, acknowledged by the authorities, to apply ad hoc incentives. This practice, besides being evidence of a poor functioning of this system, for instance in the USSR today as in Poland until 1989 (see below), is exposed to at least two fundamental objections. First, a regime of individually differentiated coefficients (varying from one product to another, and in fact from one enterprise to another) leaves the way open to administrative discretionary decisions and/or to bargaining relations; on the other hand, trying to standardize the coefficients within broad categories, as in Poland (1989), may also create unjustified discontinuities and inter-enterprise disparities. Second, the very principle of making each enterprise selffinance its imports with its own hard currency earnings is irrational and, in fact, untenable. It leads to awkward conflicts between the final exporting enterprise and the suppliers of component parts (the latter claiming their share of the hard currency earned by the former), it penalizes indiscriminately import-substitution when a limited amount of imported inputs could save higher hard currency expenses for the final product, and it prevents the emergence of potential exporters, who could gain access to foreign markets if only they could first get some hard currency to finance the import of necessary equipment. More generally, how could hard currency imports and exports match for every firm, and why should they? Even if it could be enforced, the principle of generalized self-financing of imports would be no more defensible than to impose the self-financing of all investments, barring any mobility through capital markets.

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4.3. Auction sales of hard currency

The partial redistribution of hard currency left to exporting firms, through auction sales or any type of restricted market, is clearly an improvement in comparison to the system of retention quotas alone. The fact that hard currency is typically auctioned at very high prices — close to the market rate, or sometimes higher — indicates the sizeable unsatisfied demand of firms for imported goods.

Many circumstantial reasons may be given why the organization of such auctions was not a decisive advance towards convertibility, as will be shown in the case of the Polish experience (1983-89); it is significant that more or less similar devices were introduced in Bulgaria, the USSR and Czechoslovakia, but not in the more consistent Hungarian reform process, where the management of foreign exchange remained centralized. Whatever the specific arrangements, the very principle of discontinuous auction sales and of segmented markets implies the risk of abrupt variations in the emerging partial equilibrium exchange rates. In such conditions, it is likely that the central authorities will interfere with the formation of market exchange rates by supplementing the inadequate supply of foreign exchange on the basis of caseby-case decisions or by even more direct intervention. If the resulting exchange rates are consistently differentiated from one segment of the market to another, it amounts to an uneasy compromise with the centralized allocation of foreign exchange according to official priorities. On the other hand, even if the segmentation of markets is not strictly enforced and auction prices more or less converge on the private market exchange rate, the most fundamental objection remains that a sharp discontinuity will persist between the official exchange rate, the cost of hard currency for enterprises entitled to planned imports, and the market rate determining the cost of non-privileged extra imports. In such a dual system, to ascertain the true value of one unit of foreign exchange, for accounting purposes or price formation, remains impossible. Obviously, it is not the official exchange rate. But to consider the market rate as an equilibrium rate, dictating the choice of a new parity, would be equally misleading, for it is grossly influenced by the preallocation of the bulk of available hard currency to planned imports, and by other disturbing factors. Only a gradual increase of the rights of the firm to retain hard currency, together with a gradual diminution of the share of priority imports, might conceivably lead to the enlargement of the foreign exchange market and to the eventual emergence of a well-founded exchange rate. A dynamic export performance, maintained through several years (and not an occasional surge in response to an emergency), would be the crucial condition. But all the lessons of past experience point in the opposite direction: the system of multiple exchange rates,

administrative management and bargaining relations undermines in the long run export capacity, and tends to generate an evergrowing discrepancy with even the minimum priority import requirements.

5. Lessons from yesterday: the Hungarian and Polish experiences compared

The attempts at reforming the exchange rate regime and the whole sphere of external relations started in 1968 in Hungary and in 1982 in Poland. The two experience contrast sharply; both, however, give evidence of strong obstacles in the way of convertibility.

The distinctive feature of the Hungarian 'new economic mechanism' was the simultaneous enforcement, on 1 January 1968, of a comprehensive package of reform measures, including a general reform of domestic wholesale prices and a significant liberalization of foreign transactions. An early move to convertibility had been seriously contemplated, but well-advanced negotiations with the IMF and the IBRD had to be cancelled in November 1967 for political reasons (Economic survey of Europe, 1989-90). Nevertheless, the introduction of a general exchange multiplier vis-à-vis the dollar (and another one vis-à-vis the transferable rouble) was a major step towards the unification of (commercial) exchange rates. It meant that, for Hungarian enterprises, the costs of imports and the proceeds from exports were to be automatically linked with foreign prices by a single coefficient. The anti-trade bias (stemming from the application of systematically higher coefficients to imports rather than to exports) was in principle eliminated, and, leaving aside the crucial question of subsidies (which were meant to be no more than a temporary bridge, supposed to decrease year by year), the adjustment of the trade balance had to rely exclusively on the choice of the proper value for the multiplier. No specific inducement to export, such as the retention of some part of hard currency earnings by the exporting enterprise, was needed, in so far as any Hungarian enterprise 'having the forints' was, in principle, entitled to obtain from the bank the foreign exchange necessary to pay for its imports. Such was actually the case, according to Marer (1981), during the first years of the new economic mechanism, when the granting of import licences was quasi-automatic for a wide range of goods. So, a significant degree of internal convertibility for current account transactions was introduced at this early stage of the reform.

Further measures during the 1970s and the 1980s led to the eventual unification of the forint/dollar exchange rate. In 1976, Hungary was the first CMEA country to abolish the

meaningless official exchange rate (no more than a historical relic), and the multiplier, which had been performing the functions of a commercial exchange rate since 1968, was officially acknowledged as such in 1976. More important, the gap between the commercial and non-commercial exchange rates⁴ was gradually reduced, through successive devaluations of the non-commercial forint, until the final equalization of the two rates, which occurred in 1982. Hungarian residents travelling to the West were entitled to a (modest) hard currency allocation every three years, calculated at the same unified exchange rate (whereas Czechoslovak or Romanian citizens authorized to buy hard currency had to pay a huge premium over the official rate, see Van Brabant, 1985). The depreciation of the forint black-market rate, on the other hand, remained markedly less pronounced (no more than 30%) than for any other Eastern currency.

The Hungarian exchange rate policy was accompanied, from the late 1970s, by a price policy, aiming at the elimination of discrepancies between the Hungarian and the international price structure. It culminated with the adoption, at the second stage of the economic reform (1981), of the competitive pricing principle: the domestic price of all traded goods, whether exported or imported by Hungary, had to be determined on the basis of international (dollar) prices, multiplied by the unified exchange rate. By enforcing such a rule, the Hungarian government expected that the Hungarian economy could borrow the world price structure, as a true measure of opportunity costs, and find a short cut to the creation of a competition within the domestic economy.

In view of the low efficiency of foreign trade on the eve of the reforms, in Hungary as in other centrally planned economies, a sustained process of structural readjustment might be expected to follow from the restoration of correct (or less distorted) exchange-rate and price signals, leading to a gradual improvement in the terms of trade, to a strengthening of the external equilibrium and to further liberalization measures. In particular, the rapid reduction of the amount of subsidies, a declared goal of the authorities from the outset, could be considered as a first test for the success of reforms, implying the elimination of the most unprofitable activities as well as progress towards a more rational price structure. Instead of that, the following points were noted:

(i) 'cost plus' pricing often persisted and the Hungarian price system remained, to a large extent, autarkic (Tardos, 1987);

Contrary to other CMEA countries, before 1982 Hungary applied to Western tourists a non-commercial exchange rate less favourable than the commercial one, on the alleged ground that the relative level of Hungarian consumption prices was abnormally low in comparison to production prices.

(ii) no definite readjustment of the export structure occurred;

(iii) the terms of trade went on deteriorating during the 1970s and the 1980s;

(iv) the attempts at reducing the burden of subsidies (12,6% of GDP in 1989) were defeated again and again;

(v) the achievement of a precarious trade balance in hard currency was not enough to prevent a new increase of the debt (USD 9 billion in 1980, USD 18 billion in 1987, the service of the debt amounting to 5% of Hungarian GDP);

(vi) the regime of import licensing, the direct control of Western imports and the central allocation of foreign currency to individual enterprises conflicted with the most fundamental principles of the reforms, and the Hungarian economy in the mid-1980s was farther from any type of convertibility than it had been in the early 1970s.

Such a failure is all the more striking, as the scheme of the 1981 reform had been consistently oriented towards the creation of a competitive, open economy, and the re-establishment of external equilibrium had remained the top priority of the Hungarian authorities since the late 1970s.

The reasons are manifold, and to ascertain the significance of the Hungarian experience for other countries, it is necessary to establish how far the disappointing performance can be traced to particularly adverse circumstances, to wrong policy choices, or to more fundamental factors.

Like other importers of energy, Hungary was severely damaged by the two oil-price shocks. The policy of shielding the domestic economy from the inflationary impact of world prices by increasing subsidies, until 1980, made things worse by delaying the necessary adjustments. According to the pricing rule adopted by the CMEA in January 1975, the price rise for Soviet oil deliveries was delayed, but ultimately reached the same magnitude. Paying in transferable roubles, however, was more than ever perceived as a privilege, which was a factor of increased dependence on the Soviet Union.

The constraints resulting from intra-CMEA relations are singled out by Hungarian economists — for instance Köves $(1989 \text{ and } 1990)^5$ — as a major explanation of Hungary's

failure to reform its foreign trade structure. Instead of giving to the enterprises of the reforming country an opportunity to take advantage of the non-scarcity prices in partner countries, as might have been conceivable, the type of commercial relations prevailing within the CMEA meant in fact, for Hungary, that a whole sector of its economy had to be kept out of the decentralizing reform process. Any system of clearing - like the one between Finland and the Soviet Union - requires some degree of administrative interference to match the enterprise-level decisions with the pre-determined quotas. But the much more detailed content of the Soviet-Hungarian intergovernmental agreements implied the persistence of the centralized management inherited from the pre-1968 system of detailed plans (Richter, 1990). When unprofitable exports have to be undertaken, financial bridges - i.e. individualized subsidies adjusted to offer a proper compensation (Hare, 1990) — form the sole alternative to direct administrative orders. More often, however, central intervention is needed to control artificially profitable exports. The re-export of products with a high content of underpriced primary inputs and a low value-added has to be countered. The dollar import content of exports to the Soviet Union or other CMEA countries is also a matter for central concern. More than for any other sector, the remaining distortions in the price structure hamper any adjustment dictated by efficiency considerations, and leave room for bargaining between the centre and the enterprises. In spite of ad hoc taxes, supposed to skim off the extra profits, the existing connections benefit the large firms specialized in trade with the 'easy markets' of the CMEA, and their vested interests exert a strong (active or passive) influence against any reorientation towards Western markets.⁶

The extensive subsidization of exports to the West is quite another question. Whereas at first sight it might be taken as evidence of high priority being given to intensified relations with market economies, it should be interpreted rather as an essentially unwanted consequence of the exchange-rate policy. In 1968, the new exchange multiplier (FT 60 per dollar) massively devalued the forint (FT) in comparison to the (meaningless) official exchange rate, but the authorities shrank from the still larger devaluation that would have been necessary to provide an adequate profitability to the

⁵ Beyond the deterioration of the terms of trade (from 1970 to 1986, Hungary had 'to pay for essentially stagnating transferable rouble imports with a permanently growing volume of exports'), Köves (1990) emphasizes the deterioration in non-price conditions: tightening of quantitative limits on Soviet deliveries; increasing pressure on Hungary to develop exports of products that could be sold in the West or with a high dollar value.

⁶ All the partial, short-term, double-edged advantages of the trade with the CMEA may be charged with inhibiting the necessary adjustments. The traditionally low price of energy within the CMEA fostered an energy-wasting type of development. The fiscal revenue drawn from CMEA imports or exports makes their interruption costly for the budget.

bulk of Hungarian exports. Since the average cost of earning one dollar through exports was then about FT 72 (see Brown and Marer, 1973, and Wolf, 1980), and the marginal cost much higher, no less than three-quarters of Hungarian exports had to be subsidized or discontinued. Even more strenuous efforts to raise efficiency could not have modified such a situation within a few years. As a matter of fact, pervasive subsidies amounted to the persistence of multiple de facto exchange rates, differentiated for individual products or enterprises. The promotion of exports was also to rely on a number of specific inducements (such as privileged access to investment credits or individual tax exemptions), clearly at variance with the principles of the reform. Recurrent strains on the balance of payments led to a self-defeating policy of promoting marginal exports, almost at any cost, including high expenses for hard currency imports. So the Hungarian case after 1968 still exemplifies what Oblath (1988) calls 'the paradox of closed economies', where specific measures favouring exports are actually 'the surest sign of the unintentional dispreference of exports'. They are, in any case, poor substitutes for 'establishing an equilibrium exchange rate that provides incentives to exports across the board' (Balassa, 1990), to the benefit of the most efficient exporters, instead of selectively promoting high-cost exports.

From 1968 to the mid-1980s, the issue was not approached in terms of an equilibrium exchange rate, whatever its precise definition. The authorities were concerned, according to Nagy (1989), with retaining control of Western imports and the distribution of scarce import possibilities to individual enterprises, as 'one of the most powerful means to assert their will, to symbolize and use their power'; even if it was not a deliberate choice, such was the result. A series of revaluations of the forint against the dollar took place from 1972 to 1980, in order to check the inflationary pressures from abroad. Whereas import subisidies, intended to stabilize the price of basic products, grew, the proportion of exports needing subsidization was about the same in 1978 as a decade earlier (Brown and Tardos, in Neuburger and D'Andrea Tyson (eds), 1980). The policy of revaluation ceased in 1980; the non-commercial forint, although it was already undervalued in comparison to its purchasing power parity, was further devalued until the unification with the commercial exchange rate in 1982: but the commercial forint was not devalued, in real terms, until 1986. The case against devaluation rested on three arguments (Erdöss, 1989): (i) the inflationary impact of the devaluation; (ii) the low costsensitivity of the import decisions of Hungarian firms; (iii) the low elasticity of supply of Hungarian exports. In particular, it is self-evident that the short-term effect of the devaluation is dampened⁷ when it is accompanied by a parallel reduction of existing export subsidies. This observation, however, by no means challenges the view that the devaluation is necessary precisely to get rid of the bargaining practices and the redistributive system that hampers the long-term development of efficient exports.

The debate about the proper exchange rate, in fact, should not be disconnected from the more fundamental systemic obstacles to external equilibrium. On the import side, the rigidities inherent in administrative regulation and the recurrent shortages tended to generate an insatiable demand for hard currency imports; emergency imports of materials and parts, especially 'to fill the gaps', as Botos (1990) puts it, corresponded to 'the path of least resistance'. Hence the permanent scarcity of foreign exchange, that no adjustment of the exchange rate alone could markedly alleviate. So the allocation of import licences depended on individual administrative decisions. No firm could be sure that its needs would be satisfied in time, which in turn reinforced the deep-rooted tendencies to hoard material inputs. In such conditions, it might be too risky, even for the most efficient exporters, to develop export specializations requiring the regular availability of imported inputs (Hare, 1990). Any export to the West, as opposed to the CMEA or the domestic market, suffered an outright handicap (Nagy, 1989), since the Hungarian firm had to face buyers' markets, while getting its inputs on the domestic sellers' market. All this compounded the more general impediments to the expansion of the best performers resulting from the redistributive system: inadequate access to credit, confiscatory taxes (necessary to cover the losses of inefficient firms). The weak correlation between investments and profits, at branch level, can easily explain why the restructuring of exports was so limited.

Two conclusions can be drawn from the fact that Hungary was unable to reach convertibility or to realize any significant progress in this direction between 1968 and 1988.

(1) The rejection of devaluation, however founded in given circumstances, actually frustrates the policy of unifying the exchange rate, when it implies extensive resort to export subsidies, together with the administrative allocation of import licences. Hence the persistence of *de facto* multiple exchange rates and perennial discrepancies between the domestic and the international price structure. Far from spon-

Nevertheless, empirical evidence (the Hungarian trade balance markedly improved in 1987 and 1988, following the depreciation of the forint see Szalkei, 1990) as well as analytical argument (Wolf, 1988) converge to show that the positive effect of a devaluation should not be underrated, even in the short run and even in the conditions of the semireformed, modified centrally planned economy.

taneously decreasing, the subsidies tend to be maintained in normal times and to proliferate again under various shocks. The distortions in the price structure mean that it is not even possible to determine immediately in every case whether the subsidies are evidence of inefficient production or of inadequate pricing.

(2) Whatever the exchange rate policy, no radical transformation of external relations can occur in a semi-reformed centrally planned economy. Besides the problem of the special relations with the CMEA, the most serious obstacles on the way to convertibility (for instance, the built-in tendency to over-import) can be traced to the incomplete remonetization of the Hungarian economy. The enforcement of such a rule as competitive pricing, intended to simulate the influence of competition (Balassa, 1983), cannot function as a substitute for the re-establishment of competitive market relations within the Hungarian economy.

Similar lessons can be drawn from the pre-1989 Polish experience, which is hardly surprising, if only because the Hungarian model was a constant reference for the Polish reforms of the 1980s. As in Hungary, the dynamics of the institutional change took the form of a discontinuous process, with new reforming steps typically occurring as a response to external strains. The Polish situation, however, compared to Hungary, was and remained worse in nearly all respects: political context, magnitude of disequilibria (debt and inflation problems), inconsistency of the reform programme. The crisis of the late 1970s followed a period when policy had aimed for import-led growth without reforming the economic mechanism. The blockage and ultimate explosion of the 1980s corresponded to reforming measures largely confined to the external sector (where some innovations apparently went further than the Hungarian reform), without a radical, comprehensive reform of the national economy. Such a background makes all the more striking the fact that Poland was the first CMEA country to establish internal convertibility on 1 January 1990.

Whereas Hungary in 1968 was not very far from external equilibrium and its borrowing capacity was intact, Poland in 1982 was wrestling with an acute debt crisis — the main legacy of the preceding decade, together with the social and political crisis. Boosting hard currency exports was the top priority, first of all to pay for vital imports. The 96% nominal depreciation of the zloty (in comparison to its old official parity against the dollar) amounted to the choice of a sub-marginal exchange rate: taking into account the increase of domestic prices, which was supposed to occur once for all, it was calculated to achieve a strong real devaluation and to make about 80% of hard currency exports directly profitable, thereby allowing the extent of export subsidies to be curbed. A supplementary inducement consisted in the

right granted to exporting enterprises to repurchase 20% of their foreign exchange earnings for their import needs. Some firms were allowed to conduct direct foreign trade operations. The commercial and non-commercial exchange rates were unified (the same year as in Hungary), completing the formal abolition of the multiple exchange rate system. The crucial point, however, is that the 1982 reform package did not, and was not meant to, initiate a liberalization process. The excess demand for hard currency imports was implicitly considered beyond the reach of any indirect regulation by such instruments as prices or the exchange rate. A severe rationing of imported inputs, as well as finished goods, was instrumental in generating a slightly positive trade balance with the West; it was not enough to cover the interest payments and to stabilize, let alone to decrease, the amount of the debt, while the shortage of imported inputs played a major part in the contractionary spiral of production throughout 1982. On the other hand, the price reform, based on the principle of transaction prices (comparable to Hungary's competitive pricing) and oriented towards a realignment on world prices through a unified exchange rate, did not include the fundamental basic products, whose prices remained fixed and under-priced (significantly more so than in Hungary). This exception implies that: (a) the central allocation of basic inputs remains a necessity to check excess demand, barring any effective decentralization; (b) all cost calculations remain distorted; (c) the risk of negative valueadded exports cannot be ruled out.

Beyond the specificities of the pre-1989 Polish experience, it helps to identify various obstacles on the way to convertibility and to question the feasibility of the gradualist approach. Instead of a gradual enlargement of market elements, there were constant experiments and frequent reversals. Exporting enterprises had trouble getting the amount of foreign exchange to which they were officially entitled (Szymkievicz, 1988); the actual amount depended on individual administrative decisions to allow the repurchase of hard currency, and suffered increasing delays after 1985. In 1987, the 'retention rates' were reduced, but, by way of compensation, the authorities committed themselves to leave the enterprises free to dispose of their residual hard currency earnings, which were available on special accounts (M accounts). The root of the difficulties was a chronically inadequate export performance (in 1987-88 only, following a new balance of payments crisis in 1986 and a further depreciation of 30% in real terms of the zloty in 1987, the 1980 level of dollar exports was reached again for the first time⁸), and the stagnation of exports, in turn, was largely due to

³ The 1987 Polish experience shows that the inelasticity of exports, as in Hungary, had been somewhat exaggerated.

recurrent shortages of imported inputs. To cope with a permanent excess demand for foreign exchange, the natural tendency of the authorities was first to try a fine adjustment between the hard currency resources left to the exporting enterprises and their acknowledged import needs, through quasi-individually differentiated retention coefficients or other devices. So the decentralized financing of some imports (about one-quarter of the total value of dollar imports) tended to be no more than a variant of central allocation, and bargaining relations still dominated.

But the subsequent reversion in 1987-89 to more uniform solutions, short of a consistent move to equilibrium prices and exchange rates, was the origin of new problems. Dividing the enterprises along sectoral lines into five broad categories, with retention rights ranging from 10% (basic products) to 50% (manufactured articles) of hard currency earnings in 1989, implied abrupt discontinuities and did not reduce the degree of administrative arbitrariness. More fundamentally, the only way to reconcile the incentive function of the retention system with the pattern of import needs, was to organize some form of redistributive mechanism. The first auctions of hard currency (relating, more precisely, to the transfer of rights to purchase hard currency) took place between 1983 and 1986 at irregular intervals, and for very small amounts. Even after May 1987, when auctions were organized every fortnight under the auspices of the Bank for the Development of Exports (and other institutions, such as the PEKAO Bank for the commercial sector), the conditions for the emergence of an equilibrium exchange rate were very far from being met (Wasilewski, 1990a). The markets were segmented and extremely thin, the turnover for all industrial State enterprises (USD 73 million in 1988) representing only about 1% of the value of dollar imports, and 2% of the estimated turnover of the private grey market. The Bank did not allow the formation of partial equilibrium auction prices, which would have reached disproportionate heights: taking the persistence of excess demand as inevitable, it tried first to match individual 'reasonable' bids (leading to transactions at differentiated prices), and later to fix a pseudo-market rate calculated as a weighted average of the accepted bids, after ruling out those deemed excessive or unfounded. The efforts of the authorities to exert downward pressure were bound to fail, mostly because: (a) the central financing of priority imports left little means to supplement the inadequate supply of hard currency by firms; (b) the demand was inflated by the high liquidity position of many firms, in a situation of generalized repressed inflation and soft budget constraints. So they could not prevent a *de facto* alignment on the private market exchange rate, typically reaching about four times the official exchange rate in 1985-87. The gap still widened through 1988, under the influence of rising inflation expectations, which pushed the depreciation of the zloty well beyond the purchasing power parity relations. The full

legalization of the private (formerly black, later grey, and now free) foreign exchange market, in March 1989, had only limited effects. On the other hand, the approximate convergence of the various market rates, in spite of institutional segmentation, tended to endorse the opinion that the free market exchange rate expressed the true value of the zloty (for instance, the price of the imported consumption goods sold to the population was calculated on the basis of the free market exchange rate, instead of the official rate in the case of production goods). This opinion was to weigh heavily in the decisions of autumn 1989.

On the whole, the Polish innovations of the 1980s can hardly be considered as first steps on the way to convertibility. The 1982 reform, explicitly oriented towards the unification of the exchange rate, resulted in an extreme case of a dual exchange rate system, which directly contributed to maintaining a dislocated price system: some prices were linked with the world prices through one or another exchange rate, while the prices of basic products remained insulated by extensive subsidization.

The move to convertibility did not follow on the emergence of a realistic exchange rate or on consolidation of external equilibrium, but on the catastrophe of hyperinflation in 1988-89. Inflation had never lost its impetus since 1982, through a classic spiral of exchange rate depreciation and domestic price rises; the authorities approached the problem in terms of a trade-off between short-term price stability and the restoration of internal and external equilibria, and they were losing on both counts, as was clearly shown by the new combination of open and repressed inflation (Nuti, 1990a; Lutkowski, 1990). The major break, however, occurred after February 1988, when an abrupt attack by the government to cut real incomes through price rises was defeated by social resistance (the systemic root of the Polish inflation) strong enough to impose unprecedented wage rises. The immediate results were: (a) the irresistible acceleration of price inflation (75% in 1988, over 650% in 1989) and inflation expectations; (b) a drastic cut in the real value of zloty savings (nominal annual interest rates of 80% to 100% corresponded to strongly negative real rates); (c) a more and more pronounced dollarization of the domestic economy, made easier by the legalization of the free market; (d) a new general deterioration in real performance.

When the Solidarity-led government came to power, the balance of dangers had been decisively modified; what might be saved by a conservative policy would appear insignificant, and the risks inherent in the *status quo* disproportionate to those of a radical liberalization. So a situation of acute crisis, sapping social opposition to change, in accordance with Olson's views (see Oblath, 1988), opened the way to convertibility in Poland.

6. Lessons from the current Polish experience

The 1990 Polish experience has been characterized as a 'leap in the dark' (Frydman, Wellisz and Kolodko, 1990), since, for the first time, the transition to an open market economy was not approached as a distant goal, subordinate to the previous elimination of existing distortions, but as a direct once-for-all transformation of the economic regime; it had to result from a simultaneous liberalization of internal and external economic relations, coupled with a macroeconomic stabilization programme. To assess its significance for other socialist countries, concerning both the feasibility of a global transformation and the mistakes to be avoided, it is necessary to identify how and to what extent the state of the economy and current problems differ at the outset from one country to another. Was Poland somehow prepared for a leap to the market, and especially for the immediate establishment of convertibility, by the reform process initiated in 1982?

Compared to the countries facing the problem of a direct move from the traditional centrally planned economy to a market economy, the 'early reformers' such as Hungary, Poland and also Yugoslavia, clearly do not show an unambiguous advantage. Any country, admittedly, is a unique case; none can be identified in 1989 with the pure model of the closed, unreformed centrally planned economy, and the weakening of central planning has been accompanied everywhere since 1987 by growing disequilibria. But their magnitude is much less in Czechoslovakia than for the early reformers, especially from two points of view: (a) the pace of price inflation: 3,2% in Czechoslovakia in 1989 (including hidden inflation, according to Charemza, 1991), against 20% in Hungary, 650% in Poland and over 1 250% in Yugoslavia; (b) the debt burden: at the end of 1988, Hungary's total hard currency debt was three times that of Czechoslovakia and Poland's was five times as much (Steinherr, 1990); net interest payments in 1989 amounted to 5% of the value of dollar exports in Czechoslovakia, 20% in Hungary, 49% in Poland (Hen and Léonard, 1990). The more severe disequilibria affecting Hungary and Poland are not compensated, especially in Poland, by any significant advance on the way to structural readjustments. The openness of the Polish economy, as measured by the ratio of exports to GNP, is just comparable to that of Czechoslovakia (both far behind Hungary). The growth of Polish exports to the West, in spite of their high priority, remains much slower than in the other two countries (in 1989, the 1980 peak of dollar exports was surpassed by only 10% in Poland, as distinct from one-third in Czechoslovakia and more than 45% in Hungary). The ratio of the black-market exchange rate - or free market in Poland after its legalization in March 1989 - to the official exchange rate was about the same in Poland (4 to

7: 1) as in Czechoslovakia (4: 1, instead of 1,3: 1 in Hungary). The Czechoslovak innovations in the sphere of foreign exchange and external relations during 1988-89 advanced on several lines broadly similar to the Polish model, but at a much faster pace: the authorization given to individuals to open foreign exchange accounts (1988) was followed, during the first months of 1989, by the formal unification of the official exchange rate, the introduction of foreign exchange retention quotas for exporting firms and the organization of the first auction sales of hard currency, and a new law on joint ventures. On the other hand, the central allocation of hard currency still financed in 1989 more than 60 % of Polish imports from the West. After a decade of reforms centred on the foreign trade sector, Poland could hardly be considered to have advanced further towards marketization of its external relations.

One difference concerned the private sector. While it remained near to non-existent in Czechoslovakia, its development in various types of service activities was characteristic of the 1980s in Hungary and in Poland. In industry, however, very inadequate access to domestic and even more to imported inputs was a decisive hindrance to the formation of a private sector. The problem was most serious in Poland, where, in spite of the principle of transaction prices, the price structure remained as divorced from world prices as in Czechoslovakia, and shortages of production as well as consumption goods remained more intense and more general than in either Hungary or Czechoslovakia. Neither was the elimination of subsidies more advanced in the two modified planned economies than in the unreformed Czechoslovak economy: as mentioned above, the Hungarian experience was a failure in this respect; in Poland as in Czechoslovakia, the trend of the late 1980s was towards a further increase in the burden of subsidies (as a share of GNP or public expenditure). It is noteworthy (Gomulka, 1990) that the burst of hyperinflation during the first months of 1989 had no corrective influence on the distortions of the price structure, but the reverse, as the fixed-priced basic products such as coal, already massively under-priced, were increasingly subsidized, in a selfdefeating attempt to reduce open inflation. The growing dollarization of the Polish economy can easily be interpreted as a flight from the zloty, rather than a sign of reopening to the world economy. Far from preparing for convertibility, it remained an adverse factor, so long as confidence in the zloty was not re-established, by a radical stabilization programme.

Early reformers, Hungary and Poland alike, suffer from another handicap. A long series of frustrated attempts (some of them already presented in the past as radical reforms) have undermined the credibility of the whole reform process. The discrepancy, for instance, between the repeated announcement that subsidies will be gradually reduced (or that inefficient export activities have to be discontinued) and the subsequent evolution endangers Western support for future reforms. The main problem, however, was growing national distrust. A greater ability to conduct stabilization programmes after several experiences of the same type, improving the use of market-type instruments (as mentioned in the case of Yugoslavia by Uvalic, 1991), is probably a weak compensation for the depreciation of reforms in the public mind, as they are more and more closely associated with endless 'waves of austerity' (Koos, 1990).

The general conclusion seems to be: (a) that the two early reformers were not separated in 1989 from other centrally planned economies by a clear-cut dividing line; (b) they were confronted by several specific handicaps; (c) Poland faced the greatest number of disadvantages compared with Hungary and Czechoslovakia. The Polish liberalization programme originated in the political break of summer 1989, together with the 'abysmal state' (Lipton and Sachs, 1990) of the Polish economy following the 1989 hyperinflation. The turning point can be traced to three positive effects of unequal importance:

(i) Hyperinflation, in spite of the accelerated nominal monetary growth, resulted in a decrease in the monetary stock in real terms. The real value of the accumulated (zloty) savings was reduced to a low level in comparison to all other centrally planned economies, and the stabilization programme could focus on the restoration of the equilibrium of flows.

	Savings deposits as percentage of annual retail trade turnover	
	. 1986	1989
Poland	33	20
Hungary	48	44
Romania	60	
USSR	75	84
Czechoslovakia	78	81
Bulgaria	100	100
GDR	113	121

(ii) Western support materialized in the financing of a USD 1 billion stabilization fund, a stand-by arrangement with the BIS, a loan from the IMF and, more important, the agreement of the Paris Club creditors to reschedule virtually all the principal and interest falling due until March 1991 (Lipton and Sachs, 1990); so, for external equilibrium as well, the stock dimension of the problem was temporarily neutralized.

(iii) The crucial consequence (see above) of the 1989 events was to generate 'the social acceptance of a drastic therapy' (Kolodko, 1990) including a decline in real wages and living standards. The popular support and pressure for reform prompted the government to enforce as fast as possible a radical, once-for-all transformation programme, and may even have created a risk of overshooting, as the social resistance to most restrictive measures was initially eliminated.

The comparison with Hungarian and previous Polish experiences helps to identify the fundamental novelties of the Balcerowicz plan. While many elements of the stabilization programme were the continuation of measures already tried in similar circumstances, the de-indexation of wages was the main instrument intended to ensure the effective mopping up of excess demand; it implied also that a failure to stop inflation would further reduce real wages. However, the decisive innovation was the combining of macroeconomic stabilization with a radical liberalization programme, centred on the immediate move to internal convertibility (a key element common to the plans of Soros, Sachs and Balcerowicz — see Nuti, 1990a).

The strategy of marketization of the Polish economy identified three logically distinct phases: stabilization, liberalization, and restructuring, including the dismantling of monopolies, the privatization process, etc. The first two stages (after some preparatory measures from September to December 1989) were, in fact, combined into one package of reform measures. On the other hand, a major decision was that the liberalization programme - liberalization of price formation, liberalization of foreign exchange, liberalization of foreign trade — could not be deferred until the implementation of the restructuring programme, whatever might be the risks of a 'leap to the market' in such conditions. But it was the task of the liberalization measures to ensure that the requirements of macroeconomic stabilization would not conflict with the restructuring process (as had always been the case before). Internal convertibility — i.e. the right for any importer to purchase foreign exchange, without rationing, at the prevailing official exchange rate — was the cornerstone without which the programme could not stand, and conversely all other elements concurred to make the move to convertibility (for current account transactions of residents) immediately feasible, as the first step towards structural adjustments.

The central assumption was that the fundamental obstacle to convertibility had been the macroeconomic (monetary) disequilibrium, 'and not a structural problem related to the competitiveness of export industries' (Lipton and Sachs, 1990); in other words, to eliminate the excess demand was a necessary, but also a sufficient, condition for the establishment of convertibility, provided the exchange rate was properly chosen. At the same time, in the context of price liberalization, the convertibility of the zloty, at a fixed and uniform exchange rate, was intended to stop the inflationary spiral (acting as a nominal anchor) and to check the abuses of monopoly positions, through competitive imports. From this point of view, the move to convertibility was closely associated with the goal of an immediate, radical liberalization of imports - for which a market-clearing exchange rate is a necessary though not a sufficient condition. On the other hand, the effective unification of the exchange rate rested on the abolition of export subsidies (which maintained a differentiation of implicit exchange rates at the level of the enterprise, as mentioned above in the context of the Hungarian case). More generally, the reduction of subsidies, albeit certainly not a new component of the 1990 stabilization programme, was of special importance as a condition for eliminating repressed inflation, re-establishing the correspondence with world prices and fully liberalizing exports since the risk of negative value-added exports when the prices of basic products are heavily subsidized was one justification for export controls. Taking into account all these interdependencies was the ambition of the 1990 reform package.

The main divergences from a fully fledged liberalization were as follows:

- (a) subsidies were to be reduced (from 14% of GDP in 1989 to 6% in 1990), but not abolished;
- (b) perpetuation of some controlled or fixed prices, limiting the readjustment of the price structure (the price of coal, in spite of a five- to sevenfold rise, remained only onethird of the world price);
- (c) wage control, inhibiting the readjustment of the wage structure;
- (d) import duties (at a flat rate of 20%, with a few surcharges and exemptions) replaces quantitative restrictions.

While the first three elements are evidence that the traditional trade-off between stability (the 'brakes' in Hungary's new economic mechanism) and structural readjustment had not disappeared at a stroke, the last one exemplifies the shift to a new type of instrument, congruent with other reform measures. Now, to examine in a comparative perspective the originality of the 1990 Polish experience and its possible lessons for other countries, we will focus on the enforcement of internal convertibility, considering the exchange-rate regime, the organization of foreign exchange operations, and the chosen level of the exchange rate.

(i) A regime of a pegged exchange rate was adopted as an anti-inflationary device (see Bofinger, 1991). It was a break with the so-called 'active exchange-rate policy' applied since the 1970s in Hungary and Poland as in the other centrally



planned economies, which in fact generally tended to stabilize the effective exchange rate of the national currency (taking into account both the variations in the cost of exports in domestic currency, the movement of prices abroad and the variations of the dollar against a basket of Western currencies), with occasional real devaluations generally of small magnitude; one result had been some 'banalization' of nominal (and occasionally real) devaluations, contributing to the inflationary spiral throughout the 1980s. The Polish choice of the dollar as a peg may have been dictated by traditional circumstances (the deep-rooted habit of many households to hold dollar savings), perhaps without an adequate consideration of possible alternatives (such as the German mark or ecu) more suitable to the objective of price stabilization (Steinherr, 1990). (ii) The distinctive feature of the new organization of foreign-exchange transactions for Polish firms is a high degree of centralization, more in line with the Hungarian approach (enforcement of a unified official exchange rate) than with the pre-1989 Polish experiences (segmented foreign exchange markets, leading to the emergence of multiple exchange rates). Exporters must surrender their foreign exchange receipts to the banks at the official exchange rate within a few days. Conversely Polish firms are entitled to purchase foreign currency from the banks without restriction for their payments on current account, at the same official rate. The move to internal convertibility has put an end to the previous system of retention quotas, foreign currency accounts and foreign exchange auctions, which has lost its fundamental raison d'être. Some special arrangements exist, still, to make possible the repatriation of profits by joint ventures, and Polish firms are allowed to retain their holdings on foreign currency accounts - but not to make additional deposits (Frydman, Wellisz and Kolodko, 1990). As for individuals, the existing system of foreign currency accounts and a free foreign exchange market was maintained. A divergence between the market exchange rate and the official exchange rate was to be interpreted as a sign of strain. The principle of a unified exchange rate, however, was preserved since the possibility to sell hard currency to the banks at the official rate precluded the appreciation of the zloty, and any depreciation of more than 10% was to elicit the intervention of the banking authorities through the sale of hard currency reserves on the free market or a modification of interest differentials on zloty and hard currency deposits.

(iii) Determining the new exchange rate level was the crucial point. Taking as an upper limit the market exchange rate and as a lower limit the official exchange rate left a wide gap, since in September 1989 the ratio between the former (ZL 9 700 per dollar) and the latter (ZL 1 400 per dollar) reached a maximum (7:1). In real terms, the zloty at the official exchange rate had been approximately stabilized from 1987 to September 1989, after a strong depreciation through 1986-87 (-35%), whereas the market rate collapsed in 1988-89, under the influence of inflation expectations. Once the move to convertibility was decided, a further devaluation of the official exchange rate was inevitable, to make way for the abolition of export subsidies and to allow an effective liberalization of imports, while preserving general protection for 'moderately inefficient' domestic activities; moreover, the commitment to maintain for at least three months the new fixed exchange rate meant that the foreseeable impact of the price liberalization and of the devaluation itself had to be fully taken into account, with some safety margin. On the other hand, it is difficult to imagine circumstances where the market exchange rate could have been further from an equilibrium rate than in Poland



during the hyperinflation of 1989. Nevertheless, the new exchange rate (ZL 9 500 per dollar) was fixed on 1 January 1990 very near the September maximum market rate. It implied either a real depreciation of unprecedented magnitude, if the price rise was checked according to schedule, or a further impulse to inflation, pushing the reduction in deindexed real wages well beyond what had been anticipated. As an immediate result, the dollar value of the Polish average monthly wage was cut to USD 65 in January 1990.

Poland's economic performance in 1990 depended on many other factors than the exchange-rate policy, and a global assessment would be out of place here. The short-term behaviour of the foreign trade sector, however, shows that the move from a regime of extended controls and specific inducements to export to one of convertibility and liberalization could take place without disruptive effects. Three positive developments may be stressed :

(a) The evolution of the trade balance was more favourable than expected. The recovery of exports partly compensated for the decline in domestic demand, and some restructuring has begun (for instance, away from steel exports, under the influence of the higher cost of energy). The moderate level of imports merely reflects, for the most part, the recession, but to some extent it may be ascribed also to the end of a situation of generalized shortages (which imposed high-cost emergency imports) and to the substitution of domestic for imported inputs under the influence of relative prices.

(b) The new fixed exchange rate has held up, in spite of price increases initially higher than foreseen (especially in January and February). It was validated by the evolution of the market exchange rate, which generally oscillated about 3% above the official rate (except during brief periods of strain, as at the end of the first three months, in March 1990) and did not require the intervention of the central authorities. As the balance of payments remained in surplus, the substantial reserves of the National Bank of Poland especially the USD 1 billion stabilization fund — did not have to be tapped (anyhow, even larger reserve funds would have been useless to maintain convertibility in the case of a protracted deficit; on the other hand, the rescheduling of the debt was a major help). The possibility of a revaluation of the zloty seems to have been contemplated in June 1990 (Wasilewski, 1990b), and, in any case, it was strong enough to allow a further liberalization of imports.

(c) The move to convertibility reversed the previous trend to dollarization. The importance of US dollar assets owned by residents (in Poland) is often mentioned as a specific factor favouring the convertibility of the zloty. Many firms, put in a difficult situation by the restrictive monetary policy, did surrender to the banks a significant part of their dollar holdings, which helped to increase the official reserves, although households were more reluctant to do so. Anyway, such a once-for-all transfer would be quite inadequate to defend the convertibility if the zloty if there was a persistent deficit. More particularly, it should be stressed that convertibility, often loosely associated with the idea of dollarization (specially in the Soviet context), points in fact in the opposite direction. Domestic payments have to be made in zloty; the former hard currency shops must accept only zloty payments from 1991 (Szymkiewicz, 1990). While real interest rates on zloty accounts were negative during several months, the policy of interest differentials made the holding of dollars much more disadvantageous than the holding of zlotys. The real domestic value of dollar savings, with a fixed exchange rate and the still rapid pace of inflation, was substantially eroded; at the same time, the dollar value of zloty savings was higher than it had been for a decade (at the market exchange rate). Such a reversal of previous trends, if it is not cancelled by an abrupt devaluation, should gradually restore confidence in the zloty, meaning eventually the end of dollarization.

It does not, therefore, seem exaggerated to conclude that the internal convertibility of the zloty has created 'an entirely new situation', confirming 'the utmost psychological importance of a stable, uniform exchange rate' (Kolodko, 1990)

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and making possible at a stroke an exceptional advance towards full external liberalization.

Leaving aside all other limitations or negative aspects of the Polish experience, the level of the exchange rate (ZL 9 500 per dollar) may be considerered a weak point of the plan adopted in autumn 1989. The subsequent evolution calls into question the view that the auction sales or the market exchange rate offered a proper basis for fixing the new exchange rate (Gomulka, 1990): the quasi-alignment of the nominal official exchange rate on the (peak September) market exchange rate was followed throughout 1990 by violent movements of the real exchange rate. After the huge depreciation of January 1990 (in the proportion 2,5:1), and eight months of sustained appreciation (resulting from the combination of continuing inflation and a fixed nominal exchange rate), the real exchange rate regained at the end of August 1989 the level of the real official exchange rate of about 1986 (that is a sizeable appreciation compared with the 1986 market exchange rate). In so far as the export performance of the second half-year was not affected, this clearly suggests that the devaluation in January 1990 was unnecessarily large. The rise in exports during the first months of the year were no greater than could have resulted from a smaller devaluation. At the same time, the devaluation certainly contributed to higher than expected inflation, both in January (80% in one month instead of 45%) and later (at mid-year, the pace of inflation was still near 100% at an annual rate),⁹ and, by the same token, the repudiation of full indexation meant that the projected large cut in real wages was still exceeded. As the monetary overhang had already been greatly reduced at the end of 1989, the high level of inflation could hardly be justified in terms of stock equilibrium, and it had an adverse effect on the remodelling of the price structure (Kolodko, 1990), since the fixed-price basic products were lagging once more. While the overdevaluation of the zloty in January 1990 had no lasting effect on the real exchange rate, its macroeconomic consequences were ultimately restrictive and compounded with those of excessively tight wage and monetary policies.

A tentative assessment of the opening of the Polish economy might be that the fundamental conception turned out to be coherent enough to offer a model for other countries determined to enforce internal convertibility without delay; on the other hand, specific provisions, such as choosing the dollar as a peg, and some general tendency to overshooting created additional difficulties that could have been avoided.

⁹ The decision to peg to the dollar (which tended to depreciate in 1990), and the impact of the recession on average costs also had an inflationary influence. The erosion of savings by inflation was, in turn, one more hindrance to the privatization process.

If one accepts the argument developed above, Poland was hardly prepared to introduce convertibility by its earlier attempts at creating market structures, but rather 'pushed' to accelerating radical reforms by untenable disequilibria. This would imply that other East and Central European countries are in a position to follow the same path at a much faster pace (without the long stage of preliminary experimental measures that Poland underwent through the 1980s) and possibly at a lower cost and with fewer risks.

The Czechoslovak scheme of economic transformation, elaborated in 1990 and applied since 1 January 1991, shows striking similarities with the Polish experience. In a comparative perspective, three main questions may be raised. Does the Czechoslovak project derive from the same approach as in Poland, concerning especially the role of convertibility and its place in the sequencing of reforms? How does the specific Czechoslovak context differ from the circumstances that prevailed in Poland one year earlier? And what distinctive features of the Czechoslovak blueprint, compared to the Polish model, can be traced either to a specific background or to lessons drawn from the Polish experience itself?

Clearly, the current Czechoslovak experience exemplifies the same break as in Poland with the earlier half-hearted approach of the economic reforms in 1987-89. 'The belief that direct tasks and limits have to be kept so long as imbalances and disequilibria exist in the economy, and they can be dispensed with only after the restoration of an equilibrium', as if the cure had to depend on 'the same medicine which has harmed the patient' for so many years (Levcik, in Gabrisch (ed.), 1989), is now rejected without any ambiguity. Already in October 1989 the move to convertibility was declared to be essential to the transformation process, but apparently it remained a distant goal. The programme adopted in summer 1990, however, included the enforcement of convertibility (for current-account transactions of resident firms) from the beginning of 1991 as a key element of the initial reform package. The option of a shock therapy, which was carefully distinguished from the naïve belief that all problems could be solved at a stroke, required the simultaneous liberalization of price formation, foreign trade and access to foreign exchange. The last, however, was not associated wih the establishment of foreign exchange markets; exactly as in Poland, firms have to surrender to the banks 100% of their export proceeds, instead of 30%. Here is probably the most significant evidence of a break with the previous gradualist approach (the ultimate convergence of the official and market exchange rates was supposed to result from a gradual enlargement of the retention rights of enterprises on their foreign exchange earnings). The entire system of retention quotas should now become useless, as Czechoslovak firms are entitled to obtain the necessary foreign exchange, at a uniform exchange rate. These arrangements are meant to prevent the dollarization of the domestic economy, while 'importing rational price ratios' (Hrnčíř and Klacek, 1991) — a central objective of the move to convertibility, in Czechoslovakia as in Poland. On the other hand, to make convertibility sustainable, the necessity of macroeconomic stabilization measures is stressed, not only as a precondition, but as a permanent requirement throughout the transformation process.

The healthier financial situation and the lower dollar debt burden of Czechoslovakia, compared to Poland, Hungary and Bulgaria, entail one definite advantage: further borrowing from the West may be contemplated without endangering external equilibrium in the future, and convertibility can be sustained with a deficit on the current account for some years. But the situation of the late reformer should not be viewed as more favourable across the board. The comparatively low share of foreign trade with the West during the 1980s (35% in 1989, instead of 50% as in Hungary or Poland) suggests that the short-term costs of the commercial reorientation towards market economies might be heavier for Czechoslovakia than for any other country); the decline in Soviet oil deliveries, paid for in transferable roubles, stands out as the single most serious issue in the present circumstances. Neither should the low rate of open inflation up to 1989 be taken as clear evidence of lesser domestic inflationary pressures. The introduction of a Polish-type system of retention quotas and hard currency auction sales had given rise to more or less similar developments as in Poland. At the first auctions, the dollar reached impressively high rates (CSK 125 in August 1989, 134 in November, that is nine times the official exchange rate, and twice the black-market rate). The subsequent decrease (CSK 96 per dollar in January 1990, 65 in April, 40 in June), when the supply of hard currency was somewhat enlarged, proved once more that the volatility of auction rates makes them very questionable guides to ascertain the true value of a currency. Anyway, it stopped short of the desired convergence with the official exchange rate. The evolution of 1990 hardly prepared the way for a unified exchange rate. In January, a limited devaluation of the official (commercial) exchange rate (from CSK 15 to 17 per dollar) was accompanied by the creation of a sizeably devalued tourist rate (CSK 38 per dollar). In July, Czechoslovak citizens, who since 1988 had been allowed to hold hard currency accounts, received the right to participate in the auction sales. In October, the US dollar was again auctioned for CSK 54 (against CSK 40 in June). The amount of private hard currency savings sharply increased throughout 1990, although the dollarization process was far from reaching the same magnitude as in Poland.¹⁰ On the other hand, the devaluation, originally scheduled for 1 January 1991, had to be advanced to 15 October, since the devaluation expectations prompted Czechoslovak enterprises to speed up their imports, to slow down their exports and to build up inventories; the inflationary process was already gathering momentum when a second devaluation occurred on 28 December 1990. The conclusion seems to be that: (a) even with a strong political will to advance as quickly as possible, the period preceding the implementation of the reform package is a critical one; (b) any relaxation of central controls at this stage is likely to have disruptive effects; (c) the task of checking the destabilizing influence of the transformation process, as in Czechoslovakia, is not necessarily easier than coping with hyperinflation, as in Poland or Yugoslavia.

Some distinctive features of the Czechoslovak programme might be explained by the fact that it is not taking place in the same context of emergency. On the one hand, compared to the Balcerowicz plan, it looks more conservative in several respects. The anti-inflationary function of price controls and price subsidies is not altogether repudiated. The liberalization of prices will probably be subject to more extended exceptions than in Poland (for instance maximum prices for basic food products, which often play exactly the same role, in an inflationary context, as fixed prices). The overall consolidation of subsidies in 1990 (17% of the net material product, as in 1989, according to Hrnčíř and Klacek, 1991) contrasted with their sharp reduction in Poland (from 14 to 6% of GDP), and the further reductions announced for 1991 (by slightly more than one-tenth, amounting to 0,7% of NMP, and affecting subsidies to State enterprises, agricultural cooperatives and local budgets) do not look particularly impressive. The new exchange rate has not been invested with the same function of nominal anchor as in Poland. The Czechoslovak authorities did not commit themselves to maintain it for a definite length of time. It will not have to stand the test of a legal free-market (for individual citizens) exchange rate. At the same time, the choice of pegging to a basket of five currencies, which is meant to smooth the effects of the specific fluctuations of the dollar, implies that minor variations of the koruna-dollar exchange rate will be an everyday occurrence.

¹⁰ According to the data given by Hrnčíř and Klacek (1991), the value in koruna of foreign currency deposits of Czechoslovak households increased four-fold between 31 December 1989 and 31 October 1990; but, at the latter date, it amounted to only 2,5% of their monetary and quasi-monetary holdings, or about USD 300 million. Lutkovski (1990) gives a figure of USD 3,5 billion for the official dollar accounts of Polish households, and about the same amount of hoarded banknotes (more than half of their total savings at the end of 1989).

From another point of view, the Czechoslovak programme is intended to be more comprehensive, perhaps owing to the lessons of the Polish experience. The initiation of policies aimed at restructuring the economy (by dismantling monopolies, securing free entry, starting at least minor privatizations) is deemed necessary from the outset; the first steps are included in the initial reform package, together with the stabilizing and liberalizing measures in accordance with the shock therapy approach. The importance of the supply response is stressed, as a key element not only for the ultimate success of the transformation, but also for the decisive first year. A stronger supply response than in Poland should minimize the costs of adjustment. Conversely, less restrictive policies could create a more favourable environment for the emergence of new economic behaviour; for instance, the arrangements concerning the partial de-indexation of wages (see Hrnčíř and Klacek, 1991) have been designed so as to dampen the contractionary effects,¹¹ especially if the estimated inflation should be exceeded as it was in Poland.

The concern of the Czechoslovak government to avoid the same overshooting as in Poland makes all the more puzzling one major similarity: the huge rate of devaluation, both in nominal and in real terms. The fact that, as late as summer 1990, the Czechoslovak authorities were still weighing the pros and cons of alternative rates of devaluation ranging from 30 to 100% (from CSK 20 to 30 per dollar) is sufficient evidence of the persisting uncertainties in this crucial matter. The rate of CSK 28 per dollar chosen in December 1990 is not far from the upper limit (whereas the purchasing power parity might be about CSK 6,3 per dollar according to Vanous, quoted by Charemza, 1991). From December 1989 to December 1990, following the three devaluations which occurred in January, October and December, the koruna lost about 46% of its value in nominal terms vis-à-vis the dollar (and still more vis-à-vis the reference basket of currencies). The total depreciation vis-à-vis the dollar, at the end of 1990, reached about the same magnitude, in real though not of course in nominal terms, as in Poland on 1 January 1990. The last devaluation pushed down the dollar value of the Czechoslovak average wage in December to USD 120 to 130 per month (USD 90 in Poland in June 1990). Even though the government did not take the devaluation to an outright alignment with the market or auction rate, the disequilibria of the transition period and the lack of a prior stabilization probably weighed heavily in the final decision. The large devaluation is intended to maintain adequate protection for (moderately) inefficient Czechoslovak firms,

¹¹ The average level of real wages fell by 45% in Poland in January 1990; it was not to be allowed to fall by more than 12% in Czechoslovakia during the first quarter of 1991, whatever the inflation rate.

and it seems to include a safety margin allowing for an inflation rate higher than officially expected. It is questionable whether such an approach can actually minimize the risks of the transition. The lessons of the Polish experience concerning the danger of an over-devaluation, inflationary and contractionary at the same time, apparently were not taken into account; but perhaps the circumstances of autumn 1990 when there was severe pressure on foreign exchange reserves left hardly any choice.

The quite different approach still prevailing in Hungary may be explained by the progress already achieved towards reopening the Hungarian economy. In so far as a unified exchange rate has been applied, in principle, for 15 years, the distance between the Hungarian price structure and world prices has been somewhat reduced. So the move to convertibility is not regarded as a separate issue from further progress towards an open economy - which means new endeavours to reduce the weight of subsidies (the reduction contemplated for 1988-92 was of about the same relative magnitude as in Poland from 1989 to 1990), a gradual but fast freeing of imports (the share of imports no longer subject to licensing may be a misleading indicator, as licensing corresponded to a wide range of different situations, from restrictive controls to semi-automaticity), and new rights granted to commercial banks concerning the financing of convertible currency transactions and operations on Western markets. Owing to the more balanced situation of the Hungarian economy, the rescheduling of the debt (which in Poland was a major factor in making the zloty convertible) has been ruled out; to compensate, a growing influx of foreign capital should accompany the consolidation of the domestic economy (rather than result from ad hoc measures). In this gradual move to a more convertible forint, convertibility for private individuals seems to lag behind. It may be worth recalling that convertibility should be viewed not only as a means of restructuring the economy but also as an end in itself or, according to Kornai, 'an unconditional legal right of citizens'.

7. Summary

All the East and Central European countries now regard reopening to the West, closely associated with restoring the convertibility of their currencies, as a key condition for their transformation into market economies.

Convertibility for current-account transactions of residents (internal convertibility), rather than financial (external) convertibility, is the crucial issue for the initiation of the transformation process, since it conditions the restoration of rational prices, congruent with world prices, and the eventual emergence of new comparative advantages.

For this reason, internal convertibility, implying the enforcement of a unified exchange rate, should be introduced as early as possible into the minimum initial package of reforming measures.

The gradualist approach has resulted in various types of partial measures, which are supposed to prepare for the ultimate move to convertibility, but more often than not hamper any further advance. Most of them go counter to the central requirement of a unified exchange rate. The Hungarian experience may be considered a qualified exception, but the advance towards a more open economy was most uncertain and interrupted by repeated setbacks. On the other hand, the pre-1989 Polish experience best exemplifies the disruptive effects of a partial decentralization with wrong price signals; the catastrophe of hyperinflation, and not the gradual development of market structures, opened the way to the decisive break of 1989-90.

The feasibility of an early move to convertibility, however desirable, could be questioned a priori. The recent Polish experience has shown that there is a path from a highly unbalanced economy to the immediate enforcement of convertibility. The assessment should not consist in accepting or rejecting the Polish model; the question is rather to determine how far it was influenced by the specific Polish context and how far it could be adapted to make the transition less costly for other countries. It is argued here that some specific features ('overshooting', following a situation of extreme macroeconomic disequilibria) are not inherent in the concept of a radical transition.

The option of a pegged exchange rate implies that determining the proper level of the exchange rate is the single most formidable problem. The wide uncertainty in this respect contrasts with the fine adjustment of parities between West European currencies. While the establishment of marketclearing exchange rates obviously requires strong deviations from purchasing power parity, any attempt at minimizing the risks of the transition by over-devaluation, intended to secure some safety margin, would be frustrated. On the other hand, a gradual convergence of exchange rates towards purchasing power parity would testify to the success of the restructuring process.

Commercial convertibility should be considered as a means to restructuring the economy. Convertibility for individuals is an end in itself. A rapid advance in this direction would be symbolic and one of the few early dividends of the transformation process.

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Options for the payments and exchange-rate system in Eastern Europe

Peter Bofinger

Landeszentralbank in Baden-Württemberg, Stuttgart, Germany

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1. Introduction

The European and international integration of East European economies poses difficult conceptual and analytical problems. After decades of almost complete economic isolation it is not possible to build on existing institutional structures, and the widespread domestic distortions make it almost impossible to apply the analytical tools of integration theory which have been developed for market economies. Therefore, it is not surprising that rather divergent policy recommendations have been put forward in recent months. Adherents of heterodox approaches (Lipton and Sachs, 1990) favour the introduction of current-account convertibility at a very early stage of the transformation process. In gradualist approaches (Levcik, 1991; Daviddi and Espa, 1989) the abolition of capital controls is assigned to the latter stages of the sequencing of reforms, and a payments union is called for as an intermediate solution (Van Brabant, 1991). A general shortcoming of the debate is that most proposals are not analysed in the wider framework of a comprehensive exchange-rate regime for East European countries.

The paper will start with a general discussion of the role of convertibility in the transformation process (Section 2). In order to identify the position of the transition to convertibility in the sequencing of reforms, it analyses the contribution of a convertible currency to the achievement of reforms in the real sector. This also necessitates elaborating the macro- and microeconomic conditions that have to be met in the economy in order to make the introduction of convertibility sustainable. After this general section, the following parts of the paper discuss different institutional options for implementing a convertible currency. The main criterion for an evaluation of these approaches is their contribution to real-sector reform and the credibility and efficiency of monetary and exchange-rate policy. Section 3 presents the solution of perfectly flexible exchange rates (within Eastern Europe and vis-à-vis the outside world). This option shows that the problems which can be associated with an early transition to convertibility will be either exchange rate or exchange reserve problems.

For fixed-rate solutions two different general approaches will be presented. A gradualist variant (Section 4) would limit the introduction of convertibility to a (sub)group of East European countries, while maintaining strict exchange controls for transactions with the rest of the world. The appropriate institutional arrangement for this option is a multilateral payments union. The main question is whether convertibility (and trade liberalization) of a rather limited scope would provide the necessary foreign impact on realsector reform. The third general option is a fixed-rate arrangement with unrestricted current-account convertibility (Section 5). This is more or less the approach which has been adopted by Poland, Yugoslavia and Czechoslovakia. This section analyses the conceptual decisions that have to be taken if this strategy is adopted:

- (i) absolutely fixed rates or an adjustable peg,
- (ii) choice of the anchor currency, and
- (iii) determination of an initial parity.

In Section 6 alternative arrangements for implementing a fixed-rate strategy are presented and discussed. They include the 'Austrian approach', membership in the European Monetary System (EMS), a currency board model, membership in a European monetary union, and a 'franchise currency system', which is managed by an international institution. Membership in an EMU and the franchise currency system would both offer a non-inflationary monetary framework for Eastern Europe by exerting stringent financial constraints at all levels of the domestic economy and making the exchangerate commitment as credible as possible.

2. The role of current-account convertibility

The paper focuses on current-account convertibility as it is defined in the IMF's Articles of Agreement.¹ This limited concept of convertibility was adopted by the majority of West European governments almost throughout the whole period in which their currencies were convertible. An early transition to capital-account convertibility could create serious confidence problems without contributing very much to the objectives of economic reform, at least as long as current-account convertibility guarantees the freedom to remit profits (Portes, 1991).

In any strategy of real-sector reform current-account convertibility is an indispensable element for the following reasons:

1. Only a convertible currency in combination with free trade will provide an undistorted price structure. An early transition to convertibility is required in order to have the right price signals from the very beginning of the adjustment process and to avoid costly detours.

Article VIII, Section 2(a): "... no member shall, without the approval of the Fund, impose restrictions on the making of payments and transfers for current international transactions".

2. Only foreign competition will rapidly increase the degree of competition in the relatively small and highly monopolized markets in East European countries. Both objectives can hardly be realized by domestic reforms alone: demonopolization and privatization will, even in Poland, take many years (Rosati, 1990). However, the whole exercise might be unnecessary or even counterproductive if national markets are rapidly opened. With full convertibility the size of national enterprises might be appropriate, and in some cases even too small if they have to compete with multinational firms, which have already achieved substantial economies of scale in highly integrated markets.

3. Only in an open and competitive environment will it be possible for the government to assess the competitiveness of individual enterprises and to apply 'hard budget constraints'. This function of convertibility is crucial for the transformation process, as one has to expect that a large part of the enterprise sector will remain State-owned for the time being and that the government will have to play a decisive role in the process of restructuring. Seen from this perspective also privatization and foreign direct investment will be facilitated after the establishment of convertibility, because it substantially increases the information which is available for private and foreign investors. Thus, convertibility can not only serve as a temporary substitute for privatization, it can also speed up the process of creating property rights.

4. Only the introduction of convertibility for foreigners will prevent or at least slow down the process of economic disintegration now under way in the former CMEA trading block, which imposes an additional and possibly unnecessary adjustment of the production structures in Eastern Europe. Since the transition to world market prices on 1 January 1991 there is a strong disincentive for each country to export to another East European country: the export receipts cannot be used for buying products in other countries, unless payment is actually made in convertible currency. Thus, a progressive decline in CMEA trade is to be expected if currencies remain inconvertible.

5. The microeconomic advantages of convertibility have their counterpart in the macroeconomic sphere. The integration of national goods markets with the world market creates a strong price link to foreign economies which allows an exchange rate pegged to a stable foreign currency to be used as the main 'nominal anchor' of the transformation process.

All these functions of convertibility show that it would be useful to have a convertible currency at a very early stage of the transformation process. The question is, however, which preconditions have to be fulfilled in order to maintain convertibility over time. While the merits of convertibility are widely acknowledged, the nature of the problems that are associated with an opening of national markets to the world market is a more controversial issue. Proponents of gradualist approaches treat convertibility problems as an exogenous factor in the transformation process (Van Brabant, 1991) and regard them as a constraint for reform policies and the speed of transition. An opposite view takes convertibility problems largely as endogenously determined by domestic macroeconomic policies and the specific transformation strategy. To assess both arguments, two types of convertibility problems have to be analysed in more detail.

2.1. Macroeconomic convertibility problems

At the macroeconomic level, convertibility problems are normally identified with unsustainable current-account deficits — deficits which are not financed by private capital flows. This was the main argument on which the European Payments Union was based: European countries expected large balance-of-payments disequilibria with the 'dollar/ area' (Kaplan and Schleiminger, 1989). The question is how such deficits can arise at all. This leads to some trivial identities:

Total wealth (W_i) of an individual equals his or her real assets (RA_i) and his or her net financial wealth (NFW_i) :

$$W_i = RA_i + NFW_i \tag{1}$$

Equation (2) gives the first differences of Equation (1):

$$\Delta W_i = \Delta R A_i + \Delta N F W_i \tag{2}$$

Adding up this wealth equation for all individuals of an economy we get:

$$\sum_{i}^{n} \Delta W_{i} = \sum_{i}^{n} \Delta RA_{i}^{n} + \sum_{i}^{n} \Delta NFW_{i}$$
(3)

In the aggregation claims and liabilities of domestic residents cancel, so that the sum of NFW_i includes only claims and liabilities of residents with non-residents. It is thus identical with the current-account balance (CA):

$$CA = \sum_{i}^{n} \Delta NFWi$$
(4)

This shows that a country's current-account deficit must have its counterpart in individual current-account deficits of the country's residents. If every agent is obliged to finance his or her individual current-account deficits at market conditions, the aggregate current-account deficits will be also financed by private capital flows. Therefore, an 'unsustainable' current-account deficit (which is not financed by private capital flows) must be identical with private deficits, which are not financed by foreign creditors. How can such deficits arise at all? In the first instance, they require financing by the national central bank. As a result of its lending especially to the government or to the domestic banking system the central bank gets a portfolio of 'soft' loans, which it cannot use as collateral for its own borrowing requirements on international markets. This will become necessary, because the central bank lending will imply excessive private or public expenditures for imported goods. Seen from this perspective, which is identical with the monetary approach to the balance of payments, macroeconomic convertibility problems are not exogenous, but depend to a very large extent on the stance of national monetary policy. Therefore, the most important precondition for any transition to convertibility is a sufficient control of the central bank over the asset side of its balance sheet (credits to the government and to the national banking system). Such a stable monetary framework is also required to keep inflation and the concomitant real costs low (Bofinger, 1990).

With this monetary approach to convertibility it becomes clear also that not only flow disequilibria (see Lipton and Sachs, 1990) but also a stock disequilibrium in the form of a monetary overhang will become a serious risk if a currency is made convertible: savings accounts obtain unlimited purchasing power, while the corresponding bank assets (enterprise credits) are more or less worthless. This incongruity will temporarily lead to unsustainable current-account deficits. Thus, in countries with sizeable savings overhangs a currency reform has to precede the establishment of convertibility. An alternative approach was adopted by Poland and Yugoslavia, which decreased the real value of savings by a hyperinflation before they abolished convertibility restrictions. Even if this option meets less political resistance than would an outright reduction of the real value of savings by a currency reform, it has high economic costs. The emergence of hyperinflation reduces the credibility of the central bank substantially, which makes the real costs of the ensuing disinflation process very high.

The problem of a savings overhang leads to a third precondition for the introduction of current-account convertibility: a currency has to be made completely convertible in domestic goods markets before it is made convertible in other currencies. Without commodity convertibility domestic rationing schemes could be easily circumvented by importing foreign goods. This would not only cause an additional distortion of the allocation process, it would again result in unsustainable current-account deficits.² Of course, the balance of payments matters only if a country has a fixed-rate system with its main trading partners. If the exchange rate is freely flexible, an inflationary monetary policy, a savings overhang or domestic inconvertibility could not have repercussions on the central bank's foreign reserves. Instead they would lead to a devaluation of the domestic currency. In this framework the convertibility problem manifests itself not as a balance of payments problem but as an exchange-rate problem. In the following section the option of flexible rates is analysed in more detail.

2.2. Microeconomic convertibility problems

At the microeconomic level, convertibility restrictions (which are equivalent to very far-reaching quantitative import restrictions) could be necessary for the protection of domestic enterprises during a transition phase. However, a similar effect could be achieved by an undervaluation of the national currency. This strategy would have the advantage that it removes the distortions of the domestic price structure, which would be maintained under the protective shield of convertibility restrictions. In addition, a strategy of undervaluation would convey to governments the necessary information on individual firms' relative competitiveness, which could not be obtained under non-convertibility.

From the point of view of political economy, a devaluation is superior to tariffs. While the protective effect of the devaluation levels out, once producers adjust their prices to world market prices, a tariff reduction — even if it is announced ex ante — will always be met by strong pressure from domestic interest groups. The only advantage of tariffs over a devaluation is that they allow protection of specific sectors.

An important argument against 'protection by undervaluation' has been put forward by Ronald McKinnon (1991). He argues that many enterprises in Eastern Europe generate a negative value-added if their material imports (above all, energy) and their outputs are valued at world market prices (see also Hughes and Hare, in this volume). Consequently, a devaluation — which affects material inputs and outputs in the same way — is not suited to protect domestic producers. Therefore, McKinnon recommends a strategy of cascading tariffs in order to cushion the enterprise sector during an adjustment period. The main problem with this approach is whether firms which generate a negative value-added under present production patterns will be able to adjust within a reasonable time-span to a competitive production structure. If this is not the case, it would be better to close such enterprises instead of keeping them alive with tariffs. A specific disadvantage of introducing tariffs is that the government does not know which of the State-owned

² Adherents of parallel currency approaches in the Soviet Union try to circumvent this requirement by introducing a parallel currency. See Kazmin and Tsimailo (1991).

enterprises are really competitive under world market conditions.

In sum, East European countries are confronted with the difficult situation that convertibility is an important element in the process of transition but requires at the same time substantial domestic reform efforts if it is not to be jeop-ardized by unsustainable current-account deficits. The ideal solution would be a simultaneous approach. From the monetary side this would require above all that strict control of domestic credit expansion can be applied and that the exchange rate, which is required to safeguard the competitiveness of enterprises, is credible for enterprises and trade unions. Soft budget constraints would have to be abolished. If the government were able and willing to play its part, such a financial control over the enterprise sector would be facilitated by convertibility, even if most firms remained State-owned.

3. Flexible exchange rates

3.1. Complete flexibility

The limited amount of national foreign exchange reserves and the tight limits of the borrowing potential of East European countries on international markets pose a very stringent external constraint which has to be observed as soon as convertibility is introduced under the conditions of a fixed-rate regime. With flexible rates this balance of payments constraint is absent. The question is, therefore, whether a system of flexible rates should be adopted after the transition to convertibility. To some extent the Polish stabilization programme followed this strategy when it introduced a flexible rate for foreign transactions of private households.³

3.1.1. Inadequate preconditions for flexible rates

An important argument against this approach can be derived from the literature on exchange-rate regimes for developing countries. In this literature⁴ it is widely acknowledged that no country was able to let its currency successfully float for

a prolonged period of time. This result arises because the buffer role, which in a fixed-rate system is provided by the central bank's foreign-exchange reserves, has to be played by private short-term capital flows in a flexible-rate system. When financial markets are poorly developed, temporary (for instance, seasonal) balance-of-payments disturbances already can lead to high exchange-rate volatility. In addition, because of the many political and economic uncertainties, one would have to expect a flexible exchange rate for an East European currency to lead to even more serious misalignments than those which could be observed in the 1980s. While there is agreement that volatility has had no major impact on trade relations in the group of OECD countries, the lack of hedging facilities (forward markets, markets for short-term financing) in Eastern Europe could lead to significantly more negative trade effects. The hedging requirements of a flexible-rate system also show that this arrangement has to be combined with more than currentaccount convertibility. Authorities would have to allow short-term capital movements for the purpose of hedging open foreign-exchange positions. However, this increases the potential for speculative capital movements which can intensify the volatility of the spot rate, especially if political conditions remain unstable for the time being. Further sources of exchange rate instability (in the direction of depreciation) are monetary overhangs, which are not sterilized by a currency reform, insufficient control by the central bank over domestic credit expansion, and continuing, albeit partial, domestic inconvertibility of East European currencies.

Exchange-rate instability has several negative implications for the transformation process. Although it does not affect the price structure of tradable goods, it permanently shifts the relative price of tradables in terms of non-tradables. This impairs the required restructuring of production patterns in Eastern Europe as it blurs the 'permanent' relative price between tradables and non-tradables. The literature on optimum currency areas (McKinnon, 1963) provides another important argument against flexible rates for East European currencies: in a small economy, variations in a flexible rate lead to relatively large fluctuations in the overall price level. Because the central bank can control only the price of domestically produced goods, the larger the size of the tradables sector, the more directly are variations in a flexible rate transmitted in the form of fluctuations in the price level. This instability of the price level reduces the store of value and the standard of value functions of the domestic currency; in the case of a very strong depreciation, even the means of exchange function can be impaired. Because all East European economies are relatively small - Poland being a possible exception — and because the money functions of their national currencies are already now more or less eroded, they do not seem to constitute optimum currency areas.

³ As Lipton and Sachs (1990) show, the flexible exchange rate for households is flexible only in the downward direction. An appreciation of the domestic currency is prevented by the right of the banks which are entrusted with this exchange (Kantor banks) to sell foreign exchange at a fixed rate to the central bank.

⁴ See Wickham (1985) and Collier and Joshi (1989).

3.1.2. Limits of domestic nominal anchors

A further argument against flexible exchange rates can be made in the context of monetary policy, which has to play a pivotal role after the transition to convertibility. If the exchange rate is left to the markets, it cannot be used as a nominal anchor for the transformation process. Therefore, the central bank has to find a reliable domestic intermediate target for its monetary policy. Under the specific conditions of economic transition this is not an easy task.

For a policy of targeting a quantitative monetary aggregate (monetary base, domestic credit or M1/M2/M3) stable longterm trends in the velocity of money and in potential output are needed, which is not the case in Eastern Europe. It is obvious that the process of economic transition is accompanied by large structural breaks in all relevant time series. Difficult diagnostic problems are also caused by the strong 'dollarization' of Eastern Europe. The example of Poland (and many countries in Latin America) shows that the disinflation process can lead to a sizeable switching from foreign currencies to the domestic currency, which causes a breakdown of all long-term relationships between the national currency and the GNP. In addition, if price liberalization and an inflationary reduction of monetary overhangs lead to an 'unavoidable' price shock, the central bank has to be able to make a correct forecast of the necessary price adjustment. This would be possible only if the central bank could estimate the equilibrium money demand before the process of price liberalization is initiated. Again, this is an almost impossible task.

The strategy problems are not very different if an interestrate target is chosen as an intermediate target of monetary policy. Again the central bank has to be able to quantify the 'unavoidable' price shocks which are associated with price liberalization in order to assess the real interest rate and the policy stance which is implied by a given nominal rate. Although this strategy is not impaired by the instability of velocity, it has to cope with specific problems of estimating the inflationary expectations of the public in order to achieve the desired effects of monetary policy.

Of course, domestic intermediate targets can be used by a central bank in spite of these diagnostic problems. However, if a central bank wants to be sure of achieving a specific price level target, it has to apply an overdose of restriction in order to avoid the loss of credibility which is associated with a failure of policy.

An alternative domestic anchor can be created by an incomes policy.⁵ It is difficult to see the merits of such a strategy in

an environment of far-reaching structural change. The main effect of a tax-based incomes policy is to reduce the incentive to firms to use higher relative wages to recruit and motivate workers. This approach might be helpful in a market economy with high inflation and a relatively low degree of structural change. Applied to an economy in transition such a strategy bears the risk of conserving traditional structures and behavioural patterns. Above all, it prevents the necessary differentiation of wages according to skills and sectoral or regional productivity levels and supports the traditional view that the government has a major responsibility for wages. In addition, a tax-based incomes policy requires the establishment of hard budget constraints, because otherwise firms can get non-repayable credits to pay the tax. However, with hard budget constraints it is also possible to apply traditional monetary policy strategies which have no negative structural impact.

A paper of Kolodko (1991) shows that the very tight incomes policy in Poland — which allowed only for a 0,2 correction of the price increase in the first months of 1990 — was not able to keep wage pressures under control. After a steep reduction in real wages in the first two months of 1990, actual wages increased more strongly than the monthly inflation rate. In November 1990 actual wages exceeded the norm that had been set by about 30%.

3.2. Fixed exchange rates within Eastern Europe with flexible rates *vis-à-vis* the rest of the world

As an intermediate solution between complete flexibility and fixed rates, a fixed-rate regime within Eastern Europe (or a subgroup of these countries) could be combined with flexible rates *vis-à-vis* all other countries.

It is evident that this approach would not solve the main problems which have been identified in the preceding section. The aggregation of (all or some) East European economies to a common currency area neither provides the depth and sophistication of financial markets which is required for the stability of flexible rates nor establishes a stable nominal anchor for the transformation process. This approach could only reduce the difficulties which are associated with the small economic size of most East European countries: variations in the flexible exchange rate would have a smaller impact on the domestic price level. It is doubtful, however, whether this would suffice to make a case for this solution. Therefore, the possible institutional framework for this option (number of member countries, type of the internal fixedexchange-rate agreement) is not discussed in detail.

⁵ For a survey, see Layard (1990).

4. Fixed rates with regionally limited convertibility (East European Payments Union)

4.1. Which standard of reference?

This section analyses a system with fixed rates between East European currencies and a major international reserve currency (or the ecu), where current-account convertibility is limited to the group (or a subgroup) of East European countries. A simple fixed-rate regime for East European countries could be achieved by their currencies being pegged unilaterally to the ecu or to the currency of a major industrialized country (DM, US dollar, pound sterling). If all East European countries peg to the same currency unit, a specific exchange regime within Eastern Europe is not required. For the purpose of this section the concrete institutional set-up of the exchange-rate regime is of secondary importance. Alternative options will be discussed in Section 5.⁶

The general analysis of the convertibility issue has shown that the case for limiting convertibility to Eastern Europe (or a subgroup of these countries) rests on a second-best argument. It assumes that an immediate transition to unlimited convertibility will lead to unsustainable current-account deficits and/or to a breakdown of enterprises which would be competitive if they were given a protected transition phase. Consequently, it is argued that a payments union offers advantages compared with a situation of complete inconvertibility. In what follows, possible positive effects of such an arrangement will be evaluated. However, the question arises whether inconvertibility is the adequate standard of reference. The advantages of a second-best approach look different if it is compared with the optimum solution of unrestricted convertibility. This paper will show that the negative implications of unrestricted convertibility can be avoided by an appropriate choice of monetary and exchangerate policies, and that therefore it is difficult to see why specific intermediate solutions should be adopted.

However, because the alternative of a payments union is often discussed in the present debate, this section will briefly describe its functioning and its main advantages. It will also focus on the European Payments Union and will explain why the positive performance of this arrangement cannot be copied by an East European Payments Union.

4.2. Main functions of a payments union

The most important function of a multilateral payments union is the widening of the strict budget constraint which characterizes a system of inconvertible currencies and bilateral trade agreements. While under bilateralism each country faces its own bilateral budget constraint, a payments union aggregates the budget constraints faced by the group of member countries to a single budget constraint (for more detail, see Bofinger, 1990a). A second function of a payments union is the provision of a common credit mechanism. Credits between member countries are unlimited between the settlement dates and limited to given quotas at the settlement dates. This availability of credit facilities has the advantage that temporary trade disequilibria with the payments union member countries need not be settled in hard currencies. This mechanism reduces the incentive for trade restrictions. It is evident that it can function in this way only if over time positive and negative balances cancel.

In the context of Eastern Europe one would have to decide first which countries should form a payments union, especially whether the Soviet Union should be included. Soviet membership is indicated by the very high share of East European exports to the Soviet Union, which was 46% of total CMEA exports in 1989 at official exchange rates and 28% at commercial exchange rates.7 However, after the transition to world market prices in CMEA trade relations on 1 January 1991, a sizeable current-account deficit of the CMEA-58 with the Soviet Union is to be expected (USD 6 billion to USD 7 billion in 1991). It is important to note that an East European Payments Union would not be the appropriate mechanism to deal with such structural deficits. The permanent exhaustion of the credit facilities of a payments union from its very beginning would require an immediate settlement in hard currencies whenever new aggregate imbalances arose. As a consequence, even temporary current-account deficits in relation with other payments union member countries would constitute an incentive to restrict foreign trade. Thus, in order to avoid the emergence of structural deficits, an East European Payments Union which included the Soviet Union would have to find a solution for these deficits outside the payments union and before it was created.

For instance, in Poland, membership in a payments union would not be incompatible with its present reform programme. This is because a payments union deals only with external convertibility, i.e. the right of foreigners to convert

⁶ It is important to note that a payments union cannot serve as a substitute for a fixed exchange-rate arrangement. As the example of the European Payments Union shows, such an arrangement has to be embedded in a fixed exchange-rate regime. An opposite opinion can be found in Soldaczuk (1990, p. 15).

⁷ According to calculations of the Institute of International Finance (1990).

 ⁸ Bulgaria, Czechoslovakia, Hungary, Poland and Romania.

holdings in a specific currency into 'hard' currency. The Polish programme has so far established convertibility only for residents, which means that other East European countries cannot use bilateral surpluses with Poland to acquire hard currencies.

4.3. Its implications for Eastern Europe

An EEPU could have the major advantage of preventing the breakdown of intra-CMEA trade, which is already under way and will intensify if East European currencies remain completely inconvertible. Under the old CMEA regime it was more or less profitable to sell 'soft' goods (i.e. goods with a price which is higher than the world market price) for other soft goods, cheap oil and almost untransferable 'transferable roubles'. Under the new regime, where prices have to be world market prices, there is no incentive to sell 'hard' goods⁹ for currencies which are not convertible. (This problem does not arise, of course, if all intra-regional settlements are actually made in convertible currencies.) This disintegrative effect of inconvertibility is a serious problem, because it requires an additional and unnecessary adjustment of trade patterns, which might go far beyond the potential of East European economies. However, even with an EEPU, it would remain more attractive for each East European country to trade with industrialized countries. Positive trade balances with other EEPU members could be used only within the EEPU area with its limited supply of goods; surpluses with industrialized countries are convertible without limit. Because of the relatively small size of a CMEA-5 payments union (and even a CMEA-6 payments union) this disincentive could still have significantly negative effects on intra-CMEA trade relations.

Besides its effects on intra-CMEA trade, an EEPU cannot provide the strong positive impact on the reform process which is created by unlimited convertibility. If the process of trade liberalization is limited to the area of CMEA-5 or CMEA-6, it is not to be expected that world market prices will be established in Eastern Europe, especially if large parts of the domestic enterprise sectors remain State-owned and if the process of demonopolization takes time. An EEPU could also not enhance the degree of competition within Eastern Europe, because the national production patterns are much more complementary than competitive, especially as between the CMEA-5 and the Soviet Union. Thus, a regionally limited trade liberalization would also not provide the information which is necessary for applying hard-budget constraints on State-owned enterprises.

⁹ Even low-quality products become hard products if they are sold at world market prices.

The positive performance of the European Payments Union reflected the very different political and economic context of this institution:

(i) The EPU included 18 OECD-member countries (plus their colonies and countries belonging to their currency areas, above all the sterling block). Intra-EPU trade was about 25% of world trade in 1950, the corresponding percentage of an EEPU of the CMEA-6 was 3,8% in 1988.

(ii) In most member countries of the EPU the process of economic liberalization preceded the establishment of the scheme. In addition, the overall task of transforming their economies from wartime to peacetime production was much easier, because pre-war property rights still existed in most cases and because the public was still accustomed to the working of a market economy.

(iii) At the macroeconomic level, currency reforms in the second half of the 1940s had absorbed the monetary overhangs which had been created by war-financing. The need for an efficient external nominal anchor was less acute.

5. Fixed exchange rates and unrestricted current-account convertibility

Because of the international inconvertibility of the currencies of an EEPU, the fact of their fixed exchange-rate link to convertible currencies would be of secondary importance. If the convertibility of East European currencies were unrestricted the institutional design of the exchange-rate regime would have several important ramifications. It would be of critical importance to the ability of central banks to defend the exchange rate when it came under speculative attacks.¹⁰ Related to this is the impact of an exchange-rate commitment on price expectations and wage contracts of private agents, which is largely determined by the credibility of a peg. This aspect is of special importance for the control of the inflation process, if the national currency is undervalued at the time of its entry into a fixed-rate system. Also to be taken into consideration are the implications of East European monetary arrangements for the currency order in Western Europe.

For the design of an exchange regime in Eastern Europe the following questions have to be answered:

(i) Will adjustments of the peg be possible (adjustable peg) or not (monetary union), and by which institutional process will realignments be decided?

¹⁰ As experience with the Bretton Woods system shows, even if convertibility is restricted to current transactions, there is always potential for speculation because of the possibility of varying the terms of payments in international contracts.

(ii) Which currency unit will serve as 'anchor currency'

(iii) How can the initial parity be determined?

5.1. Absolutely fixed rates or an adjustable peg

The choice between absolutely fixed rates and an adjustable peg for East European currencies has important implications for the conduct of macroeconomic policy and thus has to be determined as part of the overall macroeconomic strategy. However, many policy-makers in Eastern Europe are obviously not acquainted with such conceptual issues, which explains why the question of the fixity of a peg over time does not occupy a prominent place in the present reform discussion.

As already mentioned, a case for absolutely fixed rates can be made because of the high instability of real and financial relationships during the process of transformation. These diagnostic problems make it very difficult — or costly in terms of real output — to use domestic intermediate targets (interest rates, monetary aggregates) for monetary policy. Incomes policy impairs the restructuring process and is not very efficient in a situation without 'hard budget contraints'.

5.1.1. Endogenous versus exogenous pegs

The difficulties which are associated with domestic nominal anchors are an important argument against adopting an adjustable peg strategy as has been practised in the EMS or the Bretton Woods system. However, using the exchange rate as a nominal anchor does not necessarily mean that the rate has to be absolutely fixed over time. As an alternative solution, a peg with a pre-announced devaluation could be chosen, for instance, vis-à-vis a currency with a very low inflation rate.11 In this case the central bank would announce ex ante that it would adjust the peg on a short-term basis (e.g. month to month) in order to achieve a constant (or over time decreasing) yearly depreciation of the currency. The rationale for this intermediate approach would be to borrow the general credibility of the anchor currency but to allow for certain additional percentage points of inflation. In an environment with existing nominal contracts this might be justified by the real costs of reducing inflation immediately to the relatively low levels in some possible anchor countries (Germany, or the EC if the ecu is used). The option of a pre-announced devaluation is more similar to an absolutely fixed peg than to a freely adjustable peg. The decisive feature is whether the exchange rate is an exogenously determined variable which is not influenced by contemporaneous policy shocks and labour market policies or whether it is treated as an endogenous variable. Exogeneity of the exchange rate is a precondition for using the exchange rate as a nominal anchor. A typical variant of an endogenously determined nominal exchange rate is a real exchange rate target, which makes the nominal exchange rate endogenous by definition.

5.1.2. The role of announcement effects

It is evident that announcement and reputational effects play a crucial role if an exogenously determined exchange rate peg is adopted. As Miller and Sutherland (1990) show, the credibility of a peg is decisive for the exchange-rate expectations which play an explicit role in wage-setting and interest rates. The optimum adjustment is described by Miller and Sutherland (1990, p. 10) as follows:

'So when the unexpected policy change is fully and instantly credible (and the peg involves no exchange-rate misalignment), inflation disappears without any disruption to output or real interest rates.'

The importance of credibility effects requires a clear strategic decision by national governments at the very outset of their transition to convertibility, as an exchange-rate anchor can only play its role if the exchange-rate commitment of the central bank is highly credible. It is not enough to declare a currency convertible at a fixed rate, while leaving completely open whether the rate will be adjusted in the near future or not. This approach was adopted by Poland and Yugoslavia and also underlies the recent reform programme of the Czechoslovakian Government. The fact that the government is not making a clear commitment to an exchange-rate target must impair the credibility of the exchange-rate peg and reduce its impact on wage negotiations. Half-hearted measures conduce to future exchange-rate overvaluation. The lack of credibility of exchange-rate pegs leads to effects that have been observed in most Latin American stabilization programmes:

'The starting point of a programme is invariably a fixed exchange rate. But the next issue is when to give in. If inflation does not end completely, sooner or later an adjustment in the exchange rate and public-sector prices is called for. The decision to abandon the fixed rate is a difficult one because it signals the government's acceptance of inflation as something inevitable. As a result a significant overvaluation has developed.' (Dornbusch 1990, p. 35.)

As soon as a first (endogenously determined) adjustment of the exchange rate is made not only has the whole past

¹¹ This strategy was developed for the opposite case of the Federal Republic of Germany in the 1960s by the German Council of Economic Experts.

strategy failed, but the strategy also becomes more or less inapplicable for the future.¹² In such a scenario, the need for domestic anchors — with all their problems — reappears. It is therefore crucial that an approach which uses the exchange rate as a nominal anchor is supplemented by domestic and supranational measures that enhance the credibility of the exchange-rate commitment as far as possible.

5.1.3. Reaction to asymmetric shocks

A disadvantage of an absolutely fixed rate between East European currencies and, for instance, the ecu might be the loss of an adjustment parameter, which could be required in situations which affect one or several East European economies asymmetrically. It is widely accepted that an adjustment of the exchange rate can contribute to restoring competitiveness if nominal wages are not sufficiently flexible downwards. However, this strategy will be successful only if wage-earners are not aware of the reduction in their real wages that results from the ensuing inflationary impact of the devaluation. Without this money illusion, the positive effects of a devaluation are limited to the very short term and will require an increasing degree of devaluation in the following periods. Thus, the therapy of remedying asymmetric shocks with a devaluation of the currency is identical with the use of inflationary policies in the domestic context: over the long and medium term it is likely to have a strong impact on the price level, while its permanent effects on real variables are zero or even negative.

Even if one accepted the argument that an adjustable peg facilitates adjustment in situations where asymmetric shocks occur, this advantage has to be compared with the disadvantages which are associated with using domestic nominal anchors.

5.2. Which anchor currency?

The choice of an anchor currency is relatively unimportant if an adjustable peg strategy is chosen by an East European country with an endogenous exchange-rate policy. In this case it is not necessary that a major part of a country's foreign trade transactions are denominated in the anchor currency because significant exchange-rate variations between the anchor currency and those currencies in which trade transactions are made can be compensated by more or less frequent adjustments of the peg. The amount of the adjustment can be determined on the basis of a basket of currencies which reflects trade weights. This philosophy, which underlies the Czechoslovakian programme, seems to offer an economic explanation¹³ for the fact that Poland and Czechoslovakia peg their currency to the dollar, which plays almost no role in the foreign trade of either country.

In the framework of absolutely fixed rates the choice of the anchor currency is of critical importance. The credibility of this strategy requires that an announced and easily observable peg is stable over time. This would not be the case if a government were to choose a basket of currencies as its nominal anchor, which it translates into a publicized peg for a single currency. Exchange-rate variations between the basket currencies would require frequent adjustments of the publicized peg. This would undermine the credibility of the strategy in the eyes of the public, which would have difficulty discerning between an arithmetically determined devaluation against the peg-currency and an effective devaluation of the domestic currency. As literature on credibility and reputation of monetary policy shows, an easily observable rule is an important element in enhancing the credibility of monetary policy. This calls for an anchor currency in which a large share of trade transactions is denominated and which at the same time has a low and stable inflation rate over time. The ecu meets the first criterion better than all other national currency units. The fact that the average European inflation rate is higher than the German inflation rate does not pose a serious problem for East European economies, where a German degree of price stability might not be regarded as an aim of first importance. The trade share of the ecu in Eastern Europe could be rapidly increased if an ecu peg were adopted by several East European countries simultaneously.

From the perspective of ERM member countries, an ecu peg has advantages over a peg to a national ERM currency (above all the Deutschmark): the build-up of foreign-exchange reserves in the anchor currency and interventions to maintain the peg would not influence the position of ERM currencies within the parity grid of the system.

5.3. How to determine the initial parity?

It is evident that the choice of an initial exchange-rate parity is extremely difficult under the conditions of economic transformation. Even in industrialized countries the determination of 'fundamental equilibrium rates' is a matter of

¹³ A more political explanation is that the public in both countries holds relatively large amounts of US dollar banknotes and deposits (Poland). However, there is no economic argument why this would require a US dollar-peg for foreign trade.

¹² As a proverb says: There is no second chance to make a first impression.

strong dispute and leads to widely diverging results. In Eastern Europe one has to cope with the additional problem that all the variables that are required as input for exchangerate models are highly distorted and often without any meaningful economic significance. The same applies to the available data on existing exchange rates, even if they have been determined on auction markets. As McKinnon (1989, p. 7) shows, the lack of hard budget constraints in the enterprise sector leads to an 'overbidding' for foreign exchange and to an exchange rate which undervalues the domestic currency.

These diagnostic problems are not a compelling argument against a strategy which uses the nominal exchange rate as nominal anchor. Instead of determining an exchange rate which corresponds to differences in the price level, one can determine the exchange rate exogenously and allow an adjustment of the price level in Eastern Europe. While it is difficult to correct an overvalued rate by a reduction of prices and wages, an undervaluation offers competitive producers the possibility of raising their prices to the world market level. However, although governments are inclined to devalue as much as possible, this strategy is not without risks as it exerts a strong inflationary impact on the domestic price level. This transitory shock can only be kept under control if market participants know that the nominal rate will be kept stable and if the enterprise sector is under a comprehensive hard budget constraint.¹⁴ If this is the case, foreign competition will exert a powerful control on domestic tradables prices, which will also limit the inflationary momentum in the non-tradables sector.

6. The institutional environment for a fixed-rate regime in Eastern Europe

This section will analyse different institutional options for a fixed-rate regime in Eastern Europe. It has become evident that the inflation control exerted by a fixed nominal exchange rate largely depends on its effects on wage agreements and the price-setting behaviour of firms. This necessitates not only that firms operate under 'hard budget constraints' but also that the commitment to a stable parity is as credible as possible. Astonishingly, these reputational effects do not play a decisive role in the present debate. Therefore, in what follows alternative approaches to enhancing this credibility will be presented and discussed.

The concrete options differ in two important dimensions:

- (i) The commitment to an exchange-rate target can be supported externally by the provision of intervention facilities by a supranational institution. This approach was adopted by the members of the EMS, which offers very generous and in the short term unlimited intervention credits to countries with weak currencies.
- (ii) The new institutional economics (Oliver Williamson, 1985; Richter, 1989) show that commitments can be strengthened above all by devices which tie the hands of the promisor in ways which make a breach of promise in the future more costly.¹⁵ Such institutional arrangements which enhance the exchange-rate commitment internally will be at the centre of the following analysis.

6.1. Unilateral peg ('Austrian approach')

Until now, the East European countries which have made their currencies convertible have adopted arrangements which can be classified as the 'Austrian approach' to fixed exchange rates: the Austrian central bank pegs the schilling at a rate of 7:1 to the Deutschmark without any intervention support by the Deutsche Bundesbank (or by any supranational institution). The decisive feature of this approach is the lack of a formal exchange-rate arrangement between the countries whose currencies are involved in the peg above all the lack of financing facilities for intervention and of a common decision-making process for realignments. The relatively informal nature of this strategy makes its contribution to an enhancement of the exchange-rate commitment rather limited, especially in the environment of Eastern Europe.

Of course, it is also possible to some extent to tie the hands of politicians in this scheme. This would require an announcement by the government or the central bank that it will stick to a given exchange-rate parity for as long as possible. A central bank which deviates from this easily observable target will lose reputation. This mechanism may have its merits in a country such as Austria, where the central bank has built up its reputation over many years and would experience an enormous loss of credibility as soon as it deviated from its exchange-rate target. In Eastern Europe, where the credibility of central banks is still relatively low, it is doubtful whether such reputational considerations would constrain policy-makers in an efficient way. In the three countries which adopted a fixed-rate arrangement for their

¹⁴ At the moment neither condition is fulfilled in those countries which made their currencies convertible at an undervalued rate. Therefore, it is not surprising that the undervaluation created an additional inflationary impact.

¹⁵ For a detailed analysis see Kronman (1985).

currency (Poland, Yugoslavia, Czechoslovakia), the hands of policy-makers were tied to an even smaller extent, because they left completely open for how long they would defend the parity of their currency. This contrasts with the policy of the Austrian National Bank which has explicitly declared the 7:1 rate as its main policy target.

With this low credibility it is not surprising that the Yugoslavian as well as the Polish stabilization programme failed to have a lasting effect on wage agreements. Thus they ended up like all comparable stabilization attempts in Latin America (see the quote from Dornbusch in Section 5.1.2.). In Yugoslavia strong wage and price pressures emerged in the second half of 1990 (Adamovic, 1991) and forced a devaluation of the dinar from DM 7 to DM 9 on 1 January 1991. In Poland where the current annual inflation rate is 100% and wage pressure is increasing, a depreciation of the zloty will become unavoidable in the next few months.

6.2. Membership of the European Monetary System

Although it is evident that the failure of the fixed-rate strategies in both countries was not due to a lack of external support, a credible commitment to a nominal exchange-rate target is difficult to imagine over time without external support. The case of the European Monetary System was already mentioned. Nobody would suggest a fixed rate of, for example, the Portuguese escudo against the ERM currencies without allowing its central bank access to the generous credit facilities of the system.

However, in the specific environment of economic transformation the automatic availability of foreign credit facilities could have negative implications for creditor and debtor countries. Without far-reaching real-sector reform and comprehensive control over the asset side of the central bank balance sheet, large intervention volumes might be necessary to keep the exchange rate stable.

From the viewpoint of present ERM participants, the arrangement could have negative implications for the inflation rate of the enlarged currency area if central banks in Eastern Europe remain politically dependent and continue their present practice of more or less unlimited lending to the government and enterprises. The effects of this policy on domestic inflation and the current balance would weaken the currencies of these countries until they reached their lower intervention point. In contrast to a unilateral peg, the weak currency would have to be supported not only by the issuing central bank, but also by the central bank of the EC country with the strongest currency. In addition, an East European central bank would obtain unlimited credit from the very short-term financing facility of the EMS, which would provide it with central bank deposits denominated in the strong currency.

The main element of discipline in the EMS agreement is the prescription that a central bank has to repay all intervention credits¹⁶ with its own exchange reserves after three and a half months.¹⁷ In the last decade, this reserve constraint exerted a strong discipline on EMS member countries. As countries were aware of their obligations, they tried to avoid the utilization of the EMS credit facilities as far as possible. The question is whether this disincentive would be sufficient to prevent inflationary monetary policies in Eastern Europe, which could spill over into the group of present EMS members.

In the specific situation of a rapid economic transformation, however, it cannot be excluded that the liquidity impact of interventions will become very high, especially if the credibility of the peg is not enhanced internally and if stringent financial constraints for the enterprise sector are absent. A central bank which cannot control its lending to the government, to domestic banks or to enterprises might be forced to continue an expansionary credit policy in spite of a strong outflow of capital and increasing asset settlement obligations towards the other EMS member countries. Such an unsustainable policy-mix, which would require a full sterilization of the restrictive liquidity effect of interventions in the country with the weak currency, could lead to very high interventions.¹⁸ Because of the unlimited short-term credit facilities, it cannot be excluded that the creation of central bank money associated with interventions would even exceed the sterilization potential of a large central bank, e.g. the Deutsche Bundesbank.

Therefore, in the case of central banks which are not able to control the asset side of their balance sheet, the inflationary risks involved with the unlimited short-term credit facilities of the EMS are much higher than in the case of present member countries. Of course, it would be possible to exclude countries which are unable to fulfil their asset settlement

¹⁶ Interventions carried out by a central bank with a strong currency to support a weak currency are treated like an intervention credit granted to the central bank with the weak currency.

¹⁷ These credits can automatically be prolonged by three months if they do not exceed a ceiling equal to twice the debtor quota of the central bank concerned under the short-term monetary support arrangement of the EMS.

¹⁸ One can assume that the countries with strong currencies would also sterilize the (expansionary) liquidity effect of interventions. This policy was practised by the Bundesbank in the 1980s; see Bofinger (1989).

obligations. But even if such a drastic step were adopted, it could be difficult to neutralize the inflationary effect of the preceding liquidity creation.

6.3. More stringent tying of hands

A tying of hands which goes beyond the reputational constraints exerted by the Austrian model can be achieved in three different ways:

- (i) The institution of a monetary union transfers all monetary policy responsibilities from the national level to a supranational institution. A very strong tying of hands is achieved if the common central bank system is politically independent. The credibility of the fixed exchange-rate commitment is extremely strong between the member currencies.
- (ii) The institution of a currency board¹⁹ requires the note issue to be covered for at least 100% ²⁰ by central bank exchange reserves and establishes an absolutely credible fixed exchange rate between the national currency and a foreign currency. Under this framework, the national monetary institution loses all discretion in the conduct of monetary policy.
- (iii) The institution of a politically independent central bank has important merits in market economies and it would be helpful in Eastern Europe too. However, as the first members of the board of such a central bank would have to be determined at the same time and thus by the same government it is to be expected that the informal influence of the government would remain very strong at least in the beginning. Therefore, in the short and medium term the contribution to tying the hands of monetary policy-makers would be much weaker than in the two other approaches. In addition, the scheme does not directly contribute to an enhancing of the credibility of the exchange-rate peg. For this reason and because of its relatively simple features the approach is not discussed in what follows.

The most important implication of the first two devices for tying hands is the strong financial constraint which they would create for the private and the public sector in Eastern Europe:

- (i) A currency board is entitled to increase its note issue (and the central bank deposits of commercial banks) only if its stock of foreign-exchange reserves is increased either by a current-account surplus or by a net import of capital. In this strictly rule-bound system, the currency board is not allowed to purchase government debt or to refinance the banking system by traditional central bank instruments (rediscount or lombard credit, securities repurchase agreements). Discretion in the conduct of monetary policy is completely absent.
- (ii) In the case of a monetary union, which is politically independent, the credit from the central bank system to national governments has to be strictly limited (as prescribed by the Bundesbank Act) or excluded totally (as laid down in the draft statute for a European system of central banks). In contrast to the currency board model, a discretionary monetary policy is still possible: the central bank system has the right to give refinancing credits to commercial banks. However, the growth rate of domestic credits, which are granted by the national central bank, is under the strict control of the governing board of the central bank system. This creates an important financial constraint for the domestic economy, although it depends on the policy orientation of the system's governing board how stringent this constraint will be. This can be strengthened if statutes of the system declare price stability as the overriding objective of monetary policy.

6.3.1. A currency board scheme

The transition to a system of currency boards in Eastern Europe would enable the hands of the national monetary institution to be firmly tied, which would have the advantage that formally no transfer of national responsibilities would be required:

- (i) the national currency would remain in circulation,
- (ii) a non-inflationary seigniorage would be obtained by the currency board, because it would issue non-interestbearing bank notes and could invest its reserves in interest-bearing foreign assets,
- (iii) all future domestic credit creation would be prohibited. Domestic interest rates would be determined by the interest-rate level in the anchor country. The domestic money stock would be determined endogenously by the balance-of-payments situation and the cash holdings of the public.

Although these features might look attractive at first sight, the scheme would be very difficult to implement in Eastern Europe. This has to be discussed in some detail.

¹⁹ Currency boards were once ubiquitous in the British colonial regimes of Africa, Asia and the Caribbean. Today, they exist only in Singapore, Brunei and Hong Kong. For a survey see Walters (1987) and Hanke and Schuler (1990).

²⁰ Historically a reserve ratio of more than 100% was required to compensate for losses in the boards' bond portfolio.

In general, a central bank's foreign-exchange reserves amount only to a more or less small fraction of its note issue and the reserves held by commercial banks; Table 1 gives a hypothetical example of the situation before the introduction of a currency board. Establishing a currency board regime requires either a currency reform which substitutes old bank notes against new bank notes — at a conversion rate which is determined by the ratio of reserves to the old money stock (see Table 2) — or a devaluation of the domestic currency against the anchor currency which restores a 100% backing of the central bank's liabilities (Table 3).

Table 1

Balance sheet of the central bank before the introduction of a currency board

(in old currency units (OCU); OCU 5 = USD 1)

Reserves	(USD 20)	Currency and commercial	
100		bank reserves	
Domestic o	redit	1 000	
900			

Table 2

Balance sheet of the currency board in new currency units (NCU)

		(NCU 5 = USD 1, NCU 1 = OC	U 10)
Reserves	(USD 20)	Currency and commercial	
100		bank reserves	
		100	
Domestic of	credit	Equalization item	
90		90	

Table 3

Balance sheet of the currency board in old currency units (OCU)

Reserves	(USD 20)	Currency and commercial
1000		bank reserves
		1 000
Domestic o	credit	Equalization item
900		900

The implementation of a currency board system is impaired by the fact that even a 100% reserve ratio for the central bank's liabilities would not be sufficient to guarantee the credibility of the currency board. If such an institutional arrangement were introduced in an East European country. one would have to expect that bank depositors would have a strong incentive to convert their deposits into banknotes and then into foreign currency. The scheme would, therefore, not be safeguarded against the risks of a run on the banks. Instead of creating credibility in the domestic financial sectors it could completely undermine confidence in the banking system. This problem was evidently absent in the days of the British empire, when the colonies had only very poorly developed financial systems. It could be solved only if the 100% backing requirement were extended to bank deposits, a link which would require the imposition of a 100% minimum reserve system. An extreme devaluation of the domestic currency would be necessary to establish such an arrangement.

In sum, the currency board is either applicable to an economy without a commercial banking system or to an economy where the credibility of the commercial and central banking system is very high, as, for example, in the case of Hong Kong and Singapore. Neither condition is met in Eastern Europe. Therefore, a more detailed discussion of the merits of a balance-of-payments-determined money supply seems not to be useful.

6.3.2. Membership in a European monetary union

The alternative to a currency board regime, which reduces the discretion of a national central bank domestically by stringent rules,²¹ is the transfer of its monetary policy responsibilities to a supranational institution. The approach has the major political disadvantage that it implies a loss of national sovereignty.

After the establishment of a European system of central banks (ESCB) and the irrevocable locking of ERM parities, East European countries could be invited to join the institution if they were able to fulfil the necessary preconditions. The most important problem that would have to be solved before membership in a European monetary union is the stock disequilibria in the financial sector of Eastern Europe. The existence of a monetary overhang requires that a different conversion rate has to be chosen for financial stocks and

²¹ The option of a Friedman rule, which obliges the central bank to increase the money supply at a constant growth rate, would not be feasible because of the instability of the real and financial sectors in the transition period; see Section 3.1.

flows. In addition, as the central bank system will be allowed to refinance commercial banks only if their assets have a market value which corresponds to its face value, it will also be necessary to restructure the whole banking system in such a way that worthless assets are written off. For this whole process the German monetary union could serve as an example (Bofinger, 1990).

For East European countries such an arrangement would have the advantage that they could share the credibility of a central bank institution which was established by market economies. This would avoid the real-output costs that are entailed if a central bank has to establish a reputation by itself. As long as the Soviet Union does not participate in the scheme, the relatively small economic size of East European economies (about 10% of the Community's GNP) would not significantly impair the conduct of monetary policy in Europe. The relative impact of East European membership of a European monetary union would be comparable to the effects of German monetary union on the monetary policy of the Bundesbank.

In terms of establishing central bank credibility at low cost this approach is superior to all other institutional arrangements for introducing convertibility. The complete renunciation of monetary policy autonomy and the irrevocable locking of the national currency to ERM currencies (or even its substitution by the ecu) are the most effective way of breaking inflationary expectations of enterprises and trade unions. Above all, it would automatically create hard budget constraints: the government which would have to finance its deficits on private markets would no longer be able to subsidize the enterprise sector without limit. The commercial bank system would be confronted with a stringent refinancing constraint, as the growth rate of its refinancing would be determined by the system and as it could only refinance itself by offering valuable assets to the system. This would give a clear signal to those responsible for setting wages:

- (i) the government if a major part of the enterprise sector remains State-owned,
- (ii) the managers of firms, who know that the financial means of the government and of the commercial banking system are limited and that the relative profitability of their firms can be assessed in an objective way after the transition to convertibility, and
- (iii) the trade unions.

In exchange for the strict financial constraint which the scheme imposes on the national economy the public obtains a freely convertible currency with a relatively stable purchasing power.

and in the West, where wages are not sufficiently flexible downwards. An economic union also encompasses a stronger coordination of fiscal policies and increased structural and regional support. It is a difficult legal and political question whether East European countries could become full members of an economic and monetary union in Europe or whether they could participate only in the monetary arrangements of this union. Another difficult problem concerns the Soviet Union. Its membership in a European monetary union would give a new quality to this institution and would seriously complicate the monetary management of the ESCB, which would already be difficult enough in its starting phase. 6.3.3. A currency franchise system As an alternative to membership of a European monetary union, a separate monetary union for Eastern Europe might be envisaged. Its statutes could be completely identical with

be envisaged. Its statutes could be completely identical with those drafted by the Committee of Governors for the ESCB. Membership would also require a far-reaching financial restructuring of the domestic financial sector. Under this arrangement the union could be open not only for nation States but also for individual republics of the Soviet Union and Yugoslavia. Thus, the approach could avoid the negative implications which the creation of a multitude of regional currency arrangements would have, namely higher transaction costs and a very low credibility of the issuing institution.

The disadvantage of this approach is that it may still be

many years before a European system of central banks with

full monetary responsibilities is created, whereas Eastern

Europe requires a solution that can be applied rapidly. In

addition, European monetary union is seen as an integral

part of a European economic and monetary union, which

implies above all integrated markets not only for goods and capital but also for labour. Free movement of labour from Eastern Europe to Western Europe could lead to problems

in the East, where a scarcity of skilled workers might emerge,

A major disadvantage of such a system would be the weaker credibility of its commitment to stability and of the exchange-rate link between East European currencies and ERM currencies. The first would occur because the central bank council of an East European system of central banks would be made up only of representatives from Eastern Europe and — in the beginning — from only a small group of countries. Thus, it would be much easier to exert political pressure on the system even if it were formally given complete independence. The credibility of the exchange-rate commitment would be lower because, instead of being absolutely fixed to ERM currencies, the currency of an East European monetary union could always be devalued against the ERM block.

The credibility of a separate East European system could be strengthened by establishing it as a 'franchise currency system'. The only difference between this approach and an East European system of central banks concerns the members of the system's governing board. In a franchise system several representatives from international institutions (IMF, World Bank, EC Commission, OECD, EBRD) would be represented on the board and they would also have the majority of votes; the governors of national central banks could also become members of the board. As with the ESCB, the management of the franchise system would be obliged to keep the purchasing power of its currency stable. National central banks would be allowed to issue this currency if they were willing to transfer their monetary responsibilities to the system.

For its external monetary relations the system would try to keep the exchange rate of its currency stable against the ecu. For this it could either adopt the Austrian approach or even become an associate member of the European Monetary System. The risks of supplying external intervention support to Eastern Europe, which were mentioned in Section 6.2, would be relatively limited under this arrangement.

7. Summary

The paper shows that the transition to convertibility is one of the most difficult tasks in the whole transformation process. On the one hand, an early introduction of convertibility is an indispensable requirement for the success of real-sector reform. On the other hand, the conditions for sustaining convertibility are very demanding and only realistic after substantial reform efforts. Because of this simultaneity requirement, which is extremely difficult to overcome in the political process, there is the risk that in some countries convertibility will not be introduced at all. In such a framework real-sector reforms would not lead to the expected results because of distorted price signals, a high degree of monopolization, soft budget constraints, additional adjustment problems within the CMEA and the lack of an efficient nominal anchor. In countries which have established convertibility the lack of stringent financial constraints and a non-credible exchange-rate commitment could lead to repeated cycles of very high inflation, followed by disinflation programmes, which would have negative implications for growth and the transformation process as a whole.

The most effective answer to this simultaneity requirement is the transfer of monetary responsibilities to a supranational institution which is designed according to the blueprint for a European system of central banks drafted by the Committee of European Central Bank Governors. Such a solution would create an external financial constraint at all levels of the domestic economy and would enhance the credibility of monetary policy in general and of the exchange-rate commitment.

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The solvency of Eastern Europe¹

Daniel Cohen

CEPREMAP, Paris, and CEPR

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1. Introduction and summary of the main results

Analysing the solvency of a country essentially amounts to comparing the stock of its debt to the level of its resources and to its prospects of growth. A large debt-to-GDP ratio is not in itself the symptom of a large sovereign risk if the prospect of growth of the country is fast enough to make it worth (partially) rescheduling the debt. This is particularly true if a poor country is also one which is more likely to grow faster.

It is usually quite difficult to make a reasonable forecast say, a decade ahead — of a country's growth rate. In the case of Eastern Europe, this is almost an impossible task. For one thing, the starting point itself — the per-capita income in 1991 — is barely known. Earlier guesses based on purchasing power parity calculations (reported in Summers and Heston, 1988) are likely to overestimate the current level of resources that are available in these now largely disorganized economies. Furthermore, in addition to the usual uncertainties surrounding any economic forecast, one must add the enormous political uncertainties surrounding the transition of a command economy towards a market economy. In the case of the USSR, the difficulties are compounded by the huge cultural and economic heterogeneity of its 15 republics, which makes it hard to speak of 'a' country with 'a' prospect of growth.

These uncertainties are so many that to some extent they simplify the analysis: there is simply no way to take them into account. One can simply shrug one's shoulders and see what a standard analysis would have to say of Eastern Europe's solvency, if East European countries were simply taken to be countries like the others — located somewhere between Chad and Switzerland on the ladder of economic development. It is such an extremely naive analysis that this paper intends to offer. We want to use the analysis of growth that was obtained in some recent work on economic development (Barro, 1989; Romer, 1989) and apply their conclusions to the East European countries. Although there should be no illusions as to the quality of the 'forecasts' so generated, such an analysis can help raise our understanding of what are, say, the 'long-term' growth prospects of Eastern Europe and what is the corresponding burden of servicing the debt.

This paper will be organized as follows. In Section 2 I shall give a brief overview of Eastern Europe's debt and content myself with an analysis of debt per capita and what I call the debt per effective capita (which weighs the population by its per-capita income as a fraction of US per-capita income). In Section 3, I use the method that has been recently used by Barro (1989) and Romer (1989) to analyse endogenously the growth rate that an economy can achieve, for a given initial stock of human and physical capital. I pay specific attention to the case of the Soviet Union and analyse its growth rate as the aggregate of the growth rate of each of its 15 republics. Finally, in Section 4, an earlier work (Cohen, 1985) is adapted to determine a growth-adjusted measure of the debt. Drawing on econometric estimates based on Cohen and Portes (1990) the study then evaluates the price of East European debt.

The main results can be briefly summarized as follows. First, when the debt of Eastern Europe is assessed in per effective capita terms, the burden of the debt appears as shown in Table 1.

Table 1

Debt per effective capita (1989)

_		1>
	Bulgaria	2 608
	Czechoslovakia	757
	Hungary	4 261
	Poland	2 843
	Romania	130
	USSR	348
	Yugoslavia	2 326

By such a measure, Hungary is the largest debtor, by a large margin. It is 50% above Bulgaria and Poland. While half as indebted as Poland in absolute terms, Hungary has indeed a population that is about a quarter of that of Poland. If one also recalls that Hungary has not — yet — rescheduled its debt with the commercial banks, one sees that this puts Hungary high on the list of countries that the debt penalizes.

The result of our analysis of Eastern Europe's potential growth can be summarized as shown in Table 2.

Table 2

Eastern Europe's potential growth

	(% p.a.)
Bulgaria	4,0
Hungary	2,9
Poland	4,0
Romania	3,9
USSR	4,0
Yugoslavia	3,8

Note: Czechoslovakia is not reported on because of a statistical anomaly in the raw data.

(USD)

What emerges from Table 2 is that most East European countries seem to be able to rely on a trend growth of about 4%. Hungary is an exception because of the negative growth rate of its population. In per-capita terms, all countries stand between 3 and 3,5% (Hungary's per-capita growth rate is 3,3%).

As one sees, the prospects of growth that emerge from our analysis, while reasonable, are not very fast. In per-capita terms, they indicate that about 25 years will be necessary before Eastern Europe can catch up with current Western standards. This is not a surprising result in view of the new growth theory. First, convergence is shown to occur only if education is sufficient (and it is indeed certainly there in Eastern Europe). Second, when it does occur, the speed is generally very slow. As a benchmark, one may recall that, over the last 25 years, growth in the poorest countries averaged 3,3% while the richest countries grew at 2,3% a year. Because of a high level of education, East European countries may grow faster than the poorest countries; but because of a low rate of population growth, their GDP, which is what matters for solvency, will not grow very fast.

These measures of potential growth are used in Section 4 to calculate a growth-adjusted measure of the debt burden. Building on previous work (Cohen, 1985; 1991), I translate the burden of the debt into the following common measure: the debt per capita that would equivalently prevail in the United States in 1980 with zero growth prospects. With such a measure, the burden of the debt emerges as shown in Table 3.

Table 3

Growth-adjusted burden of debt in 1989 (1980 US per capita terms)

	(USD
Bulgaria	1 573
Hungary	3 041
Poland	1 704
Romania	0
USSR	210
Yugoslavia	1 453

By this measure, a strong conclusion emerges: Hungary is very indebted. Its growth-adjusted debt is near that of Argentina. Poland and Bulgaria, while also large debtors by this measure, find themselves in better company, in the vicinity of Turkey or the Philippines. This will sound surprising perhaps, to the extent that Hungary is viewed, on the secondary markets, as one of the better risks in Eastern Europe (essentially for the naive reason that it has never rescheduled its debt). In the last section of the paper, an econometric estimate of the secondary market prices is presented (based on Cohen and Portes, 1990) which will show that Hungarian debt — by the standard of the other countries — is overpriced. Conversely, it is also argued that Poland's debt is underpriced.

2. Overview of East European indebtedness

2.1. Origins of the debt build-up

There have been essentially three phases in the build-up of East European debt: up to 1979; from 1980 to 1985; and from 1985 to the present.

Before 1979, East European debt followed (although with important differences of timing) the general pattern of the developing economies' debt. In flow terms, new loans jumped from USD 1 bn in 1974 to an average of USD 5 bn a year later (see Portes, 1977; 1989 for, respectively, a pre- and a post-crisis assessment). The political disturbances in the early 1980s (Polish crisis, indirect effects of the war in Afghanistan) shut off these countries' access to the Euromarkets. In 1982, new loans tapped on the Euromarket fell back to a meagre USD 700 m (more than half of which were to East Germany). The years 1980-84 were harsh for Eastern Europe. Imports had to be cut dramatically. Austerity programmes (without the name) had to be imposed on all seven countries.

These austerity measures, however, proved a worthy investment in the second half of the 1980s. Impressed by the East Europeans' ability to curb their indebtedness, commercial banks resumed financing Eastern Europe. In 1985, new loans jumped back to USD 5 bn per year, and remained high until the end of the decade. Two countries, however, essentially disappeared from the financial scene in the 1980s: Poland and Romania.

It was thought by some observers that the Soviet Union actually encouraged other East European countries to borrow, or that it would 'offer an umbrella' in case of a debt crisis. In fact, very early on, Soviet officials expressed their concerns about the rising debt of their allies, and refuted the 'umbrella theory' repeatedly.

2.1.1. Salient features of the debt of Eastern Europe

De Cecco (1991) points to an interesting parallel between the debt of Eastern Europe and that of Brazil. In contrast to other Latin American countries (such as Argentina, Chile or Mexico), Brazil, as well as Eastern Europe, did not borrow to finance capital flight but rather to finance heavy investment imports, decided at the discretion of an industryminded bureaucracy.

A few other salient features of East European debt deserve to be pointed out. Unlike the debt of the highly indebted developing countries, for instance, the debt of Eastern Europe is not — principally — denominated in US dollars. It is owed mostly to European banks (or European governments) rather than to American banks. Only one-third of the debt is in US dollars, the rest is essentially in European currencies (Deutschmarks, Swiss francs or ecus). (In 1989, for instance, the breakdown of all East European debt was as follows: DM 2 750 m; ÖS 2 000 m; USD 1 111 m; YEN 90 m). This has important consequences for the management of the debt in the face of highly volatile exchange rates.

Another salient feature is a consequence of the (retrospectively) weird euphoria that prevailed in the second half of the 1980s. Eager to make loans to Eastern Europe, which was viewed at the time as a safe place (as opposed to a quasidefaulting Latin America), commercial banks did not seek the protection of (Western) government guarantees (to avoid paying what they saw as an unnecessary commission). As a result, the share of publicly guaranteed debt fell from 75% in 1982 to 38% in 1988! Commercial banks (for the most part West European) sought no safety net in case of a crisis. Another measure of this renewed aggressiveness towards Eastern Europe in the second half of the 1980s is given by the spread over Libor that was required: it fell from 112 basis points in 1983 to 24 basis points in 1987. (Debt data are given in Tables A1 to A6 in the appendix.)

2.2. A case-by-case review of East European debt (excluding USSR)

East Germany is not analysed here, and the USSR is discussed in Section 2.3. In the assessment of the solvency of an East European country, measurement problems rapidly become the critical questions. Calculating debt-to-export ratios, for instance, makes little sense, because of the highly distorted trade structure that still prevails. These questions are analysed more thoroughly in Section 3 of this work. Here, the following three criteria are used: outstanding debt in US dollar terms; debt per capita; and so-called debt per effective capita. This last measure is obtained by weighting the size of the population by the income per capita of the country as a share of the (1980) US level. Call D the outstanding debt, N total population and ω the per-capita income, as a fraction of the US level. We define the debt per effective capita as $D/N\omega$. The debt per effective capita therefore translates in US per-capita terms the burden of the debt that is accumulated by a country.

2.2.1. Bulgaria

Bulgaria is one of the eastern countries that benefited most from renewed access to the international capital markets in the second half of the 1980s. After a total withdrawal from the financial markets during the five years from 1980 to 1984, Bulgaria managed to double its outstanding debt. In net terms (taking account of its reserve position), the OECD has estimated that its net indebtedness went from USD 1,6 bn in 1985 to USD 6,1 bn in 1988 and reached about USD 10 bn at the end of 1989.

After a troubled year in 1989, during which it dramatically cut its imports (by 8%), Bulgaria eventually declared a moratorium on the service of its external debt in March 1990. By the end of 1989, Bulgaria's measured debt-toexport ratio was about 2,6, which is certainly large but not overwhelming by Latin American standards. In per-capita terms, however, it is much higher: it amounts to USD 1 053 per capita and USD 2 608 per effective capita.

Bulgaria's productive capacity is weak. On one estimate, 45% of industrial plants are obsolete (see Le Cacheux, 1990). Agriculture, which was neglected in the name of industrialization, passed from employing 54,5% of the labour force in 1961 to employing 19,5 % in 1988 and represented, at that time, about 12,5% of output. By 1990, Bulgaria had ceased to be a net exporter of agricultural products and had become a net importer. The sector is also highly concentrated: it is dominated by about 300 agroenterprises with an average 3 000 workers each. Private property, which nominally represents 12% of cultivated land, supplies half the production of meat and eggs and 25% of milk. Bulgaria became a member of the IMF and the World Bank in the autumn of 1990.

2.2.2. Czechoslovakia

Czechoslovakia's debt is much less of a problem. Even though the country did manage to double its outstanding debt from USD 3,5 bn in 1985 to about USD 7,0 bn at the beginning of 1990, its external debt appears to be quite moderate. As a percentage of exports, it is below one. In per-capita terms, it is USD 444 per inhabitant. In effective per capita terms, it amounts to USD 757 (about one-third that of Bulgaria). From 1985 to 1987, Czechoslovakia registered a cumulative deficit of about USD 1 bn on its trade in convertible currencies. In 1988 and 1989, this was partially offset by a cumulative USD 0,5 bn surplus. It became a member of the IMF and the World Bank in September 1990.

Czechoslovakia is a country with an old industrial tradition. Unlike Bulgaria or Hungary, it has not been forced into a too rapid industrialization. The share of the agricultural workforce in the labour force was already as low as 24% in 1960 and then fell to 12% in 1988. Its early comparative advantage in industrial products explained why it was pressed within the CMEA into arms production. Heavy energy imports and military industries make Czechoslovakia quite vulnerable to an oil-price shock. (It was in response to this vulnerability that Czechoslovakia embarked on a nuclear programme.)

In 1988, 80% of Czecholosvakia's trade was with the other East European countries, including East Germany, half of which was with the USSR. Half of the remaining 20% was trade with the European Community. East and West Germany together accounted for about 13% of its total trade.

2.2.3. Hungary

Hungary's debt passed the USD 20 bn mark in 1989, more than twice the level it had been at in 1984. (Valuation effects are important. In constant US dollars, the increase was 'only' 40%.) Financial hardship led Hungary to become a member of the IMF as early as 1982. In net terms, Hungary's debt-to-export ratio is now 326%. In per-capita terms, the debt amounts to USD 1 939 per habitant. In effective percapita terms, it is USD 4 261 (one-third more than Bulgaria). By either of these two last standards, Hungary is the most indebted East European country.

In macroeconomic terms, Hungary has been under the surveillance of the IMF since the very first day that it gained full membership. As a result, Hungary's domestic public finances were close to equilibrium in 1988, and showed a moderate deficit (of about 1% of GDP) in 1989 and 1990.

As another result, its trade balance in convertible currencies has posted a surplus over the past three years. Early results for 1990 show a surplus of USD 945 million. Because of the huge debt that has been accumulated, however, the current account remains in deficit by more than USD 1 billion.

Hungary, thus far, has not sought to reschedule its debt with its foreign creditors. This may be a mixed blessing. Eager to maintain a reputation that has been bought dearly). Hungary is imposing on itself an additional burden. In exchange, so to speak, Hungary has managed to get significant help from the IMF and the World Bank (see Table A4).

Along with Czechoslovakia, Hungary appears likely to be a preferred choice of foreign investors. It has announced that up to 75% of the economy could be privatized over the next five years. It indicated early on willingness to make the life of foreign investors easy and has imposed few restrictions on the scope of its privatization programme (see Grosfeld and Hare, this volume). (General Electric, Suzuki, and General Motors have already expressed an interest in investing in the country.) An important question to be discussed is whether this inflow of foreign capital should be used to service external debt.

2.2.4. Poland

Poland's debt is, in absolute terms, the largest of the five countries under review. At the end of 1989, it passed the USD 40 bn mark. Poland is notorious for having started the debt crisis of the 1980s by interrupting the service on its debt as early as January 1981. As a result, in contrast to Bulgaria or Hungary, Poland did not benefit from the renewed access of the East European countries to the Euromarket that marked the second half of the 1980s. In per-capita terms, Poland's debt stands at USD 1 102. In effective per-capita terms, it stands at USD 2 843, slightly higher than that of Bulgaria, but about half that of Hungary.

The negotiations between Poland and its external creditors have woven a rich pattern. In 1987 a jumbo rescheduling agreement was reached. From 1982 until September 1989, Poland managed to pay all interest due on the commercial bank debt (but has stopped since then). One particularity of Polish debt is that two-thirds of it is owed to Western governments, and only one-quarter (about USD 9 bn) to commercial banks. Poland is one of the largest debtors to the Paris Club. After the military crackdown on Solidarity in 1982, Western governments shut the Paris Club to Poland for about two years. (The interest arrears accumulated during that period have not yet been cleared.) Finally, the rescheduling agreement resumed (see Table 4 in Section 3.3.). After the 1987 Paris Club agreement, however, Poland rapidly went into arrears both with its official creditors from the Paris Club and with the IMF.

In February 1990, the Paris Club rescheduled accumulated arrears up to March 1991. There was some expectation that the Houston summit in July 1990 would put Poland on the next debt relief programme but, eventually, only an indirect reference 'to courageous governments' was offered. Finally, in late January 1991, the G7 decided to grant Poland (along with Egypt) a debt write-off that will amount to at least 50% of its public debt (the USA has already decided to reduce Poland's debt to it by 70%).

Poland has important mineral resources (coal, copper, sulphur, silver, tin, lead). Contrary to Hungary or Bulgaria, it has retained a significant part of its population in agriculture: 40% of total population and 28% of its labour force. Importantly, 4,1 million out of the 4,6 million of the agricultural labour force is composed of independent farmers. Unlike in Bulgaria, however, the average size of farms is too low (6,7 hectares of cultivated land per farm).

Industry has been shaped by the various turnarounds in the command economy. Investments in heavy industries in the 1950s and early 1960s neglected the basic need for housing and consumer goods. Thanks to the debt strategy of the early 1970s, investment and consumption demands could be reconciled. In the second half of the 1970s, the attempt to control the growth of the external debt also led the authorities to develop the export sector and put pressure on consumption. In 1980, Solidarity was created, and in 1981, Poland stopped servicing its debt.

2.2.5. Romania

Romania has been a member of the GATT since 1971 and of the IMF and the World Bank since 1972. In the early 1980s, Romania's debt was not exceptionally high, by the standards of the times. Its debt-to-export-ratio was estimated to be 135%. Yet, because of a low level of reserves and because of the crisis of confidence of the early 1980s, Romania had to reschedule its debt in 1982. The Ceauşescu regime decided from then on to reimburse its debt entirely. This happened indeed in March 1989, only a few months before the regime was overthrown.

As a consequence, Romania is certainly in an excellent position on the international financial scene. With no debt, 'only' the domestic political uncertainties are an obstacle to its access to the financial markets.

Romania has a population of 23 million. A large part of it is still in agriculture, despite a rapid fall from about 65% in 1960 to 28% today. By 1989, however, like Bulgaria, the country was no longer self-sufficient in agricultural products. Industry has followed a path that is common to many other East European countries, only in a more stubborn way. Large investments in petrochemical factories were undertaken which only raised the energy bill.

2.2.6. Yugoslavia

Yugoslavia was a founder member of the IMF and the World Bank. During the 1980s — particularly from 1983 till 1986 — it went through a long series of rescheduling agreements and IMF stabilization programmes. Net transfers to Yugoslavia's creditors averaged USD 2 bn a year from 1985 until 1989 and kept the current account in surplus throughout the years 1983-89. As a result, the debt was stabilized throughout the last decade at about the USD 20 bn that it had reached in 1981.

In 1990, another 'tough' programme of stabilization was undertaken. A bankruptcy law was voted in January 1990. The convertibility of the dinar at a fixed exchange rate with the Deutschmark was imposed. Unlike other East European countries, Yugoslavia's trade with the former Soviet bloc represents less than one-third of its overall trade. It is strongly in surplus with the CMEA countries. It was the tourism industry that provided the source of the current account surplus engineered by Yugoslavia in the second half of the 1980s. Yugoslavia's other industries are primarily: textiles, metals, food and machinery.

2.3. USSR

While the largest in absolute value (around USD 42 bn in 1989), the USSR's debt is also among the lowest in per-capita terms (USD 172), or effective per-capita terms (USD 348). In net terms, the situation is even better. Gold reserves, at market prices, are estimated - by the OECD - to have been about USD 35 bn in 1989; by another OECD estimate, foreign exchange reserves amounted to USD 5 bn. In net terms, the debt per capita of the USSR is therefore negligible. The debate on the solvency of the USSR has more a prospective relevance. How much debt can the USSR still take on (and for what)? Already — by some IMF estimates — the current account could go into a deficit of about USD 10 to 15 bn in 1991. At such a rate, the debt build-up could proceed quite quickly. Like the other East European countries, the USSR enjoyed cheap access to the world financial markets from 1982 until 1988. As a result, the share of private non-guaranteed loans has risen from 25 to 62% of the total.

By the end of 1987, however, the risk of a rising debt and of a collapsing economy cooled the attitude of commercial banks towards the USSR. In a few months, the spread over Libor rose from 1/8 of a percentage point to 0,88.

In order to assess the prospects for growth in the USSR, the outlook of its 15 republics is briefly reviewed. In the following subsections, a potential growth indicator is estimated for each of them.

2.3.1. Russia

The Federal Republic of Russia represents 76,7% of the total territory and 53,8% of the total population. It is itself composed of 16 autonomous republics, 5 autonomous regions and 10 autonomous districts.

As Table A7 shows, Russia has essentially a trade balance with the rest of the USSR but a huge deficit — of about 50% of its imports — with the rest of the world. This is perhaps surprising, to the extent that most of the oil reserves are located in Russia. It certainly reflects the geographic location of government expenditure, but — above all — it reflects the distorted price structure that deflates the value of Russia's exports (of oil particularly).

2.3.2. Belorussia, Moldavia and the Ukraine

The Ukraine is the second largest republic. It represents 18% of the total population of the USSR and a similar share of output. It has a surplus with respect to the other regions of about 10% of its exports and a deficit with the rest of the world of about 50% of its imports. Although the share of its labour force in industry is similar to that of Russia (about 30%), the Ukraine has a much larger share of its labour force in agriculture (20% rather than 13%). Belorussia accounts for only 3% of the USSR's workforce and Moldavia for 1,5%. One-third of Moldavia's labour force is employed in agriculture and 22% in the case of Belorussia. While the average level of education is about the same in Belorussia as in the Ukraine, in Moldavia it is about 20% lower.

2.3.3. Azerbaijan, Kazakhstan, Kirghizia, Uzbekistan, Tadjikistan and Turkmenistan

The southern rim of the USSR represents 20% of its overall population. Characterized by a larger share of agriculture than the rest of the USSR, it also exhibits a significantly lower level of education. Only 8,6% of the labour force is composed of white-collar workers with secondary education (the corresponding number is 12,4% in the USSR). Percapita income is reported to be about 55% of the USSR average.

2.3.4. Baltic countries

At the other extreme, Lithuania, Latvia and Estonia are reported to have an income per capita which is about 22% higher than the USSR average. This 20% wedge also shows up in the share of white-collar workers with secondary education.

Their pattern of trade exhibits a mild deficit with respect to the rest of the USSR and a significant deficit with the rest of the world.

2.3.5. Armenia and Georgia

Although Armenia is located in the southern part of the USSR, it has a pattern of employment that resembles that of the north. Only 13,8% of the workforce is in agriculture and its level of education is about the national average. Georgia (1,9% of total population) has the same percentage of its labour force in agriculture as the Ukraine, but its level of education is 10% lower.

3. Econometric estimates of potential growth

3.1. Growth theory, old and new

The 'old' theory of growth, developed, for example, by Solow, can be summarized as follows. Production uses two factors of production, capital and labour, and there are constant returns to scale in these two factors (that is, doubling of capital and of labour doubles output). Growth in the long run is the sum of two components: the growth of the labour force (which is also equal to the desired growth of the stock of capital) plus an exogenous term which measures how the 'advance of scientific knowledge' raises the productivity of capital and labour.

The key problem with such a theory is less its empirical relevance than the critical implication that growth of percapita income would tend to be equalized in all countries. Indeed, all countries will want the same long-term capitaloutput ratio and all will benefit, or should benefit, from the same 'advances of scientific knowledge'.

The 'new' theory of growth (associated with the work of Romer, 1986) challenges this conclusion. Without going into the details of the analysis, one can summarize it as follows. Contrary to the assumption that is made in the Solow model, the advances of knowledge are not exogenously given to the world economy. Instead they are viewed as the result of a competitive activity (in research and development, improvement in the quality of products of workers, and so on). As a consequence, different countries need not converge towards the same steady state: scientific knowledge is not affordable equally to each country, and countries endowed with an initially low level of human capital may never catch up with the rich ones.

The empirical work triggered by this new approach has been quite different from the work induced by the Solow model. The new theory has attempted to estimate directly the determinants of growth without artificially separating the productivity of the two factors of production from a 'residual' measure of the overall productivity. The key question of interest to us is one that has been coined the 'convergence hypothesis', which was alluded to in the Introduction. Under which circumstances can a poor country catch up with the richer ones? As the study by Barro (1989) clearly shows, and as the brief theoretical discussion above suggests, human capital, i.e. education, is the key factor that makes it possible for a poor country to converge towards the rich. More specifically, what Barro has shown is that the negative correlation between growth and initial income (which is the statistical version of the convergence hypothesis) is only obtained when the degree of education of the country is taken into account. Otherwise, the raw correlation between growth and initial per-capita income does not emerge as negative.

This is certainly good news for the East European countries, which are all highly educated. The bad news, however, is that the convergence shows up at a very slow speed. Barro and Sala-i-Martin (1990),for instance, show that it may take 25 years for a poor country to catch up half the distance from the rich ones. This is a feature that will also show up for Eastern Europe.

In the following sections of this paper, a few empirical results are presented that are characteristic of this new research agenda. An attempt is then made to see what measure of potential growth they deliver when applied to East European countries.

3.2. Growth and investment: an empirical analysis

The empirical analysis will rely on the work by Romer (1989), Barro (1989) and Kormendi and McGuire (1985) in estimating a structural equation for growth and investment. Unless specified, the data come from Summers and Heston (1988). The sample includes 81 developing economies and 20 developed countries from 1965 till 1985. Results will be

reported for the full sample and for the sub-sample of developing economies. Following Barro (1989), the dependence of growth and investment upon the initial value of human wealth and income per capita will be analysed.

3.2.1. Investment

The average share of investment in GDP during the years 1965-85 was regressed on a set of indicators of human wealth, income per capita, share of exports in GDP, population growth and on some regional dummies. The results are shown in Table B1 (for the full sample) and in Table B2 (for the sub-sample of developing economies) in the Appendix.

a. Initial human capital and initial per-capita income

Human wealth was proxied (following Barro, 1989) by enrolment in primary and secondary school as a percentage of total population (variables enrol-1 and enrol-2). Literacy ratio (as in Romer, 1989) was dominated by enrolment in primary school. Income per capita (variable HPERCA) was expressed as a percentage of 1980 per-capita income (such as calculated by Summers and Heston).

Table B1 shows that enrol-1 and enrol-2 are indeed significant. In contrast, HPERCA is not significant when the regression is performed for the entire sample. On the other land, as one sees from Table B2, enrol-2 does not appear to be significant, while HPERCA does, when the regression is performed for the sub-sample of developing economies.

There are two ways of interpreting these results. One is to say that the full sample reveals, so to speak, that enrolment in secondary school is the critical variable for climbing the ladder of development and moving from being an underdeveloped to being an industrialized country, but that it does not show up for the sub-sample of developing economies because, say, too few of them have passed the necessary threshold. Another explanation is to argue that a developing economy faces other dominant constraints which are proxied by its level of income (such as implementing a financial market or other increasing-returns-to-scale services). More work is needed to answer this question. In the rest of the paper the emphasis on human capital that is adopted in the new growth literature is followed and the forecasts are based on the results obtained for the full sample.

b. Initial share of exports in GDP (variable KX)

A priori, the influence of openness on growth is ambiguous. As pointed out by Grossman and Helpman (1990), openness means better access to foreign goods, which raise investment opportunities, but it also means fiercer foreign competition, which may choke off domestic investment opportunities. As already pointed out in Romer (1989), the empirical results are unambiguously favourable to the hypothesis that trade is good for investment. (Interestingly, Tables B1 and B2 give similar results.) The quantitative magnitude, however, is not very impressive. Raising the share of exports to GDP by a full 10 percentage points raises investment by about 1 percentage point.

c. Population growth (variable POPGRT)

The effect of population growth on investment is ambiguous. A positive sign would show that an expanding population offers new investment opportunities. A negative sign may indicate some substitution away from capital towards labour. At any rate, we find no empirical correlation.

d. Regional dummies

As already reported in Barro (1989) and Romer (1989), Latin America and Africa show a lower investment rate than the other regions. In Table 2, one sees that Latin America is 2,6 percentage points below the other developing economies (and significant at the 10% degree of confidence). It is not significantly low when compared with the full sample in Table 1. The Africa dummy, however, is never significant.

3.2.2. Growth

The growth of GDP (not of GDP per capita, as in Romer and Barro) has been regressed on the same set of explanatory variables as for investment, and the share of investment in GDP has been added to the explanatory variables. The results are shown in Table B3 for the full sample and in Table B4 for the sub-sample of developing economies.

a. The role of investment (variable KI)

The role of the investment-to-GDP ratio was emphasized by Romer (1989) as a key explanatory variable of growth (in his regression, one-third of the variance of growth is explained by investment alone). The point estimate is quite similar in Tables B3 and B4. An increase of one percentage point in investment raises growth by about 0,08 of a percentage point. (These results are lower than in Romer.)

b. Human capital (Enrol-1)

Enrolment in primary school does appear to be an explanatory variable of growth, even once the effects of the investment decision are controlled for. This is an indication that human capital offers investment opportunities which are not fully internalized by the investors. Enrolment in secondary school appears to have the wrong sign. This would be taken as an indication of decreasing returns to secondary education (given the fact that it figures positively in the investment equation). The result is maintained, however, when investment is not controlled for. Consequently it was decided to omit enrol-2 as an explanatory variable, but obviously more work will be needed to solve the puzzle (already apparent in the discrepancy between the results obtained in the investment equation for all countries and that which was obtained for the developing economies only).

c. Per capita income (PERCA)

Confirming the results in Barro (1989), a negative correlation appears between growth and per-capita income (when account is taken of the human wealth factor). Raising the percapita income by 10 percentage points reduces growth by 0,8 of a percentage point. This is an indication that decreasing returns to scale are (quite strongly) present for physical capital.

d. Export-to-GDP ratio (KX)

Openness does not play a significant role, once the investment decision is controlled for. It has been omitted from the growth equation.

e. Population growth (POPGRT)

Population growth raises GDP growth by a factor of 0,65 only. In other words, GDP per capita appears to be a negative function of population growth. This result was already in Kormendi and McGuire (1985). (See Barro (1989) for an endogenous estimate of the fertility rate.)

f. Regional dummies

Africa and Latin America exhibit a lower growth of about 1,5 percentage points. Unlike the investment equation, this result remains robust when the sample is changed.

The growth equation appears to be more robust to the change of sample than the investment equations. For the sake of homogeneity, in both cases the equations that were obtained for the full sample will be used.

3.2.3. Openness

To forecast the investment rate in Eastern Europe, and also to calculate a debt-to-export ratio, a benchmark export-to-GDP ratio is needed that is more meaningful than the observed ratio. Consequently, an export-to-GDP ratio equation is estimated on the basis of the same set of explanatory variables as those that were used above and upon a variable related to the size of the population.

A small country must trade with the rest of the world to the extent that it cannot afford to produce itself all the goods that it needs. How does the size of the country specifically intervene? As a benchmark case, consider the following situation. Assume that the country has the shape of a circle, with a uniform density of population. Call R the radius of the circle. The overall population is proportional to πR^2 . Now assume that trade with the rest of the world is performed by the population that lives in the vicinity of the border of the country (i.e. the circle). Their number is proportional to $2\pi R$. The degree of openness of the country consequently appears to be proportional to

$\frac{2\pi R}{\pi R^2}$

that is to the inverse of the radius of the circle, and to the inverse of the square root of the population (since the population is πR^2). Consequently the degree of openness of a country is regressed on the inverse of the square root of the population (variable HAPO). A regression directly based on the size of the population would also give a significant correlation, but the quality of the fit would be much worse: an R^2 of 0,16, instead of 0,45 here.

On the other hand, among the other explanatory variables that were analysed previously, only income per capita appears to be significant. The result is shown in Table B5 in Appendix 2.

3.3. Prospects of growth in Eastern Europe and the USSR

These regressions will now be used to predict what rate of growth and investment the East European countries may achieve once they find their rank on the ladder of development of the world economy. First the growth prospects for Eastern Europe excluding the USSR are calculated. Then the results obtained for each of the 15 republics in the USSR are reported and aggregated to get the USSR's growth.

a. Eastern Europe

To forecast the growth rate of Eastern Europe, the following information is used :

(i) The income per-capita ratio: the value that is reported in Summers and Heston has been used, but it has been deflated by 10% to make it conform better to recent estimates.

(ii) The level of enrolment in primary and secondary school: Unesco estimates have been used. A difficulty is encountered with Czechoslovakia.

(iii) Population growth: the data in Summers and Heston have been used.

(iv) The degree of openness. The regression that was calculated in the previous paragraph has been used.

The raw data are shown in Table B7. The results of the forecast are shown in Table 4.

Table 4

Forecast of investment, openness and growth

	Invest- ment rate	Degree of openness	GDP growth rate	Per-capita growth rate
Bulgaria	29,0	27,3	4,0	3,5
Czechoslovakia	25,8	28,0	2,5	2,2
Hungary	26,4	27,4	2,9	3,3
Poland	26,7	22,6	4,0	3,3
Romania	26,7	23,0	3,9	3,6
Yugoslavia	27,3	23,9	3,8	3,6

The rate of investment that is forecast is rather high. This is a direct result of the high level of education in Eastern Europe. There is no doubt, however, that the result is overpredicted. For the industrialized countries, where education is similarly high, investment is over-predicted by about 4 percentage points. The discrepancy, however, is not statistically significant (at the 5% degree of confidence). On the other hand, one sees that growth is not spectacularly outstanding (as it is in South-East Asia). This reflects the fact that these countries are already rather high in the income per-capita scale (the raw data given by Summers and Heston show that Czechoslovakia is 'only' 35% poorer than the USA in 1980; on the other hand, Czechoslovakia is reported to have a very low level of enrolment in secondary school, below 40%, which cannot be right). The per-capita projections give a narrow spectrum : leaving aside Czechoslovakia, which is a statistical anomaly, all countries' per-capita income should grow at an average rate which is between 3% (in the USSR) and 3,6% (in Romania, which is also the poorest country).

The sources of this pattern of growth and investment are displayed in Table B8 in Appendix 2. (The contribution of each explanatory variable is weighted by the coefficient that appears in the underlying regression.) In the investment equation, one sees that more than half the level that is estimated comes from the human capital variables. In contrast, the openness variable plays a minor role (around 2 percentage points). In the growth equation, one can also see the powerful effect of the decreasing-returns factor: for a growth rate of about 4%, 2 percentage points are lost because of decreasing returns, while 2 are gained by education and another 2 by investment.

Finally, one sees in the export-to-GDP equation that 12,5 percentage points are common to all countries, while 6 to 10 percentage points are due to the level of income. The population component is the most volatile. For a large country such as the Soviet Union, it explains as little as 1,6 percentage points, while for a small country such as Bulgaria, it explains as much as 8,8 percentage points. (The overall result shown in Table 4, however, will appear to lack the heterogeneity that one could have expected.)

b. Patterns of growth within the Soviet Union

In order to calculate the growth rate in the USSR, the regressions were applied to each of the 15 republics within the Soviet Union. The raw data are displayed in Table B9. They are obtained by scaling the Summers and Heston data on the data that are available for each republic (such as reported in Table A7). The results are then aggregated to arrive at the overall rate of growth of the USSR. (The details of the simulation are provided in Table B9.)

The pattern of GDP growth exhibits a richer variety within the Soviet Union than across East European countries. As the comparison between the per-capita growth rates and the GDP growth rates shows, however, this essentially results from the variance of population growth within the Soviet Union. In per-capita terms, growth is always very near the 2,9% rate that is calculated for the USSR as a whole.

c. A comparison with other developing economies

We see that, on average, the range of the per-capita growth rate is narrow: between 3 and 3,3%. Only in the regions with the fastest-growing population of the USSR do we find

Table 5

Growth rate of the USSR's 15 republics

	GDP	Per-capita growth rate
Armenia	4,1	3,0
Azerbaijan	4,9	2,9
Belorussia	3,0	2,4
Estonia	3,5	3,1
Georgia	5,5	4,6
Kazakhstan	4,9	3,2
Kirghizia	5,4	3,0
Latvia	3,5	3,2
Lithuania	3,6	3,1
Moldavia	4,3	3,1
Russia	3,5	3,0
Tadjikistan	5,7	2,4
Turkmenistan	5,4	2,5
Ukraine	3,7	3,4
Uzbekistan	5,8	2,9
Average USSR	3,9	2,9

a lower rate of per-capita growth. This reflects above all the homogeneity of the region, which contrasts with the disparities that are encountered around the world.

One may view 3,3% as not so impressive, but it should be compared with the performance that was achieved in the developing economies in the years 1965-85. Brazil, for instance, which experienced very rapid growth up to the early 1980s, only achieved a per-capita growth rate of 3,6% during that period. On average, the middle-income countries experienced over that period a per-capita growth rate of about 2,3%. One must also recall that the data are from Summers and Heston; they report lower growth rates with respect to national accounts data. (With Summers and Heston data a poor country appears to be less poor than with national accounts data.)

A simple way to illustrate the results that we obtained is to display the 'proximity' of Eastern Europe with respect to other economies. In order to do that, each country can be characterized by two components: its income per capita (in 1985) and its level of education. Education is taken to be a linear combination of enrolments in primary and secondary schools, the weights being those that are used by Barro, i.e. EDUC = 0.025 Enrol-1 + 0.0305 Enrol-2.
Regressing the growth of per-capita income, n, on these two coordinates produces the following regression. (Details are in Table B6).

$$n = -0.09 - 0.049 PERCA + 1.05 EDUC$$
(-3.9) (6.5)

 $R^2 = 0.31$ (t-statistic in parenthesis)

An iso-growth curve can consequently be represented as an upward sloping line. For the average East European country (associated with n = 2,9%), the separating line can be drawn above which growth is lower and below which it is faster.

The positions of all one hundred countries in our sample can be plotted on a two-dimensional plane and the isogrowth line drawn that is associated with the average East European country. This is shown in Graph B1. All points below the line are countries with a (1965) faster potential growth than Eastern Europe today. The cross indicates Eastern Europe's position today. The points in the close neighbourhood of Eastern Europe are (1965) Belgium, France and Finland. Their per-capita growth rates were, respectively, 2,9, 2,9 and 3,4% (in Summers and Heston terms).

4. A measure of Eastern Europe's solvency

4.1. A growth-adjusted measure of debt

To assess the solvency of an indebted nation, the following measure was offered in a previous work (Cohen, 1985). Assume that a fixed share, b, of the country's resources were to be allocated regularly to the country's creditors. What share would be required to make sure that, in intertemporal terms, the country reimburses its debt, D? Assume that the country faces a constant growth rate, g, and a fixed world interest rate, r. Call Ω the resources out of which the debt is serviced. One can readily show that our proposed measure of solvency can be written

$$b = (r - g) \quad \frac{D}{\Omega}$$

(The rationale for using such an index measure is provided in Cohen, 1991.) D/Ω can be measured in terms of the debt per effective capita that was reported earlier. For the sake of homogeneity with this measure, a growth-adjusted measure of the debt burden can be defined as follows.

$$\frac{D}{\Omega}$$

wn ______ . **Table 6**

-	(USD
Bulgaria	1 573
Hungary	3 041
Poland	1 704
Romania	79
USSR	210
Yugoslavia	1 453

This growth-adjusted debt is simply the level of debt that an

infinitely lived 1980 US agent with a constant income ahead of him would have to service. (Paying rGD every period is

Taking r = 10% (to be on the safe side and to account for a potential disruption of trade) and g to be the growth

prospect estimated in section 3.3 results in the measure of

obviously equivalent to paying b every period.)

the growth-adjusted debt shown in Table 6.

In order to find a relevant benchmark for this measure, we duplicated our analysis for the developing economies, for which we calculated earlier a growth forecast. The results are shown in Table C2.

By this measure, Hungary is now clearly very indebted, not far off Argentina and more than Brazil or Mexico. This should come as no surprise: it has a large debt, a small population and negative population growth.

4.2. The price of East European debt

Once the debt per effective capita data and the growth prospects for Eastern Europe are put together, an attempt can be made to put a number on the secondary market price of East European debt.

East European debt is already priced on the secondary market. As of mid-1990, the numbers were as follows.

Bulgaria's debt was priced at 40-60 cents on the US dollar (but, essentially, no trade was taking place).

Hungary: Priced at about 80 cents on the US dollar. Few transactions were reported.

Poland: Priced at about 15 cents.

 $GD = (1 - g/r) \frac{D}{\Omega}$

Yugoslavia: Priced at about 65 cents. (Debt-equity swap programmes were expected to be launched by the government.)

USSR: Priced at about 95 cents. But no noticeable transactions were taking place.

The debt can be repriced on the basis of the econometric results that have been obtained for a sample of seven countries for which the market is liquid (these are four Latin American countries: Argentina, Brazil, Mexico, Venezuela; and three East European countries: Hungary, Poland and Yugoslavia; see Cohen and Portes, 1990, for details). The monthly data were pooled over the seven countries.

The equation that was estimated has the following form:

$$Log [P/(1 - P)] = a + b Log Libor + c Log D/N\omega + d Log PG$$

in which P is the price of the debt on the secondary market; log Libor is the log of Libor; D/N ω is the debt per effective capita, and PG is the potential growth such as estimated by the econometric equations of section B. (The reasons why a log form is chosen are spelled out in Cohen, 1991, Ch. 3.)

The results are spelled out in Equation C-3 in Appendix C. They can be summarized as follows:

Log
$$(P/1-P) = 1,4 - 1,3$$
 Log Libor $-0,6$ Log D/N ω
(-3,5) (-4,1)
+ 1,2 Log PG
(3,1)
 $R^2 = 0,16$

From this estimate, Table 7 gives the econometric estimate of East European debt prices.

One sees that the actual secondary market prices of Bulgarian and Yugoslavian debt are not out of line with this estimate. In view of this equation, one should conclude, however, that Polish debt is under-priced and that Hungarian debt is over-priced. The reason is quite obviously that

Table 7

Secondary market price

Bulgaria	47
Hungary	31
Poland	46
Romania	100
USSR	75
Yugoslavia	48

Poland has had a very poor record of payments since 1981, while Hungary's (postwar) record is excellent. One may argue that Hungary, being a small country, needs to trade more and is more interested in having a good international standing. (See indeed the trade equation, which foresees a fairly high degree of openness for Hungary.)

The burden of East European debt appeared to be quite substantial by all the measures that we came up with. Whether by a straightforward debt-per-capita measure or by a more sophisticated 'growth-adjusted debt-per-effectivecapita' measure, countries like Bulgaria, Poland, Yugoslavia or Hungary are all in the company of Brazil or Côte d'Ivoire in the group of the largest debtors of the developing world.

The rising debt pressure comes at a time when the opening of Eastern Europe to market relations will make some of these countries an attractive place for foreign investors in the next decade. The acute policy debate that these countries are facing concerns whether they should (partially) default on their debt and keep the hard currencies that they can get from foreign investors for their domestic needs. Or should they keep servicing their debt so as to attract — by maintaining a good reputation — even more foreign investors? Other solutions exist. A (comprehensive) debt-equity swap is certainly one of them. It is hard to say which one will be the most rewarding, but it is not hard to predict that a transparent and thorough debt strategy (whichever is chosen) will always be preferable to an (unpredictable) combination of conflicting options.

Appendix

Table A1

Current account

									(million USD)
	1981	1982	1983	1984	1985	1986	1987	1988	1989
Bulgaria	446	568	426	666	6	-921	21	-650	- 800
Czechoslovakia	- 300	0	400	400	500	240	- 300	-350	- 300
Hungary	- 700	0	300	330	-459	-1400	-850	- 500	-1400
Poland	- 3 000	-2150	-1 090	-1 170	- 550	- 550	-200	- 500	-2000
Romania	-800	600	900	1 500	900	1 300	1 850	2 200	2 000
USSR	2 400	5 700	3 500	4 000	600	1 000	4 000	3 100	-1 000
Source: OECD.									

East European debt in convertible currencies

									(million USD)
	1981	1982	1983	1984	1985	1986	1987	1988	1989
Outstanding debt									
Bulgaria	3 162	2 977	2 482	2 165	3 720	5 075	6 269	7 946	9 500
Czechoslovakia	4 598	3 998	3 612	3 1 3 5	3 489	4 2 5 4	5 32:2	5 721	6 900
Hungary	8 699	7 952	8 2 5 0	8 836	11 745	15 086	17 733	17 305	20 600
Poland	25 869	26 460	26 550	26 908	29 806	33 587	38 800	39 196	41 000
Romania	10 159	9 766	8 880	7 198	6 6 3 4	6 495	6 030	2 810	1 000
USSR	26 534	26 737	23 587	22 513	27 979	33 061	36 51:2	40 856	48 000
Net debt									
Bulgaria	2 352	2 017	1 312	737	1 629	3 694	5 183	6 168	8 260
Czechoslovakia	3 528	3 268	2 672	2 1 3 2	2 478	3 0 3 7	3 724	4 049	5 370
Hungary	7 799	7 222	6 920	7 303	9 468	12 898	16 230	15 926	19 446
Poland	25 109	25 490	25 280	25 361	28 211	31 866	35 806	35 572	37 520
Romania	9 859	9 466	8 370	6 557	6 265	5 860	4 644	2 001	- 60
USSR	18 084	16 707	12 547	11 172	14 917	18 292	22 377	25 601	32 778
Source: OECD									

Real debt

							million USD, at 19	88 exchange rates)
	1981	1982	1983	1984	1985	1986	1987	1988
Outstanding debt								
Bulgaria	3 910	3 878	3 556	3 487	4 604	5 399	5 803	7 946
Czechoslovakia	4 599	4 254	4 085	3 842	3 787	4 030	4 607	5 721
Hungary	10 512	10 165	10 933	12 049	13 897	15 738	16 135	17 305
Poland	30 515	32 306	33 996	35 734	35 902	36 383	37 896	39 196
Romania	10 730	10 427	9 941	8 789	7 703	6 933	5 738	2 810
USSR	31 027	32 720	31 574	32 534	35 024	36 120	34 173	40 856
Net debt								
Bulgaria	2 871	2 632	2 033	1 657	2 242	3 906	4 771	6 168
Czechoslovakia	3 451	3 371	2 941	2 536	2 595	2 764	3 121	4 049
Hungary	9 1 1 4	8 874	8 991	9 830	11 243	13 479	14 701	15 926
Poland	29 555	31 083	32 405	33 749	34 044	34 554	35 061	35 572
Romania	10 409	10 085	9 368	8 064	7 293	6 273	4 375	2 001
USSR	22 813	22 335	19 476	18 744	20 314	20 626	20 620	25 601
Source : OECD.								

Breakdown of the debt by creditor

								(% of total)
	1981	1982	1983	1984	1985	1986	1987	1988
Bulgaria								
(1) Public or publicly guaranteed	21	30	42	46	43	31	29	26
(2) Commercial banks without public guarantee	71	64	56	53	56	66	70	71
(3) IMF/World Bank	0	0	0	0	0	0	0	0
(4) Others	8	6	2	1	1	3	2	3
Czechoslovakia								
(1) Public or publicly guaranteed	17	21	34	35	47	39	37	32
(2) Commercial banks without public guarantee	73	68	63	63	51	57	58	59
(3) IMF/World Bank	0	0	0	0	0	0	0	0
(4) Others	11	11	3	2	3	4	5	9
Hungary								
(1) Public or publicly guaranteed	6	6	14	12	15	11	9	11
(2) Commercial banks without public guarantee	88	81	69	66	64	58	63	57
(3) IMF/World Bank	0	3	7	12	9	10	9	10
(4) Others	6	10	10	9	11	20	19	21
Romania								
(1) Public or publicly guaranteed	14	13	11	19	17	17	17	24
(2) Commercial banks without public guarantee	47	39	35	30	36	32	35	19
(3) IMF/World Bank	17	26	31	35	36	40	34	32
(4) Others	22	22	23	16	11	11	13	25
Poland								
(1) Public or publicly guaranteed	42	40	41	42	43	47	45	44
(2) Commercial banks without public guarantee	36	34	28	24	24	25	25	19
(3) IMF/World Bank	0	0	0	0	0	0	0	0
(4) Others	22	26	30	34	33	29	30	37
USSR								
(1) Public or publicly guaranteed	61	66	64	64	60	47	38	32
(2) Commercial banks without public guarantee	29	25	33	34	38	50	58	62
(3) IMF/World Bank	0	0	0	0	0	0	0	0
(4) Others	10	9	3	2	3	4	4	7
Source : OECD.								

Net debt/exports

									(%
	1981	1982	1983	1984	1985	1986	1987	1988	1989
Bulgaria	67	59	44	22	50	143	175	196	263
Czechoslovakia	82	80	64	52	61	66	78	78	95
Hungary	160	148	143	147	211	312	324	290	326
Poland	502	466	483	459	546	570	556	504	532
Romania	135	152	134	95	100	98	76	32	-1
USSR	65	55	40	36	58	79	82	90	113

Source: OECD.

Table A6

Euromarket financing

															(mi	llion USD)
Country	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Bulgaria	160	125	240	245	239	182		_	_		_	475	45	260	194	580
Czechoslovakia	_	60	200	150	230	450	475	30		50		100	278	242	330	334
Hungary	190	351	175	525	515	950	600	591	483	567	1 146	1 642	1 315	1 951	1 016	1 334
Poland	509	475	546	100	435	932	736				260			30		163
Romania	_	106		125	725	420	458	337		_		150	_	_		_
USSR	_	750	282		400	320	50	50	153	68	867	1 508	1 821	1 003	2 679	1 679
Spreads																
Average spread (basis points over Libor)	74	134	128	111	83	70	88	62	103	112	88	55	26	24	30	52
Maturity (years and months)	_	5/9	5/7	6/4	6/5	8/3	6/7	5/7	4/9	4/5	5/11	7/5	7/5	8/1	8/5	8/6
Source: OECD.																

The 15 republics in 1988

	Area		Popu			Employment		
	(1 000 x km ²)	Total in millions	Density per km ²	Growth	% non-nationals (1979)	Total in millions	Industry (%)	Agriculture (%)
USSR	22 275,7	286,7 (100)	12,87	8,7	_	128,9 (100)	29,0	18,5
Armenia	29,8 (0,1)	3,28 (1,1)	110,07	11,3	10,3	1,45 (1,1)	32,2 (1,2)	13,8 (0,9)
Azerbaijan	86,6 (0,4)	7,03 (2,5)	81,18	19,7	21,9	2,45 (1,9)	18,6 (1,2)	27,1 (2,9)
Belorussia	207,6 (0,9)	10,2 (3,6)	49,13	5,9	20,6	5,02 (3,8)	30,0 (4,0)	22,0 (4,8)
Estonia	45,1 (0,2)	1,57 (0,6)	34,81	4,1	35,3	0,77 (0,6)	31,0 (0,6)	13,7 (0,4)
Georgia	69,7 (0,3)	5,45 (1,9)	78,19	8,3	31,2	2,52 (1,9)	20,2 (1,3)	22,3 (2,4)
Kazahkstan	2 717,3 (12,2)	16,54 (5,8)	6,09	16,9	64,0	6,86 (5,2)	20,7 (3,7)	21,9 (6,5)
Kirghizia	198,5 (0,9)	4,29 (1,5)	21,61	23,8	52,1	1,45 (1,1)	20,3 (0,8)	28,3 (1,8)
Latvia	64,5 (0,3)	2,68 (0,9)	41,55	3,3	46,3	1,37 (1,0)	29,8 (1,1)	16,2 (1,0)
Lithuania	65,2 (0,3)	3,69 (1,3)	56,60	5,1	20,0	1,82 (1,4)	29,3 (1,4)	18,7 (1,5)
Moldavia	33,7 (0,2)	4,34 (1,5)	128,78	11,2	36,1	1,92 (1,5)	21,4 (1,1)	32,6 (2,7)
Russia	17 075,4 (76,7)	147,39 (53,8)	8,63	5,3	17,4	72,06 (55,1)	30,9 (60,2)	13,2 (41,3)
Tadjikistan	143,1 (0,6)	5,11 (1,8)	35,71	33,0	41,2	1,41 (1,1)	15,8 (0,6)	32,0 (1,9)
Turkmenistan	488,1 (2,2)	3,53 (1,2)	7,23	28,2	31,6	1,18 (0,9)	11,2 (0,3)	35,4 (1,8)
Ukraine	603,7 (2,7)	51,70 (18,0)	85,64	2,8	26,4	24,45 (18,7)	30,8 (19,7)	20,6 (21,7)
Uzbekistan	447,4 (2,0)	19,91 (6,9)	44,50	28,3	31,3	6,08 (4,6)	16,8 (2,7)	32,0 (8,4)

Sources: Ceducee, Courrier des pays de l'Est and Encyclopedia universalis.

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Education:	ion	Product	Net material product		
(as % USSR	Agriculture	Industry	Per	Total	
average)	(billion R)	(billion R)	capita (R)	(billion R)	
	222,2	903,0	2 197	630,8	
	(100)	(100)	(100)	(100)	
0,97	1,4	8,5	1 919	6,3	
	(0,6)	(0,9)	(87,3)	(1,0)	
0,74	3,9	12,2	1 664	11,7	
	(1,8)	(1,3)	(75,8)	(1,9)	
1,07	11,9	38,8	2 549	26,0	
	(5,4)	(4,3)	(116)	(4,2)	
1,20	1,8	6,6	2 674	4,2	
	(0,8)	(0,7)	(121,7)	(0,7)	
0,92	3,3	12,3	1 964	10,7	
	(1,5)	(1,4)	(89,4)	(1,7)	
0,86	15,8	34,2	1 566	25,9	
	(7,2)	(3,8)	(71,3)	(4,1)	
0,69	2,9	6,3	1 235	5,3	
	(1,3)	(0,7)	(56,2)	(0,8)	
1,11	2,9	10,4	2 723	7,3	
	(1,3)	(1,1)	(123,9)	(1,2)	
1,19	4,9	12,7	2 412	8,9	
	(2,2)	(1,4)	(109,8)	(1,4)	
0,88	4,8	10,1	1 820	7,9	
	(2,2)	(1,1)	(82,8)	(1,3)	
1,1	104,1	492,0	2 536	373,7	
	(47,3)	(54,5)	(115,4)	(59,8)	
0,52	2,6	5,0	978	5,0	
	(1,2)	(0,5)	(44,5)	(0,8)	
0,61	2,6	4,7	1 443	5,1	
	(1,2)	(0,5)	(65,7)	(0,8)	
1,03	48,4	157,0	2 031	105,0	
	(22,0)	(17,4)	(92,4)	(16,8)	
0,62	109 (4,9)	24,6 (2,7)	1 105 (50,3)	22,0 (3,5)	

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Table A8

Yugoslavia

								(million C	SD, unless office	erwise indicated)
	1970	1980	1981	1982	1983	1984	1985	1986	1987	1988
			1. S	ummary del	ot data					
Total debt stocks (EDT)	_	18 486	20 646	19 900	20 477	19 638	22 276	21 482	22 471	21 684
Long-term debt (LDOD) Public and publicly guaran-	2 053	15 585	16 902	16 335	17 267	16 665	19 179	18 049	19 319	19 341
teed	1 198	4 580	5 198	5 460	7 234	8 478	11 199	12 218	14 274	13 949
Private non-guaranteed	854	11 005	11 704	10 875	10 033	8 187	7 980	5 831	5 045	5 392
Use of IMF credit	0	760	1 252	1 754	2 068	1 947	2 108	2 069	1 852	1 310
Short-term debt		2 140	2 492	1 810	1 142	1 026	990	1 365	1 300	1 033
Interest arrears on LDOD	_	0	0	0	0	0	0	0	0	0
Total debt flows										
Disbursements		5 209	3 740	2 800	3 109	1 734	1 349	1 192	548	1 990
Long-term debt	645	4 589	3 087	2 188	2 517	1 447	1 090	654	548	1 825
IMF purchases	0	441	653	612	592	287	259	158	0	165
Principal repayments		2 449	1 947	2 140	1 836	1 844	1 532	1 965	1 960	2 651
Long-term debt	375	2 380	1 859	2 096	1 655	1 568	1 169	1 540	1 389	1 773
IMF repurchases	45	70	88	43	181	276	327	425	505	611
Net flows		2 580	1 793	661	1 273	- 109	-183	- 773	-1411	- 661
Interest navments (INT)		1 286	1 779	1 937	1 812	2 645	1 841	2 049	1 980	1 680
Long term debt (LINT)	104	1 077	1 163	1 606	1 514	2 3 2 3 2 0	1 524	1 779	1 700	1 401
Long-term debt (LINT)	104	21	1 403	116	1 514	2 339	210	1 / / 0	1 723	1401
INIT charges	0	51	255	215	133	200	210	192	139	139
Short-term debt		1//	255	215	143	100	90	19	97	140
Net transfers		1 294	14	-12//	- 539	-2755	-2024	- 2 822	- 3 391	-2341
Total debt service (TDS)		3 7 3 5	3 /26	40//	3 648	4 489	3 3 7 2	4 014	3 940	4 3 3 0
Long-term debt (LTDS)	479	3 457	3 322	3 703	3 169	3 906	2 703	3 317	3 114	3 174
IMF	45	101	149	159	336	482	537	618	664	750
Short-term debt		177	255	215	143	100	132	79	162	407
			2. Majo	r economic a	aggregates					
Gross national product (GNP) Exports of goods and services	13 688	72 282	70 455	63 109	46 775	44 274	46 197	64 664	60 451	61 203
(XGS)	2 866	17 903	19 717	19 550	16 647	16 615	17 188	19 064	19 944	20 508
Imports of goods and services										
(MGS)	3 345	20 466	20 935	20 252	16 594	16 310	16 528	18 167	18 923	15 791
International reserves (RES)	143	2 478	2 335	1 624	1 687	1 732	1 704	2 189	1 602	3 074
Current-account balance	- 372	-2313	-958	-475	275	478	833	1 097	1 249	1 955
			3.	Principal ra	atios					
Total external debt (%)										
EDT/XGS		103,3	104,7	101,8	123,0	118,2	129,6	112,7	112,7	105,7
EDT/GNP		25,6	29,3	31,5	43,8	44,4	48,2	33,2	37,2	35,4
TDS/XGS	_	20,9	18,9	20,9	21,9	27,0	19,6	21,1	19,8	21,1
INT/XGS		7,2	9,0	9,9	10,9	15,9	10,7	10,7	9,9	8,2
INT/GNP		1,8	2,5	3,1	3,9	6,0	4,0	3,2	3,3	2,7
RES/EDT		13,4	11,3	8,2	8,2	8,8	7,7	10,2	7,1	14,2
RES/MGS (months)	0,5	1,5	1,3	1,0	1,2	1,3	1,2	1,4	1,0	2,3
Short-term/EDT		11,6	12,1	9,1	5,6	5,2	4,4	6,4	5,8	4,8
Concessional/EDT		7,9	6,7	6,4	5,5	5,1	4,8	5,2	5,0	5,0
Multilateral/EDT		7,6	7,4	8,7	9,0	9,0	10,6	13,4	15,8	13,8
Long-term debt (%)										
LDOD/XGS	71.6	87.1	85.7	83.6	103.7	100.3	111.6	94 7	96.9	94 3
LDOD/GNP	15.0	21.6	24.0	25.9	36.9	37.6	41.5	27.9	32.0	31.6
LTDS/XGS	16.7	19 3	16.9	18.9	19.0	23 5	157	174	15.6	15.5
LTDS/GNP	3 5	4.8	47	5.0	6.8	23,5	50	51	50	50
LINT/XGS	3,5	-,0	7,1	8 2	0,0	14 1	80	0.2	9,2	5,2
LINT/GNP	0.8	1 5	21	25	2.2	5 2	2 2	2,5	2.0	0,0
RFS/LDOD	7.0	1,5	12.9	2,5	5,2	5,5	3,3	12.1	2,9	2,5
RLS/LDOD	7,0	15,9	13,8	9,9	9,8	10,4	8,9	12,1	8,3	15,9

Tables B1 to B11

List of variables

DAF	Dummy for Africa
DLA	Dummy for Latin America
EDUC	0,025 Enrol-1 + 0,0305 Enrol-2
HGROPER	Growth rate of GDP per capita (1965-80)
HGROWTH	GDP growth rate (1965-80)
HI	Investment
HPERCAI	Per-capita income (in % of 1980 US terms) in 1965
HPOPGRT	Population growth
HRAPO	Square root of the inverse of total population
KXI	Export-to-GDP ratio
Nenrol-1	Enrolment in primary school
Nenrol-2	Enrolment in secondary school

Investment equation for the full sample

Method of estimation = ordinary least squares

3

Dependent variable: HI

Sum of squared residuals	=	2 533,28
Standard error of the regression	=	5,45924
Mean of dependent variable	=	18,7333
Standard deviation	=	7,68911
R-squared	=	0,534261
Adjusted R-squared	=	0,495906
F-statistic (7, 85)	=	13,9294
Log of likelihood function	=	-285,628
Number of observations	=	93

Variable	Estimated coefficient	Standard error	T-statistic
C	6,9023	3,7564	1,8375
DLA	-0,81974	1,6833	-0,48697
DAF	0,47416	1,8726	0,25320
HPOPGRT	0,27130	0,97578	0,27803
KXI	0,78505E-01	0,33809E-01	2,3220
HPERCAI	0,29444E-01	0,57363E-01	0,51329
Nenrol-11	0,62178E-01	0,26614E-01	2,3363
Nenrol-2I	0,13364	0,50174E-01	2,6635

Investment equation for the sub-sample of developing countries

Method of estimation = ordinary least squares

Dependent variable: HI

Sum of squared residuals	=	1 983,20
Standard error of the regression	=	5,52365
Mean of dependent variable	=	16,6139
Standard deviation	=	6,91394
R-squared	=	0,423787
Adjusted R-squared	=	0,361734
F-statistic (7, 65)	=	6,82937
Log of likelihood function	=	- 224,106
Number of observations	=	73

Variable	Estimated coefficient	Standard error	T-statistic
		al 21 Marcal	
C	7,3535	4,1180	1,7857
DLA	-2,6017	1,8788	-1,3847
DAF	-0,25283	2,0424	-0,12379
HPOPGRT	-0,98937E-01	1,0987	-0,90051E-01
KXI	0,96559E-01	0,40056E-01	2,4106
HPERCAI	0,23422	0,10675	2,1941
Nenrol-11	0,64448E-01	0,30230E-01	2,1319
Nenrol-2I	0,52002E-01	0,91549E-01	0,56802

Growth equation for the full sample

Method of estimation = ordinary least squares

Dependent variable: HGROWTH

Sum of squared residuals	=	144,989
Standard error of the regression	=	1,26925
Mean of dependent variable	=	4,02506
Standard deviation	=	1,72632
R-squared	=	0,493215
Adjusted R-squared	=	0,459430
F-statistic (6, 90)	=	14,5984
Log of likelihood function	=	-157,132
Number of observations	=	97

Variable	Estimated coefficient	Standard error	T-statistic	
C	1.4921	0.76527	1 9497	
DLA	-1,6167	0,36267	-4,4577	
DAF	-1,4655	0,38395	- 3,8169	
HPOPGRT	0,63556	0,18951	3,3538	
HPERCAI	-0,55639E-01	0,10103E-01	- 5,5075	
Nenrol-11	0,21530E-01	0,59829E-02	3,5985	
HI	0,77013E-01	0,23002E-01	3,3481	

Growth equation for the sub-sample of developing countries

Method of estimation = ordinary least squares

Dependent variable: HGROWTH

Sum of squared residuals	=	134,827
Standard error of the regression	=	1,38784
Mean of dependent variable	=	4,16406
Standard deviation	=	1,86423
R-squared	=	0,489539
Adjusted R-squared	=	0,445785
F-statistic (6, 70)	=	11,1885
Log of likelihood function	=	-130,825
Number of observations	=	77

Variable	Estimated coefficient	Standard error	T-statistic
C	1,3840	0,89039	1,5544
DLA	- 1,4256	0,45750	- 3,1160
DAF	-1,4650	0,42255	- 3,4670
HPOPGRT	0,65894	0,22963	2,8696
HPERCAI	-0,76244E-01	0,20207E-01	- 3,7732
Nenrol-11	0,23446E-01	0,69665E-02	3,3655
HI	0,81070E-01	0,28470E-01	2,8476

Openness equation for the full sample

Method of estimation = ordinary least squares

Dependent variable: KX

	Sum of squared residuals	=	13 318,0	
	Standard error of the regression	=	12,1646	
	Mean of dependent variable	=	28,2584	
	Standard deviation	=	16,2176	
	R-squared	=	0,449603	
	Adjusted R-squared	=	0,437372	
	F-statistic (2, 90)	=	36,7591	
	Log of likelihood function	=	-362,800	
	Number of observations	=	93	
				×
Variable	Estimated coefficient		Standard error	T-statistic
C	12,427		2,3137	5,3709
HPERCA	0,15440		0,50109E-01	3,0812

838,50

Table B6

HRAPO

Growth per capita equation for the full sample

Method of estimation = ordinary least squares

106,44

7,8776

Dependent variable: HGROPER

Sum of squared residuals	=	219,886
Standard error of the regression	==	1,52138
Mean of dependent variable	=	1,98447
Standard deviation	-	1,82311
R-squared	=	0,317973
Adjusted R-squared	=	0,303614
F-statistic (2, 95)	=	22,1453
Log of likelihood function	=	-178,655
Number of observations	=	98

Variable	Estimated coefficient	Standard error	T-statistic
С	-0,93498 E-0 1	0,35807	-0,26112
HPERCAI	-0,49223E-01	0,12443E-01	- 3,9559
EDUC	1,0538	0,16245	6,4871

Raw data for Eastern Europe and 15 USSR republics

	Population growth GDP per capita Population	Population	School enrolment rate		
			-	Primary	Secondary
Bulgaria	0,46	40,35	9 026	102	90
Czechoslovakia	0,30	58,59	15 539	96	84
Hungary	-0,41	45,50	10 625	99	73
Poland	0,70	38,77	37 189	101	77
Romania	0,29	33,72	22 703	98	73
USSR	0,96	49,45	278 921	106	100
Yugoslavia	0,42	39,96	23 125	98	82
USSR republics					
Armenia	1,13	43,19	3 283	97	91
Azerbaijan	1,97	37,45	7 029	95	90
Belorussia	0,59	57,37	10 200	96	91
Estonia	0,41	60,19	1 573	116	110
Georgia	0,83	44,21	5 449	140	132
Kazakhstan	1,69	35,25	16 538	96	90
Kirghizia	2,38	27,80	4 291	86	81
Latvia	0,33	61,29	2 681	121	114
Lithuania	0,51	54,29	3 690	108	102
Moldavia	1,12	40,97	4 341	97	92
Russia	0,53	57,08	147 386	113	107
Tadjikistan	3,30	22,01	5 112	68	65
Turkmenistan	2,82	32,48	3 534	84	79
Ukraine	0,28	45,71	51 704	104	98
Uzbekistan	2,83	24,87	19 906	85	80

Growth simulations for Eastern Europe

	Population growth	GDP per capita	Population	School en	olment rate
	(hroroki)	(IIFERCA)		Primary (Nenrol-1)	Secondary (Nenrol- 2)
Bulgaria	0,46	40,35	9 026	102	90
Czechoslovakia	0,30	58,59	15 539	96	84
Hungary	-0,41	45,50	10 625	99	73
Poland	0,70	38,77	37 189	101	77
Romania	0,29	33,72	22 703	98	73
USSR	0,96	49,45	278 921	106	100
Yugoslavia	0,42	39,96	23 125	98	82

Computation of KX

KX = 12,247 + 0,1544 HPERCA + 838,5 HRAPO

		12,247	0,1544 HPERCA	838,5 HRAPO
Bulgaria	27,30	12,25	6,23	8,83
Czechoslovakia	28,02	12,25	9,05	6,73
Hungary	27,41	12,25	7,02	8,13
Poland	22,58	12,25	5,99	4,35
Romania	23,02	12,25	5,21	5,56
USSR	21,47	12,25	7,64	1,59
Yugoslavia	23,93	12,25	6,17	5,51

Computation of HI

HI = 8,2514 + 0,079585 KXI + 0,054537 Nenrol-1I + 0,14477 Nenrol-2I

	8,2514	0,079585 KXI	0,054537 Nenrol-1	0,14477 Nenrol-2
29,02	8,25	2,17	5,56	13.03
27,88	8,25	2,23	5,24	12.16
26,40	8.25	2.18	5.40	10.57
26,70	8,25	1.80	5,51	11.15
26.00	8.25	1.83	5.34	10.57
30,22	8.25	1.71	5.78	14.48
27,37	8,25	1,90	5,34	11,87
	29,02 27,88 26,40 26,70 26,00 30,22 27,37	8,2514 29,02 8,25 27,88 8,25 26,40 8,25 26,70 8,25 26,00 8,25 30,22 8,25 27,37 8,25	8,2514 0,079585 KXI 29,02 8,25 2,17 27,88 8,25 2,23 26,40 8,25 2,18 26,70 8,25 1,80 26,00 8,25 1,83 30,22 8,25 1,71 27,37 8,25 1,90	8,2514 0,079585 KXI 0,054537 Nenrol-1 29,02 8,25 2,17 5,56 27,88 8,25 2,23 5,24 26,40 8,25 2,18 5,40 26,70 8,25 1,80 5,51 26,00 8,25 1,83 5,34 30,22 8,25 1,71 5,78 27,37 8,25 1,90 5,34

Computation of GROWTH

HGROWTH = 1,4921 + 0,63556 HPOPGRT - 0,055639 HPERCAI + 0,02153 Nenrol-11 + 0,077013 HI

		1,4921	0,63556 HPOPGRT	-0,055639 HPERCAI	0,02153 Nenrol-11	0,077013 HI
Bulgaria	3,97	1,49	0,29	-2,25	2,20	2,23
Czechoslovakia	2,63	1,49	0,19	-3.26	2.07	2.15
Hungary	2,86	1,49	-0.26	-2.53	2.13	2.03
Poland	4,01	1.49	0.44	-2.16	2.17	2.06
Romania	3,91	1.49	0.18	-1.88	2.11	2.00
USSR	3,96	1.49	0.61	-2.75	2.28	2.33
Yugoslavia	3,75	1,49	0,27	-2,22	2,11	2,11

Growth simulations: 15 USSR republics

4	Population growth	GDP per capita	Population	School enr	School enrolment rate		
	(HPOPGRT)	(HPERCA)		Primary (Nenrol-1)	Secondary (Nenrol-2)		
Armenia	1,13	43,19	3 283	96,56	91,10		
Azerbaijan	1,97	37,45	7 029	95,11	89,73		
Belorussia	0,59	57,37	10 200	96,32	90,87		
Estonia	0,41	60,19	1 573	116,16	109,59		
Georgia	0,83	44,21	5 449	140,37	132,42		
Kazakhstan	1,69	35,25	16 538	95,59	90,18		
Kirghizia	2,38	27,80	4 291	86,16	81,28		
Latvia	0,33	61,29	2 681	120,76	113,93		
Lithuania	0,51	54,29	3 690	108,42	102,28		
Moldavia	1,12	40,97	4 341	97,05	91,55		
Russia	0,53	57,08	147 386	113,02	106,62		
Tadjikistan	3,3	22,01	5 112	68,49	64,61		
Turkmenistan	2,82	32,48	3 534	84,22	79,45		
Ukraine	0,28	45,71	51 704	104,31	98,40		
Uzbekistan	2,83	24,87	19 906	84,95	80,14		

Computation of KX

KX = 12,247 + 0,1544 HPERCA + 838,5 HRAPO

		12,247	0,1544 HPERCA	838,5 HRAPO
Armenia	33,55	12,25	6,67	14,63
Azerbaijan	28,03	12,25	5,78	10,00
Belorussia	29,41	12,25	8,86	8,30
Estonia	42,68	12,25	9,29	21,14
Georgia	30,43	12,25	6,83	11,36
Kazakhstan	24,21	12,25	5,44	6,52
Kirghizia	29,34	12,25	4,29	12,80
Latvia	37,90	12,25	9,46	16,19
Lithuania	34,43	12,25	8,38	13,80
Moldavia	31,30	12,25	6,33	12,73
Russia	23,24	12,25	8,81	2,18
Tadjikistan	27,37	12,25	3,40	11,73
Turkmenistan	31,37	12,25	5,01	14,10
Ukraine	22,99	12,25	7,06	3,69
Uzbekistan	22,03	12,25	3,84	5,94

Computation of HI

HI = 8,2514 + 0,079585 KXI + 0,054537 Nenrol-1I + 0,14477 Nenrol-2I

		8,2514	0,079585 (KXI)	0,054537 (Nenrol-1)	0,14477 (Nenrol-2)
Armenia	29,38	8,25	2,67	5,27	13,19
Azerbaijan	28,66	8,25	2,23	5,19	12,99
Belorussia	29,00	8,25	2,34	5,25	13,15
Estonia	33,85	8,25	3,40	6,34	15,87
Georgia	37,50	8,25	2,42	7,66	19,17
Kazakhstan	28,45	8,25	1,93	5,21	13,06
Kirghizia	27,05	8,25	2,33	4,70	11,77
Latvia	34,35	8,25	3,02	6,59	16,49
Lithuania	31,71	8,25	2,74	5,91	14,81
Moldavia	29,29	8,25	2,49	5,29	13,25
Russia	31,70	8,25	1,85	6,16	15,44
Tadjikistan	23,52	8,25	2,18	3,74	9,35
Turkmenistan	26,84	8,25	2,50	4,59	11,50
Ukraine	30,02	8,25	1,83	5,69	14,25
Uzbekistan	26,24	8,25	1,75	4,63	11,60

Computation of GROWTH

HGROWTH = 1,4921 + 0,63556 HPOPGRT - 0,055639 HPERCAI + 0,02153 Nenrol-1I + 0,077013 HI

		1,4921	0,63556 HPOPGRT	-0,055639 HPERCAI	0,02153 Nenrol-11	0,077013 HI
Armenia	4,15	1,49	0,72	-2,40	2,08	2,26
Azerbaijan	4,92	1,49	1,25	-2,08	2,05	2,21
Belorussia	2,98	1,49	0,37	-3,19	2,07	2,23
Estonia	3,51	1,49	0,26	-3,35	2,50	2,61
Georgia	5,47	1,49	0,53	-2,46	3,02	2,89
Kazakhstan	4,85	1,49	1,07	-1,96	2,06	2,19
Kirghizia	5,40	1,49	1,51	-1,55	1,85	2,08
Latvia	3,54	1,49	0,21	-3,41	2,60	2,65
Lithuania	3,57	1,49	0,32	-3,02	2,33	2,44
Moldavia	4,27	1,49	0,71	-2,28	2,09	2,26
Russia	3,53	1,49	0,34	-3,18	2,43	2,44
Tadjikistan	5,65	1,49	2,10	-1,22	1,47	1,81
Turkmenistan	5,36	1,49	1,79	-1,81	1,81	2,07
Ukraine	3,68	1,49	0,18	-2,54	2,25	2,31
Uzbekistan	5,76	1,49	1,80	-1,38	1,83	2,02

Raw data for developing countries

	Population	GDP per capita	Population	School en	rolment rate	Potential growth
×	growth			Primary	Secondary	
Algeria	3,22	18,78	21 937	94	43	6,16
Argentina	1,45	30,57	30 531	107	60	4,91
Bolivia	2,77	9,55	6 383	87	35	6,13
Brazil	2,25	28,78	135 564	103	35	5,11
Chile	1,65	30,57	12 074	108	63	5,11
Colombia	1,88	22,79	28 468	121	46	5,81
Costa Rica	2,61	23,24	2 520	102	44	5,81
Côte d'Ivoire	3,81	8,07	10 116	81	19	6,53
Ecuador	2,90	20,93	8 735	117	52	6,54
Gabon	4,57	27,21	1 304	123	25	7,21
Jamaica	1,42	15,13	2 352	106	58	5,76
Korea	1,18	26,80	41 056	96	94	5,03
Malawi	3,11	3,39	7 137	60	4	5,64
Mexico	2,58	34,94	78 927	119	55	5,62
Morocco	2,50	10,71	21 797	86	29	5,78
Nigeria	3,30	5,09	99 753	92	29	6,73
Panama	2,15	25,53	2 046	104	59	5,62
Peru	2,30	18,54	18 655	118	61	6,41
Philippines	2,53	11,93	54 734	109	67	6,73
Sudan	2,75	4,74	21 784	49	19	5,20
Turkey	2,49	22,21	50 052	111	38	5,87
Uruguay	0,74	30,36	3 013	109	67	4,65
Venezuela	2,75	31,11	18 065	108	43	5,55
Zaire	2,99	1,84	33 494	98	57	7,18
Zambia	3,49	5,12	6 704	101	18	7,00

Simulations for developing countries

Computation of KX

KX = 12,247 + 0,1544 HPERCA + 838,5 HRAPO

		12,247	0,1544 HPERCA	838,5 HRAPO	
Algeria	20,81	12,25	2,90	5,66	
Argentina	21,77	12,25	4,72	4,80	
Bolivia	24,22	12,25	1,47	10,50	
Brazil	18,97	12,25	4,44	2,28	
Chile	24,60	12,25	4,72	7,63	
Colombia	20,74	12,25	3,52	4,97	
Costa Rica	32,54	12,25	3,59	16,70	
Côte d'Ivoire	21,83	12,25	1,25	8,34	
Ecuador	24,45	12,25	3,23	8,97	
Gabon	39,67	12,25	4,20	23,22	
Jamaica	31,87	12,25	2,34	17,29	
Korea	20,52	12,25	4,14	4,14	
Malawi	22,70	12,25	0,52	9,93	
Mexico	20,63	12,25	5,40	2,98	
Morocco	19,58	12,25	1,65	5,68	
Nigeria	15,69	12,25	0,79	2,65	
Panama	34,73	12,25	3,94	18,54	
Peru	21,25	12,25	2,86	6,14	
Philippines	17,67	12,25	1,84	3,58	
Sudan	18,66	12,25	0,73	5,68	
Turkey	19,42	12,25	3,43	3,75	
Uruguay	32,21	12,25	4,69	15,28	
Venezuela	23,29	12,25	4,80	6,24	
Zaire	17,11	12,25	0,28	4,58	
Zambia	23,28	12,25	0,79	10,24	

Computation of HI

HI = 8,2514 + 0,079585 KXI + 0,054537 Nenrol-1I + 0,14477 Nenrol-2I

		8,2514	0,079585 KXI	0,054537 Nenrol-1	0,14477 Nenrol-2
Algeria	21,26	8,25	1,66	5,13	6,23
Argentina	24,51	8,25	1,73	5,84	8,69
Bolivia	19,99	8,25	1,93	4,74	5,07
Brazil	20,45	8,25	1,51	5,62	5,07
Chile	25,22	8,25	1,96	5,89	9,12
Colombia	23,16	8,25	1,65	6,60	6,66
Costa Rica	22,77	8,25	2,59	5,56	6,37
Côte d'Ivoire	17,16	8,25	1,74	4,42	2,75
Ecuador	24,11	8,25	1,95	6,38	7,53
Gabon	21,74	8,25	3,16	6,71	3,62
Jamaica	24,97	8,25	2,54	5,78	8,40
Korea	28,73	8,25	1,63	5,24	13,61
Malawi	13,91	8,25	1,81	3,27	0,58
Mexico	24,35	8,25	1,64	6,49	7,96
Morocco	18,70	8,25	1,56	4,69	4,20
Nigeria	18,72	8,25	1,25	5,02	4,20
Panama	25,23	8,25	2,76	5,67	8,54
Peru	25,21	8,25	1,69	6,44	8,83
Philippines	25,30	8,25	1,41	5,94	9,70
Sudan	15,16	8,25	1,48	2,67	2,75
Turkey	21,35	8,25	1,55	6,05	5,50
Uruguay	26,46	8,25	2,56	5,94	9,70
Venezuela	22,22	8,25	1,85	5,89	6,23
Zaire	23,21	8,25	1,36	5,34	8,25
Zambia	18,22	8,25	1,85	5,51	2,61

Computation of GROWTH

HGROWTH = 1,4921 + 0,63556 HPOPGRT - 0,055639 HPERCAI + 0,02153 Nenrol-11 + 0,077013 HI

		1,4921	0,63556 HPOPGRT	-0,055639 HPERCAI	0,02153 Nenrol-1	0,077013 HI
Algeria	6,16	1,49	2,05	-1,05	2,02	1,64
Argentina	4,91	1,49	0,92	-1,70	2,30	1,89
Bolivia	6,13	1,49	1,76	-0,53	1,87	1,54
Brazil	5,11	1,49	1,43	-1,60	2,22	1,57
Chile	5,11	1,49	1,05	-1,70	2,33	1,94
Colombia	5,81	1,49	1,19	-1,27	2,61	1,78
Costa Rica	5,81	1,49	1,66	-1,29	2,20	1,75
Côte d'Ivoire	6,53	1,49	2,42	-0,45	1,74	1,32
Ecuador	6,54	1,49	1,84	-1,16	2,52	1,86
Gabon	7,21	1,49	2,91	-1,51	2,65	1,67
Jamaica	5,76	1,49	0,90	-0,84	2,28	1,92
Korea	5,03	1,49	0,75	-1,49	2,07	2,21
Malawi	5,64	1,49	1,97	-0,19	1,29	1,07
Mexico	5,62	1,49	1,64	-1,94	2,56	1,87
Morocco	5,78	1,49	1,59	-0,60	1,85	1,44
Nigeria	6,73	1,49	2,10	-0,28	1,98	1,44
Panama	5,62	1,49	1,36	-1,42	2,24	1,94
Peru	6,41	1,49	1,46	-1,03	2,54	1,94
Philippines	6,73	1,49	1,61	-0,66	2,35	1,95
Sudan	5,20	1,49	1,74	-0,26	1,05	1,17
Turkey	5,87	1,49	1,58	-1,24	2,39	1,64
Uruguay	4,65	1,49	0,47	-1,69	2,35	2,04
Venezuela	5,55	1,49	1,75	-1,73	2,33	1,71
Zaire	7,18	1,49	1,90	-0,10	2,11	1,79
Zambia	7,00	1,49	2,22	-0,28	2,17	1,40

Developing countries: debt data and calculations

	Р	DEBT	NPERCA	DETPER	PG
Algeria	75,82	19 993,00	4 120,40	4,85	6,16
Argentina	16,66	44 048,10	9 332,78	4,72	4,91
Bolivia	11,11	3 743,60	609,53	6,14	6,13
Brazil	31,16	87 252,40	39 014,47	2,24	5,11
Chile	60,80	13 486,70	3 690,81	3,65	5,11
Colombia	59,23	12 939,20	6 487,93	1,99	5,81
Costa Rica	14,86	2 485,30	585,58	4,24	5,81
Côte d'Ivoire	12,44	7 058,70	816,09	8,65	6,53
Ecuador	13,98	8 107,50	1 828,34	4,43	6,54
Gabon	72,00	1 998,50	354,82	5,63	7,21
Jamaica	41,91	3 241,10	355,77	9,11	5,76
Malawi	70,00	1 209,90	242,20	5,00	5,64
Mexico	40,17	78 612,80	27 580,16	2,85	5,62
Morocco	44,14	17 564,90	2 333,75	7,53	5,78
Nigeria	24,14	22 047,50	5 082,12	4,34	6,73
Panama	12,58	2 148,70	522,44	4,11	5,62
Peru	4,72	6 185,30	3 458,14	1,79	6,41
Philippines	47,67	23 956,60	6 532,18	3,67	6,73
Sudan	2,36	5 272,10	1 031,51	5,11	5,20
Turkey	99,00	25 524,80	11 117,30	2,30	5,87
Uruguay	56,33	2 819,40	914,68	3,08	4,65
Venezuela	37,67	23 479,10	5 620,36	4,18	5,55
Zaire	19,84	5 972,50	616,78	9,68	7,18
Zambia	18,50	3 231,40	343,31	9,41	7,00

P = Secondary market price (cents per dollar). DEBT = Debt in million USD. NPERCA = GDP per effective capita (see text for explanation). DEPTER = Debt per effective capita (see text for explanation). PG = Potential growth rate.



Table C1

Summary measures of indebtedness in Eastern Europe

	Debt per capita	Debt per capita in terms of US GNP per capita	Debt per capita in terms of US GNP per capita corrected by potential growth
Bulgaria	1 052,51	2 608,36	1 573,44
Czechoslovakia	444,04	757,88	570,03
Hungary	1 938,82	4 261,41	3 041,29
Poland	1 102,48	2 843,40	1 703,72
Romania	44,05	130,62	79,54
USSR	172,09	348,00	210,27
Yugoslavia	929,73	2 326,82	1 453,20

.

Table C2

Summary measures of indebtedness in developing economies

	Debt per capita	Debt per capita in terms of US GNP per capita	Debt per capita in terms of US GNP per capita corrected by potential growth
Algeria	911,38	4 852,20	1 864,88
Argentina	1 442,73	4 719,72	2 404,62
Bolivia	586,50	6 141,78	2 374,74
Brazil	643,63	2 236,41	1 092,83
Chile	1 117,00	3 654,13	1 787,77
Colombia	454,52	1 994,35	836,24
Costa Rica	986,23	4 244,14	1 780,29
Côte d'Ivoire	697,78	8 649,39	3 002,98
Ecuador	928,16	4 434,34	1 532,16
Gabon	1 532,59	5 632,51	1 574,05
Jamaica	1 378,02	9 110,10	3 862,90
Korea	478,09	1 784,07	886,84
Malawi	169,53	4 995,51	2 177,88
Mexico	996,02	2 850,34	1 247,17
Morocco	805,84	7 526,46	3 177,68
Nigeria	221,02	4 338,25	1 419,34
Panama	1 050,20	4 112,78	1 802,30
Peru	331,56	1 788,62	642,74
Philippines	437,69	3 667,47	1 199,02
Sudan	242,02	5 111,04	2 455,50
Turkey	509,97	2 295,95	947, 53
Uruguay	935,68	3 082,17	1 647,43
Venezuela	1 299,70	4 177,51	1 860,15
Zaire	178,32	9 683,38	2 726,30
Zambia	482,01	9 412,42	2 821,81

Table C3

Secondary market price estimate

	Dependent variab	le: LPP		
	Sum of squared Standard error of the r Mean of dependen Standard F Adjusted F Durbin-Watson statistic (adjusted/fo F-statisti LOG of likelihood Number of obs	residuals = egression = t variable = deviation = t-squared = c (3, 157) = t function = - cervations =	42,4058 0,519712 -0,337707 0,560322 0,155829 0,139699 0,0652 9,66045 121,052 161	
Variable	Estimated coefficient	Standard e	rror	T-statistic
C Lib LDC LPG	1,3966 - 1,2646 - 0,60951 1,1732	0,8980 0,3613 0,1464 0,3718)4 30 16 37	1,5552 -3,5000 -4,1616 3,1550
Left-hand side: Log (P/1-P), P	the secondary market price.			

Right-hand side: Lib = Log of Libor; LDC = Log of debt per effective capita; LPG = Log of potential growth.

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