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Exchange Rate Policy for Eastern Europe and a Peg to the ECU

Michael Davenport*
Final Report



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- * Overseas Development Institute, London - A Report for the Commission of the European Communities.
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SUMMARY AND CONCLUSIONS

Economists now prescribing to the authorities in Eastern Europe, who are faced with the daunting task of transition to free markets, disagree about fundamentals such as the sequencing of reform measures, whether a 'big bang' or a series of incremental measures is most effective and the techniques of privatisation. However they generally are agreed that a first priority is the use of prices in resource allocation, and, given the difficulties and delays in establishing free internal markets, recommend importing an international price structure. This requires free, decentralised decisions over imports and exports, a meaningful exchange rate and access to foreign exchange.

The choice of the exchange rate mechanism: When it gets to the issue of the mechanics of the exchange rate regime, the brief consensus breaks down with some arguing for an irrevocably fixed exchange rate, and others who find this prescription totally unrealistic. This study takes the second view on the grounds that not only are high and unpredictable inflation rates an almost inevitable consequence of the transition process, or at least of the inevitable policy mistakes or misjudgments involved in that process, but also the lack of the information necessary to decide the long-term 'equilibrium exchange rate'.

Arguments for pegging...: In any event, unless they adopt free floating, the authorities must choose an exchange rate or basket to which to peg their currency, whether the peg is 'irrevocable', subject to periodic and discrete changes or to a crawling peg arrangement. Even in the latter two cases, exchange rate predictability between discrete parity changes (or changes in the rate of crawl) are important micro-economic conditions for the development of export and import-competing sectors. This is the theoretical argument underlying a currency peg in the form of a trade-weighted basket.

...and pegging to the ecu: The case for a trade-weighted basket to reduce exchange rate risk at the micro-economic level is powerful but there are other economic and political considerations. These overwhelmingly support a peg to the ecu for the countries under consideration - the CSFR, Hungary and Poland. An ecu peg would have particular benefits. It would,

- signal a credible inflation target. The average inflation rate for tradeable goods equal to that of the European Community would be a medium-term goal but clearly in line with the medium-term objective of Community and ERM (or EMU) membership;

- bring associated benefits through increased trade invoicing and settlement in ecus. This will develop anyway, both in and outside the EC, as EMU approaches and regulations on the use of the ecu are removed. But an ecu peg, combined with the use of the ecu as a vehicle currency, would minimise exchange risk for traders and further the development of the export sectors in the Eastern Europe countries;

- open further opportunities for swap agreements and collaboration in other policy areas with EC central banks;

- eventually, when the ecu becomes a fully-fledged currency in its own right, lead to a simplification and streamlining of the intervention process, which could not be obtained with any other basket of currencies;

- most importantly, give witness to the determination of the Eastern European countries to meet the required economic disciplines for full membership of the European Community.

A major problem with the rapid implementation of an ecu peg in the CSFR, Hungary and Poland is the absence of forward markets in foreign exchange in those countries. At present traders or investors have no means of hedging their foreign exchange exposures - hence the adoption of basket pegs which reflect the use of denomination of currencies in current account transactions. However the countries concerned have plans to introduce forward markets - though in some cases spot interbank markets do not yet exist.

There would be clear advantages if a number of ex-CMEA countries were to adopt a peg to the ecu in that it would enhance exchange rate stability between those countries. This would be particularly true were the new Commonwealth of Independent States to disintegrate as a single currency area. Otherwise exchange rate instability is likely to further depress trade within the Commonwealth and between the Commonwealth and Eastern Europe - though, of course, general pegging to the ecu does not eliminate the uncertainty associated with parity adjustments.

Quantitative analysis suggests that the loss in micro-economic exchange rate stability associated with an ecu rather than a trade-weighted basket peg is limited. This cost will diminish as the Eastern Europe countries become further integrated into the world trading system and their geographical structure of trade becomes closer to that of Western European countries.

The Crawling Peg mechanism is briefly examined. Poland has adopted a crawling peg - the zloty is depreciated by a fixed, pre-announced amount each day. Though the regime has helped an informal but efficient foreign exchange market to develop - there is still no interbank market - it is at the cost of a inflexible labour market. In order to keep inflationary expectations under control, draconian rules have been adopted to limit wage increases.

The report also looks at the experience of other countries in pegging to currency baskets. The most relevant is that of Sweden, Norway and Finland who have formally adopted pegs to the ecu. The lessons from their experiences are that an ecu peg is no panacea for underlying macro-economic problems generating exchange rate instability, that there is a danger that, at least in the early days, the interest of speculators will be attracted, and that policy credibility may be threatened if an untenable parity is initially adopted. Finland and Sweden have already delivered some salutary warnings to future ecu peggers. In general, however, the countries in question, the CSFR, Hungary and Poland, have much to gain from pegging their currencies to the ecu, though first they must improve the efficiency and scope of their foreign exchange markets.

Chapter 1. Introduction

Roughly two years on from the astonishing events which put an end to almost two generations under communism, the countries of Eastern Europe are still faced with a daunting task. Some progress has been made in dismantling the institutions of the command economy. Relatively little progress has been made in establishing private ownership or competitive markets for factors or goods.

While the need to introduce free and competitive markets is largely undisputed, the problems in doing so are enormous. Exposure to international markets has been considered a valuable shortcut to a more rational domestic price structure. To be effective that requires price liberalisation, decentralisation of import and export decisions, a simple, preferably single-rate tariff structure and a meaningful exchange rate.

This report is concerned with the appropriate exchange rate system for the countries of Eastern Europe. It focuses on Poland, Czechoslovakia (or the CSFR, the Czech and Slovak Federal Republic, as it is now officially called) and Hungary though some attention is paid to the emerging situation in the new Commonwealth of Independent States, the old Soviet Union, in particular the implications of its disintegration into separate currency areas, and the institutional arrangements designed to cope with that, on the Eastern European countries.

Geonomenclature: The CSFR, Hungary and Poland as a whole are neither geographically - Prague is west of Vienna - nor culturally in Eastern Europe. There is an argument for referring to the three as Central Europe.

'In Prague and Budapest, the idea of Central Europe continued to be cherished by consenting adults in private, but from the public sphere it vanished as completely as it had in "the West". The post-Yalta order dictated a strict and single dichotomy. Western Europe implicitly accepted this dichotomy by subsuming under the label Eastern Europe all those parts of historic Central, East Central, and South-eastern Europe that after 1945 came under Soviet domination. The EEC completed the semantic trick by arrogating to itself the unqualified title Europe' (Garton Ash 1989, 161)

But in referring to the CSFR, Hungary and Poland as Central Europe, two problems arise. Central Europe may not appear an appropriate designation for a large stretch of Poland. Cracow was an outpost of the Habsburg Empire but Warsaw most certainly was not, though the Empire is only one of many ways of delineating Central Europe. Secondly Central Europe as an historical entity embraces at least Austria, parts of Germany, Slovenia and Croatia, and possibly, more. Also for some it could have a resonance of the pre-first World War concept of Mitteleuropa espoused by Friedrich Naumann and others.

An alternative generic name for our group of countries would be East Central Europe but that is clumsy. It seems best to continue to refer to them as the CSFR, Hungary and Poland - though that is clumsy too. When discussing these three countries together with the other non-Soviet countries subjected to Soviet hegemony, I use the term Eastern Europe, fully aware that it implies a dichotomy that is no longer valid. But the economic legacy of that dichotomy is only too apparent. Anyway there is no obviously better alternative.

Academic insights: The selection of the appropriate exchange rate system for different economic circumstances has been the subject of academic speculation and research since the 1950s. As in

economics exam papers, the questions have remained broadly the same. The answers have changed with the prevailing orthodoxy. The consensus in favour of 'free floating' up to at least the end of the 1970s' was associated with the emphasis on market solutions. Associated with the view that interference by the authorities in the foreign exchange market could only lead to distortions in that and other markets, and inevitably result in some misallocation of resources, was the comforting factor that free-floating meant that internal policy could be pursued free of any balance of payments constraint.

This orthodoxy has now been replaced by a greater eclecticism. The volatility of exchange rates in the 1980s has led to a new emphasis on the need for stability among both the developed and the developing countries. Thus the argument that control over the monetary aggregates is so critical that it must be maximised by a freely floating exchange rate is no longer often heard. Indeed the monetary aggregates are no longer generally considered as the only credible policy instruments.

Now the accent is on the rôle of the exchange rate, either as an active policy instrument for targeting real macro-economic variables, or as a 'nominal anchor'. Corden (1990) drew attention to these alternative objectives. Emphasis on real targets, such as the level of activity or the growth rate, shows a confidence in the exchange rate as a policy instrument. The authorities have control over the real exchange rate, whether because of time lags or imperfections in world markets, changes in the nominal exchange rate will not be immediately offset by changes in domestic prices relative to foreign prices. This implies that an activist approach to exchange rate policy is possible.

On the other hand the nominal anchor view is consistent with two alternative positions. Firstly the authorities cannot influence the real exchange rate, or, at least, can do so for too short a period to achieve anything useful because domestic prices will rapidly adjust to offset any change in the nominal rate. Or that, though changes in the nominal rate may have real impacts, they should not be used because the anti-inflationary gain from adopting exchange rate fixity outweighs any positive effects on the real economy. In other words control over inflation is the overriding objective of policy and, since the use of the exchange rate as a policy instrument might, at times, compromise this objective, it should be totally shunned.

In either case the inference is that the exchange rate should be irrevocably fixed to one commodity, such as gold, the currency of a major trading partner, such as the US dollar, or a basket of commodities or currencies, eschewing any use of the exchange rate for policy while accepting arbitrary relative price changes as the inevitable cost. Of course there are any number of intermediate approaches. This report will argue in favour of a fixed but adjustable rate, in particular for the adoption of an adjustable peg to the ecu.

The EMU Treaty agreed in Maastricht in December 1991 binds the Community to becoming, in 1999 at the latest, an Economic and Monetary Union¹. It establishes the ecu as the single currency of that Union. The three countries with which this report is mainly concerned, the CSFR, Hungary and Poland, have all expressed the intention to become full members of the Community and of the EMU. Perhaps the single most important reason for those countries to peg their currencies to the ecu is to facilitate, and perhaps expedite, their membership.

¹For a discussion of the Maastricht Treaty provisions and their relevance to the ecu, see Louw 1992.

Chapter 2. Preliminaries

1. Convertibility and foreign exchange markets

The rôle of the exchange rate: Convertibility and an effective exchange rate are different sides of the same coin. In a market economy the exchange rate performs the critical function of determining the relative prices of traded and non-traded goods, or more precisely 'tradeables' and 'non-tradeables', and thus the 'openness' of the economy or degree to which it is dependent on international trade. Where economic agents are free to import and to export, the exchange rate will determine whether any particular good or service (which can be traded across international frontiers) can be bought more cheaply from domestic or from foreign producers or can be sold more profitably to domestic or to foreign consumers after the relevant prices are adjusted for import tariffs or export taxes and appropriate transport, insurance and other differential incidental costs.

In the process of transition from a centralised command economy to a market economy, a correctly valued exchange rate and a free regime as regards imports means that domestic producers are subject to foreign competition. The 'imported' price system can supply the signals for the allocation of resources (i) between domestic production and imports and (ii) within the domestic economy, that the domestic market cannot yet supply. Competition from the world market can largely substitute for internal competition among domestic producers.

The exchange rate must be realistic, that is it must reflect the competitiveness of exports and the elasticity of demand for imports in the short run so as to avoid generating a current account problem. Then it must be effective in transmitting price signals. This implies several subconditions. Firstly there should only be one exchange rate. Secondly domestic prices must be allowed to clear excess demand or supply, sometimes known as 'commodity convertibility'. Thirdly economic agents must be able to buy and sell foreign exchange freely at the current rate and not be subject to rationing or other restrictions. That is, the domestic currency must be convertible.

Three broad types of convertibility should be distinguished:

- domestic (or internal) convertibility where only residents can buy and sell the domestic currency for 'hard' currencies and then only for a limited range of current account transactions;
- current account convertibility where both residents and non-residents can trade but they can do this for all current transactions. Article VII, Section 2(a) of the IMF Articles of Agreement defines the concept as '...no member shall, without the approval of the Fund, impose restrictions on the making of payments and transfers for current inter-national transactions';
- full convertibility where foreign currency is freely available for capital account transactions, including foreign direct or portfolio investment, the transfer abroad of personal financial assets or purchases of foreign property.

Full convertibility would not be appropriate for any Eastern European (EE) country at the present stage. 'There is all the difference between tolerating retail use of a parallel market by households wanting to place some of their assets abroad (despite the premium they have to pay for foreign exchange), and facilitating the wholesale export of savings by allowing enterprises and financial intermediaries to buy foreign assets with no financial penalty' (Williamson, 1991a, 379).

There is the alternative argument that capital account convertibility could give rise to an exchange rate appreciation. Seabright comments on the 'broad consensus among academics and policymakers on the so-called "tariffs-first" approach to external liberalisation. The tariffs-first approach consists of the recommendation that capital account convertibility be delayed until the export sector has expanded under the impact of trade liberalisation, for fear that an inflow of capital seeking profitable investment opportunities will make real exchange rate appreciation unavoidable' (1991, 3).

Even domestic convertibility is a major advance on past regimes: it

- allows international price signals to determine the allocation of resources, at least provided that there is relatively free trade;
- means that domestic enterprises, even where national monopolies, will have to compete with foreign suppliers;
- assists in determining which enterprises are viable, given that privatisation takes time (and clearly more time than was earlier envisaged). Even before privatisation it will help the authorities to assess the competitiveness of enterprises and apply appropriate budget constraints;
- encourages foreign direct investment (as well as portfolio investment) which could be a significant factor in privatisation and restructuring. True, EE governments without domestic convertibility are now guaranteeing the right to repatriate profits and capital, but even then there is a danger that direct investment from abroad will be concentrated in export industries, where the inward flow of hard currencies makes repatriation easier. A foreign exchange market will give investors extra confidence and encourage participation in joint ventures and a wider sectoral spread of foreign investment;
- economises on bureaucracy and reduces corruption;
- allows the exchange rate to serve as a monetary target. I shall come back to that shortly.

Convertibility and a realistic exchange rate are not sufficient. First the resource allocation process will only become rational when prices are liberalised and come to reflect the relative factors costs of production. In command economies signals in the form of market-determined prices, which reflect relative scarcities and lead to the efficient allocation of resources have been generally non-existent or at best weak and delayed. In particular subsidies must be largely phased out. Secondly if the foreign price system is to serve as a shortcut vehicle to introducing a rational price system, it must not be distorted by significantly differential tariff rates on different product groups. Thirdly the threat of hyperinflation must be avoided which means dealing with the monetary overhang and avoiding monetary financing of growing budget deficits. Fourthly the establishment of property rights and privatisation are essential ingredients though privatisation now appears to be more complex than had been envisaged.

The sequencing issue: There has been some debate as to whether convertibility should be introduced at an early stage in the process of reform, even at the outset as did Poland, or later on when the preconditions for a credible exchange rate are established. Piecemeal reform is likely to fall apart unless the order in which reforms are undertaken is well designed. This is the so-called sequencing problem.

Poland and the CSFR introduced convertibility early on in the belief that it increases the credibility of the reform package, at home and abroad. In fact it may be necessary to add the 'critical mass' to the reform

package that credibility requires (Portes 1991a). Moreover postponing convertibility postpones the approximation to world prices. Internally free prices alone will not lead to optimal allocation between domestic and foreign production, or the optimal use of foreign exchange receipts. Nor can this be effectively achieved by retaining vestiges of the command economy such as foreign currency auctions.

Postponing convertibility may also lead to a distorted exchange rate, possibly increasingly distorted as long as convertibility is delayed. The eventual shift to an equilibrium exchange rate will be extremely difficult for a large number of enterprises where a substantial appreciation is involved. Alternatively, where the distortions lead to an above-equilibrium exchange rate, the costs will be borne by the growth rate, and possibly by shortages of basic goods and social unrest.

Critics of sequencing on the grounds that they only serve as a justification for procrastination and timidity (IMF, 1990; Blommestein et al., 1990) ignore important interdependencies. Certain changes need to precede others or they will not work. Portes (1990 and 1991a) emphasises the importance of robustness - the chosen sequence of reforms must be able to withstand external shocks and errors in assessing behavioural responses - and credibility.

Convertibility in the CSFR, Hungary and Poland: These countries have all introduced a form of what may be generally classified as domestic convertibility, though the details vary substantially between the three countries. In each case the currency is pegged to a basket, though initially the Polish zloty was tied to the dollar.

Poland was the first of the three countries to introduce convertibility. It did so along with a number of radical measures (price liberalisation, the elimination of export subsidies etc.) in its 'big bang' of January 1, 1990. At the same time the right to engage in foreign trade was extended to all with no need for authorisation. Quantitative import restrictions were completely abolished and a unified customs tariff established. Export quotas were cut by almost a half.

The exchange rate was made one of the two formal anchors of the economy, the other being a near freeze on nominal incomes through a swinging tax on wage increases (Olechowski and Oles, 1991). The zloty became convertible for most current account purposes for residents though zlotys held by non-residents, even where accepted for exports to Poland, were not, and still are not, convertible. The zloty was pegged to the US dollar - it had previously been set in terms of a basket of currencies - on the grounds that more than 50 percent of Polish trade was denominated in dollars, it was the currency most commonly used in foreign exchange transactions between individuals, and it was relatively weak at the time.

Export proceeds have to be sold to the licensed banks, who in turn resell them to the central bank, though households can hold foreign exchange assets. The National Bank supplies the commercial banks with unlimited amounts of convertible currency for imports, though enterprises, with a central bank permit, may also hold accounts with foreign banks. There is no interbank market in foreign exchange². Other foreign exchange transactions have also been liberalised but larger capital transactions or those with longer maturities still require authorisation.

² A secondary foreign exchange market exists through the Kantors - foreign exchange dealers who supply the needs of tourists and small businesses. The central bank intervenes to keep the unofficial rates for hard currencies close to the official rates. For other currencies, including the rouble, the forint and the koruna, rates are determined in a free - if thin - market.

Since January 1990 the zloty has been devalued on several occasions (though it was held at its initial dollar par for the first year). It is now pegged to a basket of five currencies with weights roughly reflecting the importance of the currencies used to denominate trade. Since October 1991 it has been subject to a 'pre-announced crawling peg'³.

The CSFR's big bang took place a year later on January 1, 1991. It introduced current account convertibility for enterprises though as in Poland, foreign exchange balances must be sold to the banks, who provide foreign exchange for imports. The rules about holding foreign exchange accounts by enterprises or firms appear somewhat stricter than in Poland. Residents, in distinction to enterprises, are permitted to hold foreign exchange accounts.

The exchange rate is pegged to a basket of the five hard currencies with the greatest share in the currencies used to denominate balance of payments transactions⁴. Together they cover about 80 percent of those transactions.

The commercial banks (16 in the CSFR) buy and sell foreign exchange which they sell to or obtain from the central bank or from each other, with the central bank clearing the difference between supply and demand each day. Thus there is an operating interbank market with liquidity rules governing the ratio between each bank's foreign exchange assets and its liabilities. Capital flows are controlled through a different ratio governing shortterm assets and liabilities (less than a one-year maturity) and the need to consult with the Central Bank over longer maturities.

Trade was liberalised at the same time as convertibility was introduced though rules postponing payments for non-investment imports were established and a 20 percent surcharge on imports of consumer goods was levied. These regulations have been considerably relaxed over the year - largely in response to a better trade balance than predicted.

Hungary: Hungary's approach to convertibility, as its approach to the whole gamut of reforms, has been incremental. Imports have been largely if gradually liberalised - 90 percent are now free of all licensing requirements - and now the forint is generally convertible for domestic enterprises involved in foreign trade (Bokros 1991). Convertibility has even been extended to some capital transactions involving direct and portfolio investments abroad.

However domestic non-financial corporations may not hold foreign currency accounts and are obliged to sell their foreign currency receipts to the banks. The banks trade foreign currencies exclusively with the central bank. Hungarian non-corporate residents have very limited access to hard currencies and are barred from holding hard currency accounts.

³ The percentage weights are as follows : US dollar 45 percent, Deutschemark 35 percent, pound sterling 10 percent, Swiss franc 5 percent and French franc 5 percent. Each banking day the zloty is depreciated by 9 zlotys per dollar. First the value of the zloty is calculated in the normal way using the day's exchange rates and the basket weights and expressed in any currency. This is then multiplied by $11,100/(11,100+9n)$ where n is the number of banking days since the beginning of the crawl (October 14, 1991) and 11,100 zlotys per US dollar was the exchange rate when the basket was established on May 16, 1991.

⁴ The weights are as follows: the Deutschemark - 45.52 percent, the United States dollar - 31.34 percent, The Austrian schilling - 12.35 percent, the Swiss franc - 6.55 percent and the pound sterling 4.24 percent.

The authorities in Hungary are in the process of establishing an interbank market in foreign exchange. It is expected, though not officially announced, that, in the near future, there will be moves to a liberal system in which residents and enterprises will be free to hold foreign currency accounts. The central bank will not be obliged to supply foreign exchange to traders but that will be left to a competitive foreign exchange market. Thus it is probable that Hungary will leap-frog the other two countries in reaching a more market-based system.

Concerns about the need to have sufficient hard currency available for servicing the extensive foreign debt - and worries about the emergence of a parallel currency have slowed down the process towards convertibility but, now in practice, the situation in Hungary is not markedly different from that in Poland or the CSFR. All three countries are committed to extending convertibility, first to presently excluded current account operations. In all three countries progress in this direction depends on a comfortable stock of hard currency reserves, but, most important, confidence in the currency based on a credible exchange rate and control of inflation.

Lack of a forward market in foreign exchange: One of the main problems in moving to an ecu peg is the lack of an adequate forward market in foreign exchange in the three countries. Economic agents buying or selling abroad are required to enter contracts to pay or receive sums of money denominated in a foreign currency. So as not to have to incur exchange rate risk (which might deter them from the whole transaction); they will often want to buy or sell the foreign exchange forward at the prevailing forward price for that currency. For example a Polish exporter expecting to receive dollars in three months time might want to sell the dollars forward at today's three month forward rate, but without a forward market he cannot do that. A peg to the ecu would introduce an exchange risk for all transactions not denominated in ecus.

The system of pegging to a basket which reflects the currency denomination of current account transactions minimises the exchange risk for all transactors as a whole, though any particular individual, say the Polish exporter to the U.S., is only protected to the extent of the weight of the dollar in the basket. (There is no protection against the risk of revaluations or devaluations in the domestic currency relative to the peg. Here we are only concerned with risks between formal realignments).

In the CSFR there is currently some dispute about the establishment of a forward market between the central and the commercial banks. The commercial banks are prepared to operate such a market but want to be able to offload any risk in their hard currency exposure on to the central bank. The central bank naturally is disinclined to accept a situation where it becomes 'risktaker of last resort'.

In Hungary just that situation prevails. There is an interbank market in foreign exchange and the commercial banks enter forward contracts to enable importers or exporters to hedge their exposures. However the central bank is ready to assume the forward risk at preannounced rates. In other countries these arrangements have led to severe losses for the central banks and, eventually the facilities had to be discontinued (Quirk et al. 1991).

In Poland an interbank spot market is still some distance away, let alone a forward market. The National Bank of Poland does not quote forward rates, so that traders have no access to hedging facilities.

However in all three countries there is a full appreciation of the importance of establishing free forward foreign exchange markets. The unwillingness of commercial banks to move more quickly to some extent

reflects nervousness about new forms of risk, but also reflects a shortage of personnel competent in these areas, a lack of computer systems and other technical facilities. However considerable progress is being made in setting up dealing rooms and in the training of staff with the help of Western banks. It is likely that there will be much more willingness to participate in these markets in the near future.

The lack of efficient markets for hedging foreign exchange exposure will slow down growth in the volume of trade of Eastern Europe with the West, and, thus, the rational integration of these countries into the European, and the world, trading system. Such a market also means a reduced demand for hard currency balances as they do not need to be held for hedging purposes. Most important, when hedging is not feasible, the credibility of the current rate of exchange takes on greater significance. Uncertainties about future exchange rates are likely to become major obstacles to accepting exposures in foreign currencies. This is one explanation of the decline in intra-EE trade over the last three years.

2. Payments and clearing

The decline of trade among the former CMEA: It has generally been accepted that the switch from transferable roubles (TRs) to hard currencies as the vehicle currency for trade between erstwhile CMEA members has contributed to the major collapse in that trade. It is difficult to determine the extent of the changes in the volume of trade - valuation problems render the data difficult to compare - but, in the case of trade between the Soviet Union and the EE countries, it seems clear that the decline has been severe (ECE 1991).

In the case of trade between the CSFR, Hungary and Poland the problem is not simply one of shortage of hard currencies. It was suggested earlier that foreign exchange risk could be a significant reason for the decline in intra-EE trade since 1988. But there are other explanations, the most important being the recession throughout Eastern Europe and the Independent States. Thirdly under the CMEA system efforts were made to balance trade bilaterally, with TRs serving both as an accounting currency and as a settlements currency for residual imbalances. Any hard currency could now fill these two functions. But, in the case of the CSFR, Hungary and Poland, trade is no longer administered centrally and the central bank bilateral balancing process no longer takes place. In addition the interbank markets in foreign exchange are either non-existent or primitive. As a result a greater stock of hard currencies are required for any given level of transactions. The situation would be worse had the need for hard currencies not been limited by the use of both national currencies (mainly for CSFR-Hungarian trade but to a limited extent trade between those countries and Poland) and barter (which may have increased but data are not readily available)⁵. The explanation for the decline in trade between Eastern Europe and the old Soviet Union is probably as much the breakdown in the production and distribution system in the latter as the requirement of settlement in hard currencies⁶.

The shortage of hard currencies is likely to be a greater problem in trade of the remaining Eastern European countries, Bulgaria and Romania, as well as Mongolia, Cuba and Vietnam. Table 1 shows the percentage decline in the most relevant bilateral trade flows between 1987 and 1990.

⁵ The use of barter does not necessarily imply a shortage of the wherewithal for monetary settlement. It could reflect well-established inter-enterprise barter arrangements that have worked well in the past. It could also reflect tax evasion.

⁶ Settlement using the EE countries' accumulated stocks of transferable roubles for imports from the Soviet Union, up to a certain value in 1991 and for products restricted to an 'indicative list', was agreed, but here problems of supply, i.e. non-arrival, after a contract has been signed, have meant these balances have hardly been drawn down.

Table 1: Change in Trade Flows in Eastern Europe, 1987 to 1990, (percent decline in dollar exports)

From/To	USSR	Czech.	Hungary	Poland
USSR ^a	-46	-42	-41	-35
Czech.	-43	-	-23	-32
Hungary	-46	-18	-	-52
Romania	-53	-70	-52	-82

^a: including USSR, Albania, Bulgaria, Cuba, E. Germany, Mongolia and N. Korea

Source; Dornbusch (1991), compiled from IMF data

Table 1 may exaggerate the loss in intra-EE trade consequent on the breakup of the CMEA. Recent trade flows may be significantly under-recorded. There has been a substantial reduction in the bureaucracy associated with foreign trade and greater freedom on the part of the individual enterprises. It is likely that many deals are simply not recorded. This is probably especially true of barter trade. Moreover the valuation of 1987 trade flows in dollar terms presents enormous difficulties, since intra-EE trade was essentially based on a sophisticated barter system. Different exchange rates were used for different products but these were accounting devices rather than reflections of relative domestic prices.

The trade between EE countries, excluding the Independent States, was small in absolute terms. The geographical specialisation that characterised the republics of the Soviet Union was absent in Eastern Europe. Thus the reductions in trade between the CSFR, Hungary and Poland could largely be explained by the new opportunities to import from the West and the drive to export to the West.

In any event, at present, in the CSFR, Hungary and Poland a shortage of hard currencies per se (as opposed to the usual balance of payments constraints) is not considered a critical obstacle to intra-EE trade. None of the governments has been forced to undo steps taken towards convertibility, though the CSFR and Hungary are being cautious about the timing of future steps in this direction.

However the emerging situation in the Independent States could change the picture radically. As Table 1 indicates trade between the old Soviet Union and the EE countries has declined more than that within Eastern Europe itself. As far as Soviet exports are concerned, this reflects less a shortage of hard currencies among the EE countries than a breakdown in supply in the Soviet Union. The EE countries are anxious to prevent any further erosion of their trade with the Independent States, and, if possible, to rebuild earlier trade flows. The CSFR, Hungary and Poland might consider joining an 'Eastern Payments Union (EAPU)' (as Williamson, 1991b, calls it), along with the Independent States and other EE countries if this appeared a promising route.

The proposal for an Eastern European Payments Union (EEMU): The proposal stems from the argument that trade between CMEA countries has collapsed through lack of a proper payments system. As a result manufacturers cannot obtain raw materials, spare parts or the machinery they need. Now that the transferable rouble has been replaced by hard currencies, a payments union would be valuable in economising on hard currencies reserves. Each member country would only have to settle overall

payments balances over any period with the entire membership rather than with each individual member.

A EEPU can be seen as a way of protecting a measure of multilateral trade in a situation of limited convertibility. (In fact because of the inefficiency of the old Comecon system, most trade was bilaterally managed, but the purpose was at least a multilateral clearing system). Even under Poland's present domestic convertibility, an exporter from another EE country cannot demand hard currency payment for his zlotys. A EEPU would allow unlimited credit between settlements and only the net balances would require settlement in hard currencies at the settlement dates.

However even prior to the end of the transferable rouble system there was a reluctance on the part of the EE countries to get together and discuss the organisation of a EEPU. There seemed to be compelling arguments against the proposal. It would tend to support the continuation of the obsolete pattern of trade whereby (mainly) Russian energy goods and raw materials are exchanged against generally shoddy manufactures from Eastern Europe. It would delay the exposure of certain EE industries to international prices and postpone the 'cold shower of competition' from the West. It would delay the rapid integration of Eastern Europe into the world financial markets and slow down the emergence of foreign exchange and other financial markets.

The breakup of the Soviet Union has brought the issue of a payments union back into the limelight. If some or all of the republics start to issue their own currencies, a payments union (or payments agreement if the word 'union' smacks too much of Soviet centralism) could make an important contribution to maintaining inter-republic trade. If the EAPU proposal is accepted, there are opportunities for the ecu as the Union's unit of account. This would make additional sense to the extent that the EE currencies were pegged to the ecu. This issue will be taken up in Chapter 5 below.

Chapter 3. Choice of the exchange rate regime

The theory of the optimal exchange rate regime gives no unambiguous answers, even for an archetypal, small, developed, industrialised market economy. The appropriate regime will depend on the economic objectives (obviously), the nature and source of shocks, in particular whether they are monetary or 'real' and whether they are internal or external, and the structural characteristics of the economy, in particular the labour market, i.e. real wage rigidity. The labour market is particularly important since in the past, in certain developed market economies, currency depreciation has only yielded a very short-lived benefit to the balance of payments, since nominal earnings have kept up with - or even anticipated - the depreciation-induced rise in domestic prices. As a result there has been little reduction in overall absorption and a limited switch from imports to domestically-produced goods.

Stabilising output alone implies an exchange rate adjustment in the event of transitory shocks originating from abroad or in the domestic market, unless those shocks originate in the domestic money market in which case the exchange rate should be held steady (Aghevli et al, 1991, 5). The effects on output of positive or negative demand shocks, from outside or within, can be neutralised by allowing an exchange rate appreciation or depreciation respectively. Where the shock stems from an unplanned increase in the domestic money supply, the exchange rate should be held constant so that the excess money supply is channelled abroad.

Obviously policy makers are not solely interested in stabilising output, but the implication changes if inflation is added, with a negative weight, to the objective function, or a balance of payments or foreign exchange reserves constraint is introduced. The theory becomes complicated and is not particularly insightful. In general it implies that exchange rate adjustments are appropriate under certain circumstances but the extent of adjustment will depend critically on the nature of those circumstances and on the weights the authorities attach to different objectives, i.e. the rate should be 'managed'.

If the analysis is not very useful for the archetypal economy, it is even less so for the EE countries. Firstly the usual objective is taken to be macro-economic stability, often taken as stabilising output. Apart from the point made by Aghevli et al. (1991) that the stability of one variable risks destabilising some other, stability in itself must rate below growth in real incomes, low unemployment and probably some other macro-economic or distributional variables in the objective function of the EE governments. Secondly the total economic upheaval of the EE economies in their transition process can hardly be treated as simply a set of domestic shocks. Thirdly the response of real wages to exchange rate-induced price level changes is not yet a datum in the EE countries⁷. The labour market is itself being shaped, directly, by institutional and legal reforms, and, indirectly, by the impact of reforms, in the broadest sense, on real wages and employment.

Even if the theory is too simple to be directly appropriate to the EE countries, the implication is that additional complexities would reinforce the argument for eschewing simple rules and facing the need to manage the exchange rate. However the arguments for irrevocably fixed or freely floating rates should be given a hearing.

⁷ Gylfason (1990) makes the same argument - less convincingly - for the Scandinavian countries.

1. The irrevocably fixed exchange rate option

The case for an irrevocably fixed exchange rate is argued by Bofinger (1991). His argument stems from concern for the necessity of a domestic nominal anchor. With changes in the functions of financial institutions, with, presumably, shifts in the demand schedules for money and other financial assets and with supply-side shocks of various kinds, monetary aggregates will be hard to monitor and, in any event with major changes in the functioning of the financial system, would not be appropriate targets. A fixed exchange rate supplies that anchor but only, Bofinger argues, if it is irrevocably fixed.

One argument against is the familiar one of the loss of a policy instrument. It is agreed among the member states of the EC that the irreversible fixing of currencies can only take place after a measure of convergence, certainly, of inflation rates, if not also of growth in unit labour costs. Until sufficient convergence is reached the exchange rate is a necessary instrument for maintaining competitiveness. There is the alternative view that the high inflation economies can, indeed will ultimately be forced to, adjust without the benefit of currency depreciation. The gains from lower transaction costs and reduced uncertainty will more than compensate for the loss of a, at best short-lived if not wasting, policy parameter. France is a prime example of a country that has successfully chosen a fixed anchor in the form of the Deutschemark.

The critical issues for the EE countries are rather different:

- an irrevocably fixed exchange rate means that changes in the money supply must be left free to be determined by the balance of payments constraint. Since financial markets are primitive in EE countries, and, in particular, government bond markets are non-existent, this effectively means that there can be no separate fiscal policy. The government deficit is effectively determined by official aid and loans which are not flexible to the cyclical situation. As a result discretionary counter-cyclical policy is effectively abandoned;

- it is not necessarily true that the anchor will ensure price stability. 'The problem is that those circumstances demand a lot more than is suggested by the current buzzword, "credibility". Inflationary inertia can be caused by forward-looking expectations and a lack of credibility, but it can also be caused by indexation, by backward-looking expectations or by inconsistent real income claims. A totally credible fixed nominal exchange rate will deal adequately with inflation in the first case, but in the other three cases it will deal with inflation by inflicting a prolonged recession and snuffing out hopes of quickly beginning to catch up with the West' (Williamson 1991a);

- it would be exceedingly difficult to predict a sustainable exchange rate - the 'fundamental equilibrium rate' - for the long term for an economy in the midst of radical transformation from a command to a market-based system. The concept of an irrevocably fixed rate does not allow for mistakes in the original fixing;

- although Bofinger argues that an unalterably fixed exchange rate would increase credibility, in fact, if there were doubts as to whether the exchange rate could be maintained - which would surely arise when the transformation process met difficulties - credibility could be undermined. Attempts to sustain a fixed rate could lead to the expectation of a devaluation and, despite very high rates of interest, in the end to an exchange rate crisis.

Despite holding a fixed dollar-zloty rate for the year following the big bang, policy credibility has been lost

in Poland. That arguably has less to do with the devaluations that have occurred since the big bang, and more to do with the inflation and the loss of output that the initial excessive devaluation and squeeze on real incomes brought about. The devaluations in the CSFR and Hungary over the last year have not been major threats to policy credibility. Indeed without adjustments to keep exports competitive, and without the expectation that this will continue, much needed investment in export industries would not take place, and indeed the whole reform process would lose conviction.

2. The flexible exchange rate option

Completely flexible exchange rates are no longer often advocated, even for Western industrial countries. The theoretical advantages are (i) that monetary policy can be exclusively directed towards domestic targets, and (ii) that governments in any event lack the knowledge to choose the right exchange rate.

The counter-arguments can be summarised as

- the instability associated with overshooting, which, with wages and prices typically flexible upwards but inflexible downwards, leads to a strong inflationary bias;

- misalignments which may last some time. An overvaluation could be particularly damaging to an EE economy which must rely largely on export-led growth. And, to the argument that governments lack the knowledge to choose the right exchange rate, Williamson replies 'given the size of the misalignments that have been observed in the past, even where conditions for floating are better than in Eastern Europe, the authorities surely have the ability to do better' (1991a).

Two arguments are particularly relevant to the EE countries

- they would experience considerably greater exchange rate volatility than a small or medium-sized Western industrialised country. In the context of the developing countries Wickham (1987) argues that the main problem has been the absence of shortterm speculative flows to stabilise the effects of trade shocks. This problem would also apply to the EE countries, at least for the foreseeable future. Currency markets are thin. Financial institutions which can offset seasonal or other clearly temporary factors are lacking (and facilities for hedging are not available). In addition the reform process is likely to generate a series of positive or negative signals, which may not be individually very significant but which could lead to severe exchange rate instability. Moreover policy errors would lead to the loss of credibility in the reforms rather than to a loss in reserves. The reform policy becomes hostage to the exchange rate;

- exchange rate volatility would undermine the credibility of the domestic currency and encourage the use of parallel currencies. At the very least it would make the assessment of the competitiveness of individual enterprises more complex and discourage domestic and foreign investment.

Besides it is questionable whether the arguments in favour of floating have much relevance to economies in transition. The same reason Bofinger used to advance the irrevocably fixed rate - the difficulty of targeting monetary aggregates (or interpreting monetary indicators when such variables as the demand for cash balances are in flux) implies that the principle gain from floating, i.e. an autonomous monetary policy, is illusory. If the demand for money is adjusting to structural change in the financial sector or the economy as a whole, and these changes in demand cannot be monitored, monetary aggregates cannot be usefully targeted.

3. The fixed but adjustable option

If adjusted infrequently, this option combines the need for stability, a problem exacerbated by thin markets (see above), with the flexibility needed to adjust to terms of trade fluctuations, demand or supply shocks or even political upheavals. Credibility could be helped by the existence of an adjustment rule - how specific and public this should be, or whether the rate should 'crawl' will be discussed in the following chapter.

Whether adjustments should be sufficient to restore initial competitiveness or should aim to ratchet down the inflation rate by less than complete accommodation. Less than full accommodation has been the policy of a number of countries, France, Italy, Belgium, Ireland and Denmark, within the ERM. Arguably it is important during the initial stages of transformation to stimulate the newly privatised businesses. At a later stage less than full accommodation may be an option.

A fixed but flexible rate is a compromise reflecting a trade off between inflation and the need to keep exports competitive and encourage investment in export industries (which depends on the expectation that exports will continue to be competitive). The balance of the trade-off is not set in stone. It will change over time to reflect existing inflation rates, the success of privatisation, the need or incentives and other factors that will change over the course of the transition.

4. Experience of other Countries

The Scandinavian countries: The immediately relevant experiences are those of Sweden, Norway and Finland who have pegged their currencies to the ecu - and those of other EFTA countries who in effect are, to a greater or lesser degree, 'shadowing' the ecu. These experiences are very short.

However the familiarity of the Scandinavian countries with pegging goes much further back (Gylfason, 1990). The history of pegging to trade weighted baskets in the conventional way was less than totally satisfactory. It did not prevent surges in inflationary expectations and the need for frequent realignments. For example the Swedish krona was devalued five times between 1976 and 1982. On the other hand the variability in real effective rates was generally less than among comparable countries with other currency regimes.

The Scandinavian countries had some earlier experience with pegging to Community exchange rates. Norway and Sweden joined the EC 'snake' arrangement in 1972 and 1973 respectively. They left in 1978 and 1977 respectively, having found the restrictiveness of German anti-inflation policy more than they had bargained for.

Their overriding high employment policy was compromised. Not that their performance on price stabilisation was in the least Germanic. The first oil shock was accompanied by a wage explosion in Norway, Sweden and Finland in the years 1973 to 1975, just when in Germany real wages were falling to adjust for the worsening in the terms of trade. 'Real wage costs rose to unsustainable levels, thus paving the way for the repeated devaluation of all three currencies during 1976-82' (Gylfason 1990).

When it came to the second oil price shock of 1979-81, Norway was already a major exporter and Finland was protected from the worst effects through its barter arrangement with the Soviet Union. Nevertheless monetary policy was accommodating, although in those two countries, at least, the oil price hike did not create a major recession threat. Inflation in the three countries rose to more than 10 percent

in 1980 and 1981, with all three countries exceeding the OECD average in the latter year.

These countries then moved to trade-weighted baskets - initially with some overrepresentation of the dollar to reflect its importance as an invoicing currency. Gylfason (1990) argues that this system was relatively successful in limiting the variability of the real exchange rate. Yet inflation was a constant issue in these countries in the decade of the 80s.

When these countries chose to switch to an ecu peg, they chose an initial parity close to the latest market value. The Norwegian authorities decided to peg the krona to the ecu on October 22, 1991 with a margin of 2.25 percent on either side of the central rate. The Swedish authorities pegged to the ecu on May 17, 1991 with a margin of 1.5 percent on either side, and the Finnish markka was pegged with a 3 percent margin on either side. Each of these fluctuation margins were the same as had been used under the previous reference basket.

One important aspect of the arrangements - which could be of significance to any EE countries who decided to peg to the ecu - was the swap agreement concluded between the Norges Bank and the EC central banks. This is close to the 'very short term financing arrangement' of the EMS. This gives the Norges Bank access to 2 billion ecu of short term funds for intervention purposes. On its part the Norges Bank agreed to co-operate with the EC central banks in intervention policies vis-à-vis third countries (Gual 1991). In addition there are to be annual meetings between the Norwegian Minister of Finance and the President of ECOFIN.

The Swedish authorities did not ask for a swap arrangement. Sweden has large currency reserves and a variety of existing credit lines. The Finnish authorities were planning to approach the Committee of Central Bank Governors and the EC Monetary Committee with a request for a swap arrangement. However they were overtaken by events and the rupture of the Markka-ecu peg in November 1991.

The reasons these countries switched to an ecu peg were basically the same as those presented later in this report in favour of such a peg for the EE currencies - the credible inflation target presented by the ecu, the growing use of the ecu in trade and finance, and prospective membership of the EMS and ultimately the EMU.

But they were also trying to make two particular points. Firstly, their inflation performance had been at best patchy. All three currencies had had to be devalued vis-à-vis their baskets on many occasions. They wanted to establish a new psychological frame-work - to bolster the credibility of their economic policy. They would fix their currencies once and for all to the ecu and use that link to ratchet down inflation, much as a number of member states have done. Secondly they wanted to give a signal of their commitment to eventual membership of the Community through an alignment of their macro-economic disciplines to those of the participants in the ERM.

Since pegging the Swedish and Norwegian currencies, which had been depreciating slightly against the ecu prior to the pegging, have remained within their margins. The experience of the Finnish markka has been less satisfactory, since downward pressures in the market forced it to break the peg on November 14, 1991, float for a day and repeg at a new central rate 14 percent lower than the previous. It could be argued that the markka was pegged at too ambitious a rate. Certainly there was considerable opposition on the part of the Confederation of Finnish Industries. Since the markka was devalued, the Swedish krona has come under pressure. Arguably delays in the implementation of the budgetary and labour market reforms promised at the time the krona was pegged, together with disappointing news on export

competitiveness, have lost the confidence of the markets that the rate can be sustained.

What lessons, if any, can be drawn for the EE countries from the Scandinavian experience? Firstly, and obviously, pegging to the ecu is no panacea. Secondly since pegging to the ecu, speculative interest in the Scandinavian economies has increased. Currencies within or closely associated with the EMS, at least those with 'thick' spot and forward markets, appear to attract the interests of traders as speculative or hedging instruments. This, however, may not be initially a major concern to the EE countries since markets in their currencies will remain thin for some time. Thirdly too much hyperbole about the irrevocability of the peg will increase the loss of policy credibility when the peg is fractured, and that may foster speculative attacks on the currency for some time to come.

The developing countries: The experience of the developing countries is of questionable relevance to Eastern Europe. There are major differences in the circumstances of the developing countries: they are generally not going through radical structural change; they are generally importers of manufactures and exporters of primary products whereas the EE countries are in the reverse situation.

On the other hand there are a number of parallels: developing countries are frequently subjected to major reforms as part of the conditionality of IMF or World Bank loans; these often include a significant devaluation of the currency, and/or trade liberalisation; they too have rudimentary financial markets; and they are generally small or medium-sized with limited influences over their terms of trade.

Aghevli et al. (1991, 2) draw attention to the evolution of exchange rate arrangements of the developing countries between 1976 and 1989. The proportion of countries pegging to a single currency has declined from 63 percent in 1976 to 38 percent in 1989, among whom those pegging to the US dollar have fallen from 43 percent to 24 percent. An increasing number of countries switched from a single currency peg to a composite peg, though the number pegging to the SDR has declined. The use of a composite basket has risen from 23 percent to 28 percent. However the proportion with flexible arrangements has shown the greatest increase rising from 14 percent in 1976 to 34 percent in 1989. The term 'flexible' arrangements covers a wide range of regimes, with the common characteristic that adjustments are frequent. In describing these regimes the reporting countries use such terms as 'adjusting to indicators', 'managed floating' or 'independently floating', though allowing the market to operate freely is relatively rare. In fact there are no examples of developing countries which have successfully sustained a market-determined floating exchange rate for any length of time.

The increased use of flexible arrangements has been encouraged by the increased volatility of the hard currencies to which many countries previously pegged. But also such arrangements are often favoured because they facilitate adjustments without the political stigma of devaluation.

These authors also compare the inflation performance of countries grouped according to their exchange rate regimes. The results for the average inflation and nominal depreciation rates of the different groups strongly suggest that flexible arrangements are associated with a rapid inflation-depreciation spiral (without any presumption of the direction of causality) while pegging goes with much lower inflation (relative to trading partners) and a much lower rate of nominal effective depreciation. Among the countries with pegging arrangements, those pegged to baskets have had lower inflation than their trading partners and their real effective exchange rates have shown greater declines.

Not too much should be read into these data. There are considerable differences between countries within the same groups. Secondly the experience of the developing countries has limited relevance to those

of Eastern Europe for reasons discussed earlier. Nevertheless, the record of the flexible regime countries could be seen as an object lesson in the disasters inherent in an inflation-depreciation spiral. By those (restricted) criteria, pegging to a basket has been more successful than pegging to a single currency.

5. The initial parity

Credibility can be seriously damaged by a forced change in the exchange rate, whether from a fixed exchange rate in terms of another currency or a basket, or with a flexible exchange if realignments are made too frequently and under pressure or, indeed, with a floating exchange rate in the event that it collapses.

The difficulties in deciding the appropriate level to pitch the exchange rate initially - as well as the seriousness of the distortions in industrial structure in the CSFR, Hungary and Poland - are underlined in the work of Hare and Hughes (1991). They calculate value added at world market prices by disaggregated industrial branch. They find little correlation with value added at domestic prices and that 20 to 25 percent of manufacturing industry actually contributes negative value added in these countries - gross of adjustment for the cost of capital! Clearly the lower the exchange rate is pitched the more firms will survive, but what has to be judged is longterm viability. Even a branch where value added is currently negative is potentially a valued contributor to GDP some years hence. An undervalued exchange rate (together with low real wages) is a stimulus to enterprise and insurance against adverse shocks and policy misjudgments, but is no substitute for vigorous restructuring (see Newbery 1991).

The principle that a lower exchange rate is preferable to tariffs remains valid. The only advantage of tariffs is that they can be used to protect individual sectors: unfortunately, given the propensity to interfere with market allocations, it is also their major disadvantage. (For a contrarian position, see McKinnon, 1991, who argues for 'cascading' tariffs rather than a lower exchange rate).

On the other hand if the rate is excessively undervalued, the main arguments for convertibility - exposure to world prices and the competition from foreign goods - will be frustrated. Portes (1991b) argues that the rate established by Poland on January 1, 1990 was too low, and thus to some extent the subsequent inflation merely reflected the adjustment to world prices, while the monopoly power of domestic firms was not checked by foreign competition. Olechowski (1991) explains the reasoning behind the sharp devaluation - the need to compensate exporters for phasing out export subsidies and to set a margin for the maintenance of competitiveness for the whole of 1990.

Seabright (1991) draws attention to some of the complex of factors relevant to the choice of the initial exchange rate, and whether thereafter the aim should be to keep it above or below its 'fundamental equilibrium rate'. The choice is more complex than a trade-off between export competitiveness and inflationary pressures. For example the exchange rate policy will have differential effects on the private and the state enterprise sectors. These issues go beyond the scope of this report but it is important to signal the rôle of structural factors in deciding the appropriate initial level of the exchange rate.

Chapter 4. The optimal peg

1. Theoretical arguments

A basket vs. a single currency peg: The advantages of a basket are that

- the domestic economy is not tied to one country's exchange rate, which will fluctuate with policy changes in that country and is subject to domestic and outside shocks affecting its currency;
- it reduces the need for foreign exchange reserves. Pegging to a single currency implies a more volatile effective exchange rate and so greater swings in the external balances. At the same time a peg to a basket implies fluctuations against all currencies, including those excluded from the basket and those included though fluctuations in the latter will be damped in proportion to each currency's weight in the basket.

The peg is important because frequent realignments are unacceptable since they erode the credibility of policy as well as contributing to exchange risk. Realignments against the peg may be based on relative inflation differentials between the domestic economy and a trade-weighted group of competitors - not necessarily the countries represented in the basket - or they may be designed to squeeze out inflation by consciously undercompensating for inflation differentials.

The choice of weights: Between realignments it is important that the effective exchange rate (EER) remain relatively stable. A stable EER for all traders, importers and exporters, is not a practicable goal. Some exporters will be selling to single markets. Rarely will the geographical distribution of exports of a single firm be weighted in accordance with the weights in the basket. But a stable exchange rate for 'tradeables' as a whole means that the weights in the basket should reflect the geographical distribution of trade. If the cost of instability to a firm is an increasing function of deviations in bilateral rates, total trade (export plus import) weights mean that microeconomic instability is minimised.

Macro-economic instability can best be minimised through elasticity weights. If the goal is to hold a particular balance of payments measure constant, the optimal weighting system will be determined by the elasticities of the components in that measure with respect to exchange rate changes. For example a stable trade balance implies weights based on import demand elasticities - such as the IMF MERM weights. However a general equilibrium model should in principle be used to estimate the total elasticities since they should take account of indirect effects working through the factor markets. Even then there are conceptual problems. What is one to do about lags in response to exchange rate changes and the costs of allowing adjustment to take place at its own slow pace? What does one do if the initial trade balance is not in equilibrium? In practice there are severe econometric problems in estimating the relevant elasticities and elasticity weights are not a practical option.

Other goals, such as minimising the variance of real income, subject to an income constraint, will give quite different weighting systems, but Williamson (1982, 54-55) shows that stabilising the EER using a trade-weighted peg does in fact satisfy - or approximate to - a number of alternative objective functions, including what he sees as the most defensible, i.e. continuous internal balance and external balance on average over the medium term.

The effective exchange rate should then be stabilised using total trade weights. The effective exchange

rate can in principle be defined in terms of the currencies used to denominate trade. However if the goal is to maintain trade balance or to stabilise the relative price of tradeables, the weights should reflect the direction of trade. Weighting by the currency of denomination will protect the incomes (or outgoings) implicit in existing contracts. But for new contracts, i.e. future trade flows, the value of the currencies of exporters and importers is what matters, not the currency in which the contract is quoted.

The irrelevance of the debt structure: It is for the same reason that the structure of debt by currency of denomination should not be a factor in determining the optimal peg. An illustration may be helpful. Take a mythical country which trades exclusively with the Community member states and in proportion to their currency weights in the ecu. However all its external debt is denominated in dollars and its trade balance initially is just sufficient to service that debt. If it were, at one extreme, to adopt a peg to the dollar and the dollar were to rise relative to the ecu, to the extent that its trade was denominated in dollars or domestic currency, and with no change in trade volumes, its trade balance in dollars would remain unchanged and continue to be adequate for debt service. If however it were to adopt an ecu peg, the greater the share of trade denominated in domestic currency, the lower would be the trade balance and the more inadequate for the debt service requirements.

However this all presupposes no change in the volumes of trade flows. In the dollar-peg case, when the dollar rises the domestic currency is revalued against the ecu and net exports to the Community will tend to fall in volume terms. Under the traditional elasticity assumptions - which appear generally satisfied in practice - the trade balance deteriorates and will not be adequate to service the debt. If the currency had been pegged to the ecu, the trade balance would be unchanged in ecu terms but still inadequate to service the dollar-denominated debt. However ecu-pegging would maximise microeconomic exchange rate stability. The appropriate way to cope with adverse movements in the currencies in which debt is denominated, if they are not shortrun fluctuations which are likely to be self-correcting, is through adjusting, in this case depreciating, the rate at which the domestic currency is pegged, not through the peg itself.

2. Choice of adjustment mechanism

In two of the three countries, the CSFR and Hungary, which are currently pegging their currencies to a basket of hard currencies, there is no automaticity as regards the exchange rate adjustment process. Poland, as has been seen, has adopted a crawling peg system of adjustment. This is one form of adjustment rule. The other is an overt rule that specifies an adjustment once an inflation differential threshold, or other quantitative criterion, is met or a certain period of time has elapsed. The amount of adjustment may also follow a rule or be left to the discretion of the authorities.

Portes (1991b) favours the ex ante announcement of an adjustment rule. Otherwise, he argues, the reform process will be threatened by speculation and uncertainty over the exchange rate. He also argues for a minimum duration for the initial exchange rate fixing.

Portes does not specify the rule he has in mind. In any event it is difficult to see how an open rule would not be itself an invitation to speculation. Inevitably it would be known when a change in the exchange rate was imminent, and then all legal means, for example delaying or advancing trade payments and capital flows, and illegal, black market devices to make a speculative gain would be used, depleting foreign exchange reserves even further. A minimum duration for the initial rate would also be an invitation to a one-way bet for speculators.

In any event the definition of such a rule would pre-empt an important element of discretion. The appropriate degree of adjustment will usually represent a trade-off between the competitiveness of exports and pressing down on inflation. The timing and degree of adjustment can be used to influence a particularly inflationary wage settlement or offset a rise in inflationary expectations associated with an outside shock such as an oil price hike.

The real effective exchange rate: There are obvious advantages to targeting the 'real effective exchange rate (REER)' or the nominal effective exchange rate adjusted for differences in relative price performance (Williamson 1982, Wickham 1987 and references therein). Assuming that the correct starting point is chosen, this will yield medium-term or cyclically-adjusted equilibrium in current account. There are problems. 'The pertinent price data are only available discretely and usually with a considerable lag... [Williamson concludes] that the high degree of serial correlation in inflation rates can be exploited, together with other available information, to make reasonable estimates of current inflation rates, and hence of price performance at home compared with that of competitor or partner countries. The implementation of a reasonable approximation to this kind of policy rule would thus be possible' (Wickham, p 272).

The 'crawling peg' mechanism for adjusting exchange rates is generally justified on the grounds that it allows the REER to be set as a target. However, in principal, it can be used to move steadily towards any target rate or maintain a real rate once it is achieved. A real rate target means that relative inflation rates have to be forecast. In practice the crawl will usually be set at a rate estimated to offset differential inflation in the traded goods sector.

A crawling peg implies that the exchange rate is adjusted by small increments at regular intervals (daily, weekly or monthly). The dangers of a speculative run on the currency can be averted by maintaining an interest rate differential sufficient to offset the announced rate of depreciation (or, in theory, appreciation). In Poland the monthly interest rate on zloty deposits is now (December 1991) 2.5 to 2.7 percent. On hard currencies deposits it is some 0.6 percent per month while the rate of depreciation is 1.8 percent per month. Thus there is a small margin in favour of zloty deposits.

There are theoretical advantages but practical difficulties, particularly for a country with an innate inflationary bias (which seems to be the case with economies undergoing rapid and radical transformation). Where the goal is to adjust the nominal exchange rate for inflationary differentials - the most usual justification for crawling, the danger is that the inflationary process becomes embedded and to accelerate. The crawling peg will only be a solution to inflation differentials rather than a source of them if it does not lead to increasing inflationary expectations and defensive reactions to those expectations. In general this means that, from the start, the crawl should be seen as limited to correcting past inflationary differentials and accompanied by the appropriate macro- or microeconomic stabilisation policies. The duration of the crawl should be announced in advance.

In Poland the problem of rising inflationary expectations and defensive reactions on the part of labour have been dealt with by a confiscatory tax on real wage increases. Only 60 percent of monthly price increases may be offset by higher money wages in the state sector - beyond that the tax rate becomes confiscatory of additional wage increases. The crawl has no preset duration. In practice the informal foreign exchange market is working smoothly and efficiently and there has been no rush out of zlotys. The distortions have rather been concentrated in the labour market.

In the final analysis a crawl, if it is not to be open-ended and an invitation to defensive reactions, requires as much judgement as to the appropriate exchange rate as does a discrete adjustment. This was the conclusion of the New Zealand authorities who, after crawling from 1979 to 1982, later chose to put reliance on market forces and switched to a floating rate (Wickham 1987).

Between 1977 and 1990 Portugal ran a pre-announced crawling peg exchange rate regime. For most of the period the rate of devaluation was less than the inflation differential, the real effective rate tended to increase and successfully bear down upon the inflation rate. However the regime had to be abandoned when it became clearly inconsistent with the desired pace of disinflation (OECD, 1992). In 1990 the authorities were confronted with the dilemma of trying to maintain tight monetary conditions, in particular to control liquidity, faced with a surging inflow of capital attracted by high shortterm interest rates. The crawling peg mechanism was replaced by a peg, within an unannounced range, to a basket of the principal EMS currencies. The CSFR and Hungary have elected not to follow the crawling peg path. This is probably wise, given the importance of establishing a credible anti-inflation stance, while, at the same time, maintaining a flexible stance vis-à-vis internal and external shocks.

3. Advantages and disadvantages of an ecu peg

A credible inflation target: The primary advantages of an ecu peg lie in the credible medium-term inflation target it implies and the joint benefits associated with its rôle as a vehicle currency. Whether the ecu provides a credible inflation target is a question of judgement about the feasible inflation performance of the EE countries. Tying implies an inflation target because there is still a political loss of face when the currency is devalued, because frequent adjustments of the peg impose costs on trade, particularly when hedging facilities are not available but, especially when, as in the Scandinavian case, the governments have overtly nailed their colours to the mast of ERM inflation rates.

There are dangers in being overambitious. Downward adjustment vis-à-vis the peg may give the wrong signals: it may be interpreted as an indication that the authorities have failed in their inflation rate targets, though, in fact, that may reflect unrealistic expectations which the authorities have encouraged or at least not dispelled. On the other hand, too soft an inflation target has its own obvious dangers.

It should be noted that the latest proposal by the Commission that the amounts of different EC currencies in the ecu should be frozen implies, that if realignments do take place, the ecu will be somewhat 'hardened' on each occasion. If, say, the Deutschmark were to be realigned upwards vis-à-vis the other currencies and the number of Deutschmark in the ecu were to remain the same, the ecu would strengthen permanently vis-à-vis its other constituent currencies and against outside currencies. The inflation standard would become closer to that of Germany.

A peg to the ecu emphatically would not imply that the ecu-weighted inflation rate is a shortterm policy objective. There are two distinct aspects to exchange rate policy - establishing a peg and the choice of the value, and changes in the value, at which the currency is pegged. Confusing these objectives means sacrificing a degree of policy freedom. There will likely come a moment when each of these EE countries will announce that its currency is pegged irrevocably to the ecu (which may be when it enters EMU) but that is still some way in the future.

The ecu in private sector markets: The other main advantage to an ecu peg lies in the growing use of ecu in financial and commercial markets. In financial markets the use of the ecu has increased rapidly in recent years. In 1990 financial paper valued at 25 billion ecu was sold, largely in the ecu bond market.

Its use for trading purposes has grown much more slowly. However that is likely to change (i) as EMU becomes closer, particularly with the Maastricht summit setting a timetable for EMU and (ii) restrictions on the use of the ecu in particular EC member states, notably Germany, are eased. Clearing and settlements procedures are discussed in Appendix 2. However there is a 'synergy' in adopting a peg currency which can also be used for trading purposes (pricing, invoicing and settlement) which is relevant here. If their currency were pegged to the ecu, exporters or importers in the EE country in question could substantially reduce exchange risk by invoicing (or agreeing to be invoiced) in ecus rather than any specific hard currency. Ecu-invoicing is already happening on a small scale. Of course they would still be subject to exchange risk from realignments of their currency to the ecu, or, to a minor extent, from fluctuations within the currency band.

There will also be technical advantages in pegging to the ecu over any other basket of currencies. The central banks of the EE countries will be able to hold some ecus in their reserves from the beginning, just as the EC central banks are gradually increasing their holdings of 'private' ecus (Steinherr et al. 1991). However using them for intervention will be limited by the extent to which commercial banks in their countries are able to hold ecus. This will become easier as convertibility is extended and the foreign exchange markets in the EE countries widen and deepen.

Institutional gains: In addition with an ecu peg, there are opportunities for establishing swap agreements with EC Central Banks and eventually the European Central Bank as Norway has done. In this context it should be pointed out that Section 3.2 of the Resolution of December, 5, 1979 of the Council on the establishment of the EMS states that non-EC European countries with particularly close economic or financial ties to the European Community may participate in the exchange rate and intervention mechanisms, though the Scandinavian countries pegged to the ecu have solve not taken advantage of this facility, of which the modalities remain to be defined.

Eventual EC membership: Finally, and in the end perhaps most important, an ecu peg is an important witness of the determination of the CSFR, Hungary and Poland to apply for full membership of the European Community as soon as their economies are ready. A successful peg to the ecu, that is increasingly rare realignments and eventual stability, would be evidence that these countries can meet the macro-economic standards for membership of the Community. Whether membership of the EMU is attainable at the same time will depend on a set of conditions on 'so-called' convergence. Stability of the currency vis-à-vis the ecu might suggest a macro-economic performance within reach of meeting the conditionality.

It is doubtful whether these countries will be in a position to join the Community before the start of EMU. The Maastricht Council Meeting agreed that a positive decision to implement EMU could be taken at the end of 1996, provided that a majority of member states meet the criteria of economic convergence⁸. These concern the inflation rate, the magnitude of the government deficit and public debt relative to GDP and long-term interest rates. If no such decision is taken, EMU will be automatically implemented from January 1, 1999, with all eligible member states as participants⁹.

⁸ These are described in the Protocol of the convergence criteria to the text of the Maastricht Treaty.

⁹ The eligible states are all those who meet the convergence criteria with the possible exceptions of the United Kingdom, who is not currently prepared to accept the commitment, and Denmark, whose commitment is contingent on the results of a referendum (see Louw, 1992).

If EMU were implemented before they were to join the Community, there would be no problem of maintaining their currency link to the ecu, since under the Maastricht Treaty a smooth transition from 'basket-ecu' to 'currency-ecu' is ensured. The continuity of the ecu's exchange rate vis-à-vis outside currencies, and of ecu interest rates, is ensured (Louw, 1992).

As suggested above, a successful ecu peg with increasingly less frequent parity changes would both bring gains to the countries themselves and enhance the argument that they are becoming economically ready to join the Community.

Lack of forward markets: On the other side, the main disadvantage of an ecu peg is no less real for being technical. It lies in the absence of forward exchange markets in the CSFR, Hungary and Poland. This means that traders cannot hedge any hard currency positions. The only transactions that avoid exchange rate risk are those denominated in ecu. (Here the risk in question is that associated with fluctuations of the currency of the peg, not discrete - or crawling - adjustments to the peg itself.) Of course the present basket pegs do not avoid exchange rate risk, but to the extent that the weights are based on shares of currencies by denomination (rather than, for example, trade shares by partner country) the risk is minimised for the total of transactions as a whole.

This is a particular problem because of the high level dollar exposures - between a third and 45 percent depending on the country. It may be argued that, in the case of exposure in, say, the Austrian schilling, the risk would be minimal as this currency moves closely with the Deutschmark. This is true to the extent that there is no realignment within the ecu, which cannot be taken for granted, at least until the third stage of the process to EMU. Until intra-EMS exchange rates are irrevocably tied to each other, the exchange rate risk to EMS currency exposures will not be avoided by ecu-pegging.

The structure of trade: One potential objection to pegging to the ecu needs to be addressed. In the case of countries primarily exporting homogeneous raw materials, minimising EER volatility would mean pegging to a basket where the weights reflected the distribution of world imports of the commodities in question (Williamson 1982, 56). This is because, with efficient world markets in commodities, the implications of a rise in the dollar for Côte d'Ivoire's coffee exports depends on the share of the US in world coffee imports, whether or not Côte d'Ivoire exports coffee to the US.

Table 2: Commodity composition of exports of the CSFR, Hungary and Poland and of BLEU, Germany and Spain, percentage

Commodity class(SITC)	CSFR	Hungary	Poland
Total exports: at uniform rouble-dollar crossrate			
Primary pdts.a	10.7	23.1	16.8
Fuels b	6.1	4.7	10.3
Manufactures c	83.2	72.1	72.9
Total exports: at national rouble-dollar crossrate			
Primary pdts.	9.8	23.2	18.5
Fuels	6.1	4.7	10.6
Manufactures	84.2	72.1	70.9
Exports to West			
Primary products	16.8	24.1	25.3
Fuels	9.1	5.7	11.7
Manufactures	74.0	70.1	63.0
	BLEU	Germany	Spain
Exports			
Primary pdts.	5.3	6.5	17.5
Fuels	1.5	1.3	4.4
Manufactures	93.2	92.3	78.0

(a) SITC classes 0,1,2,4 (b) SITC class 3 (c) SITC classes 5-9 Sources: Kenen (1991) from national sources, ECE (1991), Euros-tat. CSFR data for 1989; Hungarian data for 1987 and Polish data for 1988.

Table 2 shows the sectoral breakdown of trade for the CSFR, Hungary and Poland as well as for Belgium-Luxemburg (BLEU), Germany and Spain as (arbitrarily selected) comparator countries. There is a problem in combining data for trade within the CMEA bloc and trade with the West because meaningful exchange rates for conversions into transferable roubles, let alone, dollars do not exist (ECE 1991, 31-32). Thus as well as using the exchange rates officially adopted for foreign trade statistics - which may bear little relation to the actual (and multiple) rates used to determine payments obligations - Table 2 also uses a uniform rate of 2 roubles to the dollar, approximately the mid-point of the range used in the national data.

The share of manufactures in the total exports of the CSFR is just over 80 percent and for Hungary and Poland it is just over 70 percent. Thus these countries have been primarily exporters of manufactures, though the shares of Poland and Hungary at least are considerably below those of the comparator countries, including Spain. The importance of primary products, including fuel, is even greater in their exports to the West. Whether the share of primary products grows as these countries trade becomes increasingly integrated within the world market economy depends on a great number of factors. Probably the most important are the extent to which the West, in particular the European Community, opens its borders to imports of agricultural goods from Poland and Hungary. Secondly, progress in raising the

competitiveness - price and quality - of manufactured products is critical to the growth of exports of these products (though the EE countries continue to face Western protectionism in clothing and textiles and steel - potentially some of their most important manufactured exports).

In any event it does not appear that dependence on exports of primary products is sufficient to dictate the choice of the exchange rate regime for these countries (though the weights in any effective exchange rate peg in principle could be chosen to take into account the composition of world imports of the relevant primary products in proportion to their importance in the structure of exports).

Gains from a common approach: A final advantage of an ecu peg is that the more countries that choose it, the greater will be the advantages to those countries. It would mean that cross-exchange rates would be stabilised and that would contribute to the rebuilding of intra-EE trade. Assuming that there were no EE payments union (see Appendix 1), if all or most EE countries were to peg to the ecu, the ecu would likely become, in due course, the currency used most in settlement, both for intra-EE balances and for balances with the West. Not only would trade transactions be invoiced in ecus but other current account transactions would increasingly be denominated in ecus. Reserves would tend to be increasingly maintained in ecus. How quickly this process evolved would depend on the development of the ecu as an international reserve currency. Certainly the decisions taken at Maastricht will give this process a major boost.

If, however, some were ecu-pegged and others were floating, or mark- or dollar-pegged, there would not be the same mutual advantages for intra-EE settlement. However individual countries might still find that the advantages of an ecu peg offset the disadvantages of 'going it alone'.

4. Further benefits from EMU

The ecu as a vehicle currency: Though it is impossible to be certain about the nature of the international monetary system post-EMU and, within that system, the rôle of the ecu, then no longer a basket currency but a currency in its own right, it can be confidently assumed that the advantages to the EE economies of having their currencies pegged to the ecu will be considerable. This will surely be the case as the ecu becomes one of the two major vehicle currencies in international trade. The functions of a vehicle currency in international trade may include (i) pricing and invoicing (ii) finance, and (iii) settlement.

To establish an effective vehicle currency for international transactions and exploit any efficiency gains, the critical functions are invoicing and settlement. The finance function may follow of its own accord. Alternatively if there were an incentive for trade finance to be offered in a particular currency, the financing function could become the initial stimulus to its use as a vehicle currency. The pricing/invoicing function between the EC and third countries will be increasingly effected in ecus - even before EMU.

Secondly with EMU, the ecu will become a currency in its own right. This will sharply increase the incentive for the central banks of the EE countries to intervene directly in ecus to maintain their currencies in the chosen band, rather than using the dollar or the Deutschemark. This is not possible with any trade-specific basket or even the SDR. In the meantime, to maintain the ecu peg within the specified margins, the authorities are likely to intervene mainly in hard currencies. Since these currencies are themselves fluctuating with respect to the ecu, the process of controlling the rate through this type of intervention is marginally less precise.

Thirdly the share of ecus in the foreign exchange portfolios of central banks will be sharply increased, in particular, at the expense of US dollars. Clearly the non-EC central banks will prefer to hold a larger proportion of their foreign exchange reserves in ecus. Moreover the ecu is likely to emerge at least on a par with the dollar in the inter-bank market. These two factors mean that the countries with currencies pegged to the ecu, holding mainly ecus in their portfolios, will benefit from a much deeper ecu market and from the convenience of broad acceptability of ecus for international settlements.

The Association for the Monetary Union of Europe has proposed the establishment of a special Eastern European Stabilisation Fund, managed by an Ecu Zone Surveillance Board, to pool part of the foreign exchange reserves of the participating countries and a stand-by facility to protect convertibility as well as to be used for exchange rate stabilisation. The Association's proposals are outlined in Appendix 3.

The ecu will grow rapidly in importance as the medium for international settlement, obviously within the EC but also between the EC and third countries. There is also Krugman's (1980) argument, adapted by Alogoskoufis and Portes (1991), that the dollar now plays a special rôle as a vehicle currency because it intermediates the financing of the imbalance in trade between, say, France and Germany. Once Germany and France are part of the same monetary union that will no longer be necessary.

5. Quantitative analysis

Direct measures of exchange rate instability: Several writers have undertaken quantitative studies to determine to what extent a particular peg, usually the SDR or the dollar, would be an adequate alternative to trade weights in stabilising the EER (see for example Crockett and Nsouli, 1977, and Brodsky and Sampson, 1981). The usual method is compare the instability of an EER index defined as the ratio of the dollar value of the SDR, or whatever peg is under consideration, to the trade weighted average of the dollar values of partner currencies. The method implies that a constant EER means pegging to a comprehensive trade-weighted basket.

For present purposes this approach is of limited interest since the CSFR, Hungary and Poland used a system of multiple exchange rates, varying according to product and, non-transitively, across trading partners, none of which could be said to have significance for resource allocation. However Hungary and Poland both maintained a 'principal' exchange rate against the dollar though it was used more for preparing trade accounts than as the effective price of foreign exchange.

Table 3: Standard deviations of EER indices under alternative pegs

	ECU/EER	SDR/EER	\$/EER	DM/EER	ECU/MERM
Hungary	0.19	0.46	0.95	0.14	
Poland	0.21	0.38	0.80	0.18	
Germany	0.58	0.68	0.56	0.56	0.94
Belgium	0.82	0.72	0.58	0.62	0.73
Denmark	0.64	0.64	0.55	0.58	0.61
France	0.67	0.62	0.55	0.58	0.62
Spain	0.63	0.64	0.55	0.56	0.60
Italy	0.66	0.63	0.55	0.58	0.61
Netherlands	0.64	0.63	0.55	0.56	0.63
UK	0.61	0.67	0.55	0.56	0.60
Finland	0.61	0.66	0.56	0.57	0.60
Sweden	0.65	0.66	0.56	0.58	0.61

Source: see text. Data from IMF, International Financial Statistics, various issues

Still the standard errors of the quarterly deviations about an exponential trends were calculated for EER indices for a number of ERM currencies, the Finnish markka and the Swedish krone and for the principal rates of the Hungarian koruna and Polish zloty. The denominators were the trade-weighted averages of partner country exchange rates used in the Exchange Rate Indexes calculated and published by the IMF. Where MERM weights are available they are also used to evaluate the stability of an ecu peg. Quarterly average exchange rate data from 1985.1 to 1991.2 were used. The results are given in Table 3.

The immediately striking feature of the results is that the stability of the EER under an ecu peg would be greater for Hungary and Poland than for any of the present formal or informal (Finland and Sweden) members of the ERM. MERM weights are not available for Hungary and Poland, but except in the German and Belgium cases, stability in terms of the IMF's trade baskets is very close to that of the theoretically-preferable MERM baskets. The same might well hold true for Hungary and Poland.

The reason that an ecu peg over the latter 1980s would apparently have led to a very stable EER for Hungary and Poland is simply that these countries did indeed peg their (accounting) exchange rates to a basket and steadily adjust for inflation differentials. The basket was roughly weighted on the basis of non-CMEA trade, but, largely because of the importance of trade with Germany (FR), the weights were close enough to ecu weights and, more importantly, the adjustments smooth enough (unlike those of the ERM members) to give this benign result.

En passant, it is interesting that there is no substantial difference between pegging to the ecu or the SDR for most ERM countries or, indeed, for Finland or Sweden. However pegging to the Deutschemark or

the dollar would have meant somewhat less EER volatility over the period for most countries¹⁰.

Correlations with the geographical structure of trade: An alternative approach is to look at the correspondence between the trade shares (imports plus exports) of different countries and the weights in the ecu. This is done in Table 4.

It is first necessary to decide on the sample. First a decision must be made whether to change the sample of countries as the currency composition of the ecu changed. In fact I have kept the same sample of countries - all ecu members as of 1990 - throughout to facilitate comparisons over time. The ecu weights are annual averages for 1980 and 1985. For 1989 and 1990 they were the weights effective on September 21, 1989 when the currency composition was changed.

Secondly is trade with the rest of the world to be included as a single data point, or broken down into a number of data points or excluded entirely? In fact I have given correlation coefficients both including - as a single observation - and excluding trade with other than ecu member countries. For Poland and Hungary correlations including a single observation for non-CMEA trade are also given. Owing to the lack of comparable trade data between countries where neither is a member of the IMF, the CSFR and the Soviet Union were omitted from that comparison.

¹⁰ In the case of Germany, the standard deviation of a Deutschemark 'peg' is simply the standard deviation of the IMF's EER index.

Table 4: Correlation coefficients between trade shares and ecu weights

	1980	1985	1989	1990
I. all ecu member states and rest of world				
Poland	0.10	-0.19	-0.16	0.09
CSFR	-0.14	-0.23	-0.21	-0.15
Hungary	-0.21	-0.22	-0.23	-0.17
USSR	N.A.	-0.22	-0.25	-0.20
Belgium/Luxembourg	0.62	0.61	0.70	0.75
Denmark	0.21	0.14	0.23	0.18
France	0.39	0.36	0.55	0.42
Germany	0.07	0.03	0.10	0.04
Ireland	0.21	0.17	0.11	0.09
Italy	0.28	0.19	0.33	0.33
Netherlands	0.45	0.42	0.44	0.37
United Kingdom	0.04	0.10	0.12	0.10
Greece	0.39	0.54	0.55	0.47
Portugal	0.16	0.14	0.21	0.20
Spain	0.13	0.10	0.32	0.26
Norway	-0.04	-0.08	0.00	0.01
Sweden	0.09	0.04	0.04	-0.02
Switzerland	-0.06	-0.06	-0.03	-0.03
II. all ecu member states and rest of world, excluding CMEA				
Poland	N.A.	-0.03	0.10	0.69
Hungary	N.A.	-0.02	-0.04	0.03
III. ecu member states only				
Poland	0.85	0.82	0.81	0.78
CSFR	0.69	0.70	0.70	0.71
Hungary	0.42	0.42	0.54	0.68
USSR	0.64	0.53	0.61	0.64
Belgium/Luxembourg.	0.82	0.80	0.91	0.92
Denmark	0.79	0.82	0.92	0.93
France	0.81	0.81	0.93	0.93
Germany	0.79	0.81	0.95	0.94
Ireland	0.27	0.34	0.31	0.32
Italy	0.86	0.87	0.97	0.98
Netherlands	0.85	0.84	0.81	0.81
United Kingdom	0.81	0.83	0.83	0.83
Greece	0.92	0.90	0.82	0.85
Portugal	0.85	0.87	0.79	0.79
Spain	0.85	0.87	0.87	0.87
Norway	0.56	0.43	0.68	0.67
Sweden	0.65	0.62	0.67	0.65
Switzerland	0.09	0.10	0.10	0.09

Data sources: Trade data: OECD data bank; IMF, Directions of Trade and International Financial Statistics, various years Ecu weights: Ungerer et al (1990)

In the first panel the negative correlations between the pattern of trade of the CSFR, Hungary and Poland and the composition of the ecu simply reflect the weight of trade with the rest of the world, in particular the ex-CMEA countries. Where that trade is excluded, as in the second panel, the correlations is insignificant in the case of Hungary or, in the case of Poland, rises strongly over time. The jump in the correlation coefficient from 0.1 to nearly 0.7 between 1989 and 1990 is mathematically explicable by the more than doubling of trade with Germany, including both former Eastern and Western sections. This may well be largely be the result of revaluing previous Polish-East German trade at much higher dollar exchange rates. The exact numbers should be taken with a grain of salt, but the trend is unambiguous.

Taking only trade with the ecu member states, the correlation coefficients for the EE countries show no particular trend. In general they are somewhat higher than those of Sweden and Norway - whose currencies are already formally pegged to the ecu.

Over the next few years the process of integration of the Eastern European economies, particularly of the CSFR, Hungary and Poland, with Western Europe will continue. Trade between the countries of the old CMEA bloc is still declining and the share of exports going to and imports originating in the Community is increasing. Even a restoration of intra-CMEA trade would only temporarily disturb that trend. It is important - microeconomically - that, between discrete parity changes, the exchange rates facing individual traders are stable. That is the justification for a trade-weighted basket.

The cost of an ecu peg in terms of EER volatility will decline as trade links between the EE countries and the Community deepen. By 1990 that trend had already been established for Poland. In any event the EE countries cannot adopt a basket which reflects trade shares with their old CMEA trading partners. In the most important of those, the old Soviet Union, it is not even clear whether a single currency will survive. Indeed the CSFR, Hungary and Poland have all adopted baskets which exclude all intra-Eastern European trade.

I have already argued the benefits of parallel ecu peg. To the extent that other EE countries - Romania, Bulgaria, the Baltic States - and the CIS countries peg to the ecu, exchange rate stability (in the same sense i.e. excluding parity changes and intra-band fluctuations) for intra-EE trade will be established. An ecu peg would imply the same stability for trade with non-EC countries which already peg to the ecu formally (the Scandinavian countries) or informally (Austria and Switzerland).

6. An ecu peg for the Independent States and the other Eastern European countries

With the demise of the transferable rouble, the shift to the use of hard currencies and the moves, in some cases prospective, to currency convertibility, it is opportune to consider, and possibly, encourage the use of a common vehicle currency, or unit of account, for trade both within the EE area and between that and the West.

The pros and cons of an ecu peg for the currencies of the Baltic States, the Independent States - or the rouble if, as seems unlikely, that survives as the single currency - and the remaining EE countries are essentially the same as those for the CSFR, Hungary and Poland. From the viewpoint of the Independent States, among whom trade accounts for a high proportion of GDP, the importance of microeconomic exchange rate stability is paramount. This means that the decision that all the separate currencies be pegged to the same basket (or single currency) is more important than the choice of the peg.

At the moment in the Independent States other aspects of the transformation process must take priority.

Taking a grip of the budget deficits and the printing press, as well as currency reform to mop up the monetary overhang, are needed to remove the menace of hyperinflation. Price reform, the liberalisation of import and export decisions and a unified tariff rate are necessary to introduce some rationality through international prices, to give incentives to produce and eliminate hoarding. But unless interrepublic trade is kept up, the productive process will disintegrate. If the States opt for their own currencies, realistic exchange rates with a common peg for all are essential ingredients.

Since they are not central to the main theme of this report, two specific issues are relegated to appendices:

- the rôle of an Eastern Payments Union (EAPU), as Williamson (1991b) calls it, incorporating the Independent States of the old Soviet Union, and what, if any, might be the rôle of the ecu as an accounting and settlement currency?

- a private ecu clearing system such as is now being proposed for the EE countries, and the links, if any, with pegging to the ecu.

- the proposals of the Association for the Monetary Union of Europe for the establishment of an Ecu Zone, supported by an Ecu Zone Surveillance Board and an Eastern European Stabilisation Fund.

Appendix 1. An EAPU and the Independent States

There is an increasing likelihood that the Commonwealth will break up as a currency union with the Independent States - or some of them, probably starting with the Ukraine - declaring unilateral monetary independence. Williamson (1991b) and Dornbusch (1991) consider that this could be preferable to the alternative scenario, wherein the centre continues to print money on demand, either to satisfy its own budgetary requirements or the expenditure needs of the republics. Separate currencies would mean a loss in economic efficiency and a risk of an impetus to autarchy, including new trade barriers, though Williamson sees some awareness of this danger. However the present system threatens the whole union with uncontrolled monetisation of public deficits and hyper-inflation. There is no responsibility on the separate republics to finance their own deficits but rather an incentive to run a bigger deficit than the rest, since the cost in terms of higher prices and lower real incomes will be spread across the union (in the jargon, a moral hazard problem). On the other hand with separate currencies, there would be such a responsibility, some republics at least might get inflation under control, some energy-poor republics might find the use of devaluation valuable in dealing with the expected sharp rise to world prices for energy, and, with the full range of macro-economic instruments some republics are likely to make more progress in reform than others.

Dornbusch (1991) argues for an EAPU even were the Commonwealth to hold together monetarily. The union would involve the Commonwealth and the countries of Eastern Europe. However these countries see dangers in an payments union - a perpetuation of outworn trading patterns that in the past inhibited productivity growth and technological advance and retarded integration into the world economy. Moreover the CSFR, Hungary and Poland countries have already gone far down the path to decentralising import and export decisions - even where the enterprises have not yet been privatised. Establishing an EAPU would mean a reversion to centralised transactions with other members.

An EAPU would not necessarily mean much savings in the use of hard currencies by those countries. Settlement now takes place between the CSFR, Hungary and Poland in a variety of ways, ranging from barter, through domestic currencies, hard currencies, even to a small extent the ecu, to gold. Similar flexible arrangements were evolving between these countries and the Soviet Union until its formal dissolution¹¹. However the major justification would be preventing the further collapse of, if not rebuilding, trade between the Independent States and Eastern Europe. This is much more significant than trade between the EE countries themselves (see Appendix Table).

¹¹Russian exporters are now ready to accept zlotys, even though they are in principle not convertible for non-residents. However they find that they can sell them through the informal foreign exchange market in Poland for hard currencies.

Appendix Table: Trade among the CMEA countries, 1989

	Exports		Imports	
	CMEA as % of total	USSR as % of CMEA	CMEA as % of total	USSR as % of CMEA
CSFR	40.9	64.8	40.9	63.2
Hungary	35.8	70.7	33.9	66.9
Poland	39.7	67.9	33.4	65.5
Bulgaria	57.3	84.9	42.4	80.4
Romania	19.9	68.3	30.5	68.7

a: CMEA countries include those listed plus the USSR. Trade flows between the CMEA countries are valued at a common exchange rate (\$0.50/rouble)

Source: Kenen (1991), based on published and unpublished ECE data.

Of course, the CSFR, Hungary and Poland all would like to see trade with the old Soviet republics restored, though not at the expense of their trade with the West. They have lost their major markets for manufactures. Oil and other commodities from the Independent States are generally cheaper than from elsewhere even when world prices are charged because transport costs are lower.

A payments union would need a currency for accounting purposes and for settlements. The capital of the union would be defined in that currency. There are strong arguments for proposing the ecu as the accounting and settlement currency. These are to some extent the same arguments as those propounded earlier for an ecu peg for EE currencies. Of course to the extent that an ecu peg is chosen by some or all of the EE countries or Independent States, who are members of the union, the arguments for using the ecu are reinforced.

The main advantage of the ecu is its stability relative to any single hard currency. The adoption of the dollar or the Deutschemark would lead to a bias towards holding that currency in the foreign exchange reserves of the members. If they were tied to the ecu they would prefer to hold ecus themselves or at least a basket of currencies which, in terms of the representation of the main ecu components, resembled the ecu basket. If they were not ecu-pegged, there would still be an disadvantage in a single currency with the greater volatility and exchange risk that implies.

There is one path that should be considered to minimise trade distortions or bureaucratic interventions that might discourage the EE countries from membership. The CSFR, Hungary and Poland could formally join the EAPU but let the traders (or their bankers) decide for any transaction whether to use it for trade settlements. However the use of hard currencies would not be allowed for inter-union settlements. Thus barter trade or payments through the acceptance by the banks of other members' currencies, as happens now between Hungary and the CSFR, would continue and expand. The banking systems of any pair of countries would continuously consolidate and seek to cancel out their bilateral balances. The banks would have an incentive to avoid recourse to the central banks, who would charge a fee or commission for exchanging foreign into domestic currency, equivalent to the average commission charged on the sale of hard currencies. Thus only excess balances of the partner country's

currency within one banking system would be exchanged for domestic currency at the central bank and then enter the payments union's accounts. In this way there would be no reversion to centralised control of transactions while the payments union would be largely neutral as regards intra-union or extra-union trade.

Appendix 2. Private ecu clearing

At the moment hard currency settlement is the final recourse for intra-EE trade. As has been stressed elsewhere in this report, there are a number of other forms of settlement include barter, the use of national currencies, and, at least until recently, between the Soviet Union and various EE countries residual holdings of transferable roubles (though only for a restricted volume of transactions, which exclude oil).

The Ecu Banking Association has proposed the establishment of a ecu clearing facility for ex-members of the CMEA. This would clear hard currency positions among EE commercial banks using the ecu as a numeraire currency. Settlements would be made in ecu.

The central banks in the CSFR, Hungary and Poland are reluctant to dictate to the commercial banks how trade liabilities be settled, and are unwilling to favour any one particular clearing vehicle. Specific drawbacks to ecu clearing, which have been cited, include

- the cost, especially if, as is now proposed, the clearing system is restricted to EE banks. The Association of Ecu Bankers ecu-netting system is already used in some cases for clearing between the EE and Western European banks (less than 1 percent of trade in the case of Hungary). The main drawback to expanding this is the cost of clearing;

- most banks in the EE countries lack the necessary facilities -dealing rooms etc. - and expertise. They are in many cases too small to justify the necessary investments in the short run;

- there are still differences in settlement periods and banking regulations that can be dealt with bilaterally but would cause problems for multilateral clearing;

- the participation of the Independent States in ecu clearing seems a long way off though the volume of trade would supply some of the needed economies of scale. The republics would have to eliminate the 'ticket' license system which has always regulated the bulk of intra-Union trade as well as, on the Soviet side, trade with the EE countries.

The authorities in the CSFR, Hungary and Poland are unwilling to subsidise one particular form of settlement through credit guarantees. The extent of National Bank guarantees required for an ecu clearing system to become operational may be the subject of some misunderstanding. The Ecu Banking Association argues that only a two-day guarantee is required, covering the period following the introduction of a payment into the system.

In any event there is every reason to expect an acceleration of the use of the ecu for commercial uses within the European Community and for trading between the Community and the other Western developed countries. The ecu offers advantages in pricing, invoicing and settlement (see, for example, Association for the Monetary Union of Europe, 1990) but its use has been held back by a lack of familiarity, particularly with the use of a basket currency, uncertainties about the future of monetary integration, in some countries legal obstacles and inertia. However its use will now expand rapidly in the knowledge that EMU is destined to become a reality and with the strong probability that the residual legal impediments will be eliminated in the near future (Romainville 1991). Of course, where there is an international market with prices denominated in dollars, as in most raw or semi-processed commodities, invoicing in ecus may not be practicable, but it cannot be ruled out that some of these markets may

switch to ecus in due course.

The EE countries will certainly participate in the growing use of the ecu as a vehicle currency in trade with the Community. Commercial banks in the CSFR, Hungary and Poland will no doubt wish to become associated with the Ecu Banking Association to facilitate ecu-netting. This process would be stimulated by adoption of a ecu peg for the EE currencies. The authorities in those countries will not place any obstacles in the way of increased ecu clearing.

The question remains: is there any reason to justify creating an economic preference in favour of ecu clearing? Could it be argued, for example, that such would help prevent any further decline in, or better still, restore the volume of intra-EE trade?

In principle settlement in ecus has the same implications for foreign exchange reserves as settlement in any hard currency. Any multilateral clearing system, including that implicit in an interbank foreign exchange market, will economise on the use of hard currencies relative to bilateral clearing. However in practice there may be hard currency economies to ecu clearing because the system is more efficient. In particular, it offers 'same day value'. Secondly the emerging - or about to emerge - commercial banking systems of the Baltic States and the new Independent States, and to a lesser extent, Romania and Bulgaria, are hampered by the absence of technical know-how on international commercial settlements and might find that ecu clearing provides a ready-made and straight-forward system. But the costs have to be kept down through taking advantage of economies of scale, and it would seem that the same system should be used for settlements between the Eastern participants and EC banks as between the Eastern banks themselves.

The authorities in the EE countries and the Baltic and Independent States could stimulate the use of the ecu clearing through using the system themselves for commercial payments (though the necessary telecommunications back-up could be a problem in the short-term). They could also negotiate with the Ecu Banking Association, SWIFT (the operating agent) and the Bank for International Settlements (the accounting agent) to keep the costs as low as possible.

Appendix 3. The proposal to create an Ecu Zone for Eastern Europe

The Association for Monetary Union of Europe has produced a proposal for the pooling of reserves, initially by the CSFR, Hungary and Poland, within a stabilisation fund which would be used to stave off any threats to convertibility and defend the parities of the currencies after they had been pegged to the ecu. These proposals are fully consistent with the analysis of the main body of this report. They are not essential to but would considerably facilitate the pegging of the three currencies to the ecu. It has a wider purpose: 'increasing public support in Eastern Europe for economic reform by a clear commitment from the European Community that at the end of the path of economic transformation, there will be full access to the single market with the single currency. The creation of an Ecu Zone is meant to be a signal to the people of Eastern Europe and will therefore strengthen the political credibility of the transformation strategies. Seeing the light at the end of the tunnel may make the temporary hardship more endurable' (Association for the Monetary Union of Europe, 1991, 2).

The proposal envisages

- the establishment of a special Eastern Europe Stabilisation Fund (EESF). This fund would pool a 'significant' amount of the total foreign currency reserves of the CSFR, Hungary and Poland, to serve as a convertibility back-up and intervention fund for the Eastern Europe currencies. There would be a very short-term financing facility for an unlimited amount (available for 45 days and renewable only once) and a range of short- and medium-term facilities, subject to conditionality established by the Ecu Zone Surveillance Board. These facilities would be meant to strengthen the credibility of the commitments to (i) maintain convertibility, and (ii) defend the parity where appropriate. The facilities would be aimed towards short-term assistance, leaving long-term structural requirements to the IMF.
- and the establishment of an Ecu Zone Surveillance Board which would manage the reserve pool and stand-by facilities, as well as monitor the macro-economic policies of the participating countries and enforce conditions of adjustment where required. It would consist of a small team for day-to-day management of the Zone, and a Council consisting of representatives from the participating eastern Europe countries, the European Monetary Institute (later the European Central Bank), the IMF and, possibly, the EBRD and the BIS.
- in the event of the exhaustion of the reserve pool, intervention funds would be made available on the convertibility stand-by facility, which would give access to the EC central banks' own reserves or to private ecus created by the EESF.
- in cases of fundamental disequilibria, the Surveillance Board would establish the conditions necessary to enforce sound macro-economic policies.

The benefits to the Eastern Europe countries in the form of additional funds for currency intervention are clear. The costs in terms of some loss of economic independence are also clear, and certainly the Eastern European participants would want to ensure that the Surveillance Board was sensitive to their own particular problems and objectives. In particular they would want to be sure that the Surveillance Board was not likely to bifurcate into distinct groups with fundamentally different tradeoffs between economic growth and inflation. In addition, problems may arise because of the different stages of development reached by the financial institutions in the East European countries; and divergence in economic performance in these countries. The proposal stresses the potential benefits of the proposed system in preparing these Eastern Europe countries for entry into the Community. The body of the report

stresses this as one of the main advantages in pegging to the ecu. But these proposals go further. In particular they express a commitment by the Community monetary authorities to take practical steps to assist the gradual monetary integration of these countries into the European Monetary System, and, by implication, full membership of the European Community.

References

Aghevli, Bijan B., Mohsin S. Khan and Peter J. Montiel, Exchange Rate Policy in Developing Countries: some Analytical Issues, Occasional Paper 78, Washington D.C.: International Monetary Fund

Alogoskoufis, George and Richard Portes (1991), European Monetary Union and International Currencies in a Tripolar World, mimeo

Association for the Monetary Union of Europe (1991), 'A Proposal to create an Ecu Zone to assist Eastern Europe's Transition to a Market Economy', mimeo, Paris

Blommestein, H., M. Marrese and S. Zecchini (1990), Centrally planned economies in transition an introductory overview of selected issues and strategies, mimeo, Paris: OECD

Bofinger, P. (1990), 'The Rôle of Monetary Policy In the Process of Economic Transition', CEPR Discussion Paper Series 457, London: Centre for Economic Policy Research

Bofinger, P. (1991), 'Options for the Payments and Exchange Rate System in Eastern Europe', CEPR Discussion Paper Series 545, London: Centre for Economic Policy Research

Bokros, Lajos (1991), 'Hungary' in John Williamson (ed.), Currency Convertibility in Eastern Europe, Washington D.C.: Institute for International Economics

Brodsky, David A. and Gary P. Sampson (1981), 'The Sources of Exchange Rate Instability', mimeo

Carré, Hervé and Karen H. Johnson, Progress toward a European Monetary Union, Federal Reserve Bulletin, 77: 10, 769-83

Corden, W. Max (1990), 'Exchange Rate Policy in Developing Countries', PPR Working Papers, No. 412, Washington: World Bank

Crockett, Andrew D. and Saleh M. Nsouli (1977), 'Exchange Rate Policies for Developing Countries', Journal of Development Studies, January

Economic Commission for Europe (ECE) (1991), Economic Bulletin for Europe, May, Geneva: United Nations

Dornbusch, Rudiger (1991), 'Money, Trade and Debt: Reform Options for the Soviet Union', mimeo, Cambridge, Mass.: Massachusetts Institute of Technology

Garton Ash, Timothy (1989), The Uses Of Adversity, Cambridge: Granta Books

Gylfason, Thorvaldur (1990), Exchange Rate Policy, Inflation and Unemployment: the Experience of the Nordic EFTA Countries, Discussion Paper 377, London: Centre for Economic Policy Research

Gual, Elena Flores (1991), The Exchange Rate Policy of the Scandinavian Countries closer to the Ecu, Brussels: ECU, 16, 25

Hare, P. and G. Hughes (1991), *Competitiveness and Industrial restructuring in Czechoslovakia, Hungary and Poland*, CEPR Discussion Paper Series 543, London: Centre for Economic Policy Research

IMF (1990), Survey, 13 August: Washington D.C.

IMF, World Bank, Organisation for Economic Development and Cooperation, and European Bank for Reconstruction and Development (1991), The Economy of the USSR, Washington D.C.: World Bank

Kenen, Peter (1991), 'Transitional Arrangements for Trade and Payments among the CMEA Countries', IMF Staff Papers, 38:2, Washington D.C.: International Monetary Fund

Krugman, P. (1980), 'Vehicle Currencies and the Structure of International Exchange', Journal of Money, Credit and Banking, 12, 513-26

Landesmann, Michael and Istvan Székely (1991), *Industrial Restructuring and the Reorientation of Trade in Czechoslovakia, Hungary and Poland*, Discussion Paper 546, London: Centre for Economic Policy Research

Larsen, Flemming, in Panel Discussion: Lessons from the Past and Strategies for the Future, in John Williamson (ed.), Currency Convertibility in Eastern Europe, Washington D.C.: Institute for International Economics

Louw, André (1992), 'Maastricht or the Launch of a Currency: the Ecu', Ecu, 18, 56-63

McKinnon, Ronald (1991), 'Liberalising Trade in a Socialist Economy', paper given at a conference arranged by the Austrian National Bank and the Institute of International Economics, Vienna, January

Newbery, D. (1991), 'Reform in Hungary: sequencing and privatisation', European Economic Review, 35

Olechowski, Andrzej and Marek Oles (1991), 'Poland', in John Williamson (ed.), Currency Convertibility in Eastern Europe, Washington D.C.: Institute for International Economics

Portes, Richard (1990), Introduction to European Economy, No. 43, Brussels: Commission of the European Communities

Portes, Richard (1991a), 'The Transition to Convertibility for Eastern Europe and the USSR', Discussion Paper 500, London: Centre for Economic Policy Research

Portes, Richard (1991b), 'The Path of Reform in Central and Eastern Europe: and Introduction', CEPR Discussion Paper Series 559, London: Centre for Economic Policy Research

Quirk, Peter J., Bendicte Vibe Christensen, Kyung-Mo Huh and Toshihiko Sasaki (1987), Floating Exchange Rates in Developing Countries: Experience with Auction and Interbank Markets, Occasional Paper 53, Washington D.C.: International Monetary Fund

Romainville, Jacques (1991), *Encourager l'Usage Commercial de l'Ecu*, Brussels: ECU, 15, 4

Seabright, Paul (1991), 'Exchange Rate Management when there are Failures of Corporate Control: Dilemmas for Reforming Economies in Eastern Europe', mimeo, Cambridge

Steinherr, Alfred et al. (1991), 'Reforms in Eastern Europe and the Rôle of the Ecu', a report by the Macro-financial Study Group of the Ecu Banking Association, Brussels

Ungerer, Horst, Jouko J. Hauvonen, Augusto Lopez-Claros and Thomas Mayer (1990), The European Monetary System: Developments and Perspectives,

Wickham, Peter (1987), The Rôle of Exchange Rates and other Pricing Policies in the Adjustment process, in Economic Adjustment: Policies and Problems, Sir Frank Holmes (ed.), Washington D.C.: International Monetary Fund

Wickham, Peter (1985), The Choice of Exchange Rate Regime in Developing Countries, Staff Papers, 32, 2, 248-88, Washington D.C.: International Monetary Fund

Williamson, John (1982), 'A Survey of the Literature on the Optimal Peg', Journal of Development Economics, 11, Amsterdam: North Holland

Williamson, John (1991a), 'The Economic Opening of Eastern Europe', in John Williamson (ed.), Currency Convertibility in Eastern Europe, Washington D.C.: Institute for International Economics

Williamson, John (1991b), From Soviet disUnion to Eastern Economic Community, Policy Analyses in International Economics 35, Washington D.C.: Institute for International Economics

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