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PRIVATE ECUs
POTENTIAL MACRO-ECONOMIC POLICY DIMENSIONS

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Introduction

This paper is highly hypothetical. It does not address itself to questions arising out of the present economic environment, but seeks to explore some of the macro-economic policy problems that could occur at some time in the future should ECU-denominated bank deposits and credits come to play an important rôle in the credit and payments circuits of EMS member countries, accounting for as much as, say, 20 per cent. of commercial bank assets and liabilities. However, no attempt is made to evaluate the likelihood of the ECU denomination ever attaining such prominence.

The model discussed here is that of a parallel banking market in private ECUs existing alongside the markets in domestic currency deposits and credits. Thus, in each EMS member country banking business would essentially have a dual currency structure, the traditional domestic currency sector dealing primarily, but not exclusively, with residents, and an ECU sector conducting both domestic and cross-border business. While the domestic currency sector would, in a sense, be country specific, the ECU sector would be an integral part of a truly Community-wide market in ECU deposits and credits.

As to the reasons for the attraction of ECU-denominated banking in such a model, it is assumed that ECU business is accorded more favourable regulatory treatment than other foreign currency business and that there are virtually no exchange controls or similar restrictions limiting residents' use of the ECU denomination. Moreover, it is assumed that the demand for ECU deposits and credits is upheld by the Community-wide usability of ECUs for income-generating payments and financial transactions and by their use for hedging or outright "speculative" purposes. And finally, as regards the banks, their interest in providing intermediary services in ECUs may be assumed to be underpinned by the availability of clearing mechanisms, efficient forward markets and perhaps even lender-of-last-resort facilities.

An ECU rôle within the EMS member countries along the lines

indicated in the preceding paragraphs would impinge on macro-economic processes and the effectiveness of monetary policy in essentially two ways.

Firstly, by providing an alternative to the traditional payments and credit circuits in domestic currency.

Secondly, by affecting the volume and geographical pattern of international (i.e. cross-border) capital flows.

Although in practice closely interwoven, the implications of these two phenomena are quite different in nature. They are therefore discussed separately in Parts I and II of this paper. Part I assumes for expository purposes that residents of a given country will always build up (or reduce) their bank deposits in ECUs and their ECU borrowing from banks by identical amounts. Part II, by contrast, discusses the macro-economic consequences of shifts in the net ECU position of a country's non-bank sector. Part III then combines the findings of these two sections to consider briefly whether in such a world of ECU prominence the banks in their ECU operations would command a major autonomous credit and money-creating potential that could undermine the thrust of national monetary policies.

Finally, it may be noted that the analytical approach adopted in this paper is essentially the same as would be appropriate in the case of the Euro-currency markets. There are, however, two differences. One relates to the basket characteristics of the ECU denomination. The other is due to the fact that in the model discussed here ECU deposits, from the point of view of their monetary characteristics, would be much closer and quantitatively more important substitutes for conventional money balances than is at present true of Euro-currency deposits. Nevertheless, despite these differences, many of the findings of this paper would be equally applicable to the Euro-currency market.

I
The implications of a central ECU rôle in payments and credit circuits

Let us assume that residents (both private individuals and firms) of an EMS member country switch part of their bank balances and bank borrowings out of domestic currency into ECUs. As long as the banks' assets and liabilities in ECUs increased by identical amounts, such a redenomination of domestic currency deposits and borrowings would have no exchange rate impact. In a sense it would represent a purely accounting phenomenon. This is evident in the case of claims and liabilities vis-à-vis domestic banks, but it would also be true of a shift in the currency denomination of deposits with, and borrowing from, banks located outside the country – provided, again, that assets and liabilities were affected in equal amounts. What would matter from the point of view of exchange rate effects would be cross-border capital flows, not the currency denomination of these flows. In our example there would be no net capital outflows or inflows, merely a name change.

For such a shift in currency denomination to be neutral not only with regard to exchange rates but also from the point of view of its monetary policy implications, a number of additional conditions would have to be fulfilled.

Firstly, the banks' reserve policies or reserve requirements with respect to increases in ECU deposits and credits would have to be the same as those applicable to changes in domestic currency deposits and credits.

Secondly, if the authorities were relying on monetary targets as an indicator for monetary policy, residents' ECU-denominated bank deposits (or credits) would have to be included in the target variables.

Thirdly, interest rates on domestic currency and ECU instruments would have to be the same.

Fourthly, the domestic currency/ECU exchange rate would have to remain unchanged.

These four conditions for the monetary neutrality of switches between domestic currency and ECUs are obviously very restrictive. The first condition, concerning reserve behaviour, would imply that for a given increase in ECU deposits the banks made the same additions to their reserves in domestic currency held with the central bank as for an equivalent increase in their domestic currency deposits.

If, by contrast, the marginal "propensity" of the banks to accumulate reserves against increases in deposits was less in the case of ECUs than in the case of deposits in domestic currency, for example because of lower or zero reserve requirements on ECU deposits, a shift in payments circuits out of domestic currencies into ECUs might influence the banks' lending behaviour. This could have an expansionary effect on aggregate demand and on the monetary variables, firstly by exerting downward pressure on interest rates and, secondly, through more accommodating lending policies on the part of the banks (for example, the banks might be willing to consider borrowers of less than prime credit-standing).

To the extent that the central banks based their monetary policies on the pursuance of monetary targets and to the extent that these targets included positions in ECUs, these expansionary effects could probably be kept within bounds. Of course, if the aggregates were initially developing well below the ceiling of the target range, there might be a temporary acceleration in monetary growth with the aggregates moving closer to their growth ceilings, but this acceleration would remain within limits consistent with domestic monetary policy goals.

Nevertheless, the shift between ECU and domestic currency deposits would complicate life for the monetary authorities. Since the relationship between the size of banks' reserves and the amount of their monetary liabilities will depend on the proportion of ECUs in total liabilities, shifts from domestic currency to ECU deposits would destabilise this relationship. This would obviously make any

policy of trying to steer the growth of the monetary aggregates via the monetary base more difficult. Of course, problems would arise only if the shift towards ECUs was not gradual and predictable but erratic, such as when influenced by interest rate and exchange rate expectations, both of which are ruled out here for the moment. On the other hand, the difficulties would be aggravated if the banks' propensity to hold reserves against increases in ECU deposits was not only lower but also more unstable than in the case of increases in domestic currency deposits.

A further complication would arise if the domestic payments circuit in ECUs was booked not through banks at home but through banking offices abroad (such as the foreign affiliates of domestic banks). An incentive for such "offshore" booking would, for example, exist if ECU deposits with banks abroad were subject to lower reserve requirements than those with banks at home. Such a booking of domestic deposits and borrowings at banks abroad would destabilise the behaviour of the domestic monetary aggregates unless it was covered by the domestic monetary statistics. However, this information on deposits (and borrowing) of residents with banks abroad might be more difficult to come by and might be available only with a considerable lag, in particular if the booking was through banks in countries outside the EMS.

Conversely, a similar problem could arise for individual member countries if the domestic monetary aggregates were inflated by non-resident ECU holdings with local banks. Of course, if information on such non-resident holdings was promptly available they could be excluded from the target aggregates. However, once ECU deposits became readily usable as a payment medium it might not always be clear whether such non-resident deposits, which might be used for the purchase of domestic goods and services, should in fact be excluded.

In short, the expatriation in accounting terms of the domestic payments circuits to banks abroad could give rise to a number of statistical and definitional problems. The setting-up of a prompt international reporting system could deal only with some of them.

The most efficient method of averting these difficulties would probably be a common regulatory framework within the EMS, notably uniform reserve requirements on ECU deposits in all member countries. However, in order to avoid differences in reserve requirements between ECU and domestic currency deposits, this would also necessitate uniform reserve requirements Community-wide in the area of conventional domestic currency banking. Moreover, unless required reserves on ECU deposits were fairly small or interest-bearing, there might still be the problem of a deposit build-up with banking offices located in countries outside the EMS. One way to get around this problem of the destabilisation of the monetary aggregates as the result of offshore bookings in ECUs would be increased reliance on interest rates or exchange rates as a guidepost for monetary policy, although this will tend to give rise to other kinds of problems.

Finally, while maintaining for the moment the assumption of no net cross-border capital flows and therefore of exchange rate neutrality, it is time to drop the assumptions of no change in the ECU/domestic currency exchange rate and of uncovered interest parity. It may be noted that in practice these two conditions are closely interrelated, since in the absence of the possibility of exchange rate movements there would be no scope for major interest differentials either, as, apart from risk considerations, there would be a virtually unlimited flow of capital to the higher-interest countries which would eventually call for interest realignment with the rest of the EMS.

If ECU deposits were included in the domestic monetary aggregates, changes in the ECU exchange rate caused by EMS parity adjustments would entail sudden movements in the domestic currency value of these aggregates. Whether these valuation effects would be large enough to push the aggregates beyond target ranges and to require some policy correction would of course depend on the share of ECUs in the domestic money stock and on the size of the exchange rate realignment. At the same time, such a change in the value of the ECU might itself give rise to a change in monetary

conditions. For example, if the banks held their reserves against ECU deposits (or credits) in domestic currency a decline in the exchange value of the ECU would provide them with excess reserves, thereby inducing an easing of credit conditions. Similar considerations apply with regard to capital ratio constraints.

The effectiveness of monetary policy, too, could be affected by the existence of a large ECU sector in the domestic monetary and credit aggregates. Since the ECU interest rate level would, except for the minor deviations permitted by arbitrage costs, be identical to the weighted interest rate level of the component currencies in the Euro-currency market, the only influence any individual member country could exert on ECU interest rates would be limited to its currency's weight in the basket. (It is assumed throughout this paper that domestic interest rates and Euro-interest rates on a currency move broadly in parallel.) In the event of a unilateral tightening of monetary policy by one EMS member country, therefore, interest rates on domestic currency positions in that country would rise in relation to those on ECUs. This also means that, in order to achieve a given restrictive effect, interest rates on deposits and credits in domestic currency would have to be raised more in order to compensate for the more moderate rise in ECU interest rates. This consideration could become quite important once ECUs accounted for a large part of domestic payments circuits. Moreover, the greater variability of domestic currency interest rates which would result might itself be an important factor favouring the use of the ECU denomination.

To sum up, it can probably be said that the development of a parallel deposit and credit market in ECUs would be least troublesome when: firstly, reserve requirements on domestic currency and on ECU instruments were largely identical and there were no major differences in reserve requirements among EMS member countries; secondly, exchange rates between EMS member currencies were very stable; and, thirdly, there were no major interest rate differentials between EMS member countries. Fulfilment of these conditions would obviously require the

achievement of far-reaching structural harmonisation, a high degree of co-ordination of monetary policies and the absence of major inflation differentials between EMS member countries.

Conversely, since without fulfilment of these conditions a parallel and Community-wide ECU market as assumed in this paper would be bound to give rise to considerable policy problems, official promotion of such an ECU market might be considered an indirect way of pressing for greater monetary and economic integration within the Community.

II
The impact of the ECU on international capital flows

The assumption made in Part I that the banks' ECU assets and liabilities vis-à-vis residents will always be balanced becomes particularly unrealistic when the effects of changes in interest rates and of exchange rate expectations are considered. In such situations depositors and borrowers will typically react in asymmetric ways. It is therefore necessary to allow for the likelihood that shifts between the domestic currency sector and the ECU market will usually entail capital inflows or outflows.

(a)

Let us take the example of a tightening of monetary policy in EMS member country A and a consequent rise in interest rates on currency A in relation to those prevailing on ECU-denominated deposits and credits. In country A the reaction of suppliers of funds would typically be to reduce their ECU deposits, whereas borrowers would tend to step up their recourse to ECU credits. As a result the banks would be confronted with an open net creditor position in ECUs vis-à-vis residents of country A, which they would normally try to cover or hedge in some way or other.

There are essentially four kinds of mechanism with the help of which this rebalancing may be accomplished.

Firstly, the rise in country A's interest rate level would, to the extent of the weight of its currency in the ECU basket, also push up ECU interest rates. As a result, in the other countries ECU interest rates would tend to rise in relation to domestic interest rates, which would induce an acceleration in the supply of ECU deposits and a slowdown in ECU borrowing in those countries.

Secondly, to the extent that the mechanism described in the preceding paragraph did not by itself restore full balance in the banks' ECU books, the reduced supply of ECU deposits and the

increased demand for ECU credits from residents of country A would tend to push up ECU interest rates in relation to the weighted average of the interest rates on the currencies which make up the basket, although the scale of this increase would be narrowly circumscribed by arbitrage possibilities. Nevertheless, this marginal increase in ECU interest rates relative to the interest rates of the currencies making up the basket would tend to make ECUs more attractive to depositors and less attractive to borrowers.

Thirdly, to the extent that the first two mechanisms were not by themselves strong enough to restore balance between the supply of and demand for ECUs, the banks could balance their ECU positions by borrowing the individual currencies that make up the basket, either in the Euro-markets or in their home markets.

Fourthly, an alternative to the preceding technique would be for the banks to cover their open ECU positions by selling the other component currencies in the forward exchange markets against that in which their net creditor position in ECUs is funded (in our example currency A).

All four types of balancing mechanism entail increased capital inflows into country A and upward pressures on its currency's exchange rate. In the first two cases the result is essentially a bank-intermediated and ECU-denominated credit flow from the rest of the world to country A. In the third case the banks in addition perform a currency transformation function by bundling liabilities in constituent currencies into ECU claims. In the fourth situation the capital flows to country A are brought about by covered interest rate arbitrage and are denominated in national currencies rather than ECUs. For example, the banks' forward selling of basket currency B against currency A would tend to weaken currency B's forward quotations and strengthen those of currency A. This would tend to lead to covered interest arbitrage flows out of currency B into currency A. These arbitrage flows could occur directly between the two countries concerned or, more typically, they could take place via the Euro-markets for the two currencies. The movement of arbitrage funds out of currency B into currency A would exert

upward pressure on Euro-B rates and downward pressure on Euro-A rates in relation to the domestic interest rates on those currencies. The higher Euro-B rates would tend to attract new funds to the Euro-B market, notably from the domestic market of country B itself. Similarly, the downward pressure on Euro-A rates, which would somewhat mitigate the rise in Euro-A rates resulting from the original upward adjustment in country A's domestic interest rate level, would lead to a flow of funds from the Euro-A market to country A. Covered interest rate arbitrage in the Euro-market would thus result in capital inflows into country A, with the funds stemming notably from country B but to some extent also from the rest of the world.

Of course, these four balancing mechanisms would also come into play, though in reverse, if instead of an increase there was a reduction in the banks' net creditor position (or an increase in their net liability position) in ECUs.

(b)

The relative importance of the four types of balancing mechanism described above will depend in large measure on the reasons for the increase in the net demand for ECU funds by residents of country A. If, as in our example, the cause was a rise in domestic interest rates in country A produced by a tightening of domestic monetary policy, there would be no a priori reason why an increase in *net* borrowing of ECUs should occur in the EMS member countries as a whole. In other words, the balancing would take place largely through mechanism 1, with the net increase in ECU borrowings by residents of country A being offset by an increase in the supply of ECU deposits from other countries. The explanation is that, as already mentioned, arbitrage would always ensure that the level of ECU interest rates stayed close to the weighted average of the interest rates (usually the Euro-interest rates) on its constituent currencies. A rise in domestic interest rates in EMS member country A would therefore entail not only a rise in interest rates on currency

A in relation to those on ECUs, but also an increase in ECU interest rates in relation to those on other currencies. Although, depending (in an inverse sense) on the weight of currency A in the ECU basket, this second change in interest rate differentials would be much smaller in quantitative terms, it would affect a much larger area (i.e. all the EMS members except country A). There is therefore no presumption that the increased net demand for ECU funds from country A residents would be larger than the increased net supply from the rest of the EMS countries. In fact, to the extent that the ECU was also used by residents of countries outside the EMS, the higher ECU interest rates would tend both to boost outside-area depositing in ECUs and to reduce outside-area ECU borrowing, thereby giving rise (in terms of first differences) to a net supply of ECUs from non-EMS countries. Thus, the original upward adjustment of country A's interest rates, despite having given rise to a net ECU creditor position of the banks vis-à-vis residents of country A, would, through its upward impact on ECU interest rates, tend to result via mechanism 1 in a global net ECU liability position of the banks. In that case, mechanisms 2 to 4 would come into play to compensate for the "overshooting" of mechanism 1.

The situation would be different if there was an autonomous increase in the demand for ECU credits in country A associated *not* with an actual increase in country A's interest rate level but with, say, a change in exchange rate expectations. In this case (unless the exchange rate expectations were fully shared in other EMS member countries) the increased ECU borrowing by residents of country A would not be offset by an automatic increase in the supply of ECU deposits elsewhere, since, with constant interest rates on currency A, ECU interest rates would remain essentially unchanged. It would thus be mechanisms 2 to 4 that would bring about the balancing of the banks' net creditor position in ECUs vis-à-vis residents of country A.

It should, moreover, be noted that the balance-of-payments and exchange rate implications of these four types of balancing mechanism need not be exactly the same. If ECU deposits were also

widely held outside the EMS member countries, in the case of balancing mechanisms 1 and 2 the capital flows to country A would also tend to be funded to a large extent from outside and the exchange rate of the ECU might appreciate significantly vis-à-vis non-EMS currencies. In the case of mechanisms 3 and 4, which involve borrowing in constituent currencies, the main sources of the capital inflows into country A would tend to be the other EMS member countries. In this case it would primarily be the exchange rates of EMS member currencies which would change against each other (as far as permitted by movements within the EMS band), whereas the appreciation of the ECU vis-à-vis non-member currencies would be more limited.

(c)

Let us return to the example of a tightening of monetary policy in country A, which would attract capital inflows via residents' drawing down of ECU deposits and borrowing in ECUs. As a result, currency A would be pushed up within the EMS parity grid. If the upward adjustment in country A's interest rates was only marginal and considered temporary and if there was sufficient confidence in the existing EMS parity structure, the appreciation of currency A might be arrested by offsetting balance-of-payments outflows before quotations reached the upper limit of the EMS band. Assuming, quite realistically, that country A's current-account balance will in the short run not deteriorate in response to the somewhat higher exchange rate – it might even improve temporarily as a result of "J"-curve effects – these offsetting outflows would have to be funded by speculators who, in the belief that the eventual return of currency A to somewhere near its central value in the EMS band would more than offset its somewhat higher interest yields, would begin to move funds out of that currency. To the extent that interest differentials between EMS member countries could be accommodated by exchange rate movements within the +/– 1.125 per cent. band, the

greater capital mobility brought about by a well-developed ECU banking market would not pose major problems for the conduct of monetary policy in individual member countries. However, this would probably be the case only in the event of minor interest rate movements.

If, on the other hand, the upward momentum of the higher interest rates on the exchange rate of currency A was sufficiently strong and/or confidence in the existing EMS parity structure was lacking, currency A would be pushed to its upper limit in the band. As a result, the authorities would have to intervene in the exchange market, selling currency A against other Community currencies, private ECUs or dollars. In country A these interventions, unless offset by open-market policy or similar measures, would provide the banks with additional reserves and boost the liquidity of the economy, thereby eventually thwarting the intended tightening of monetary policy. If, on the other hand, the expansionary monetary effects of intervention in country A were offset through other policy measures, the capital inflow and reserve accumulation would continue and it would now be the other EMS member countries that, because of their deteriorating official net reserve positions, might be forced to realign their monetary policy with that of country A. Symmetric first-round monetary effects – in the absence of offsetting measures, an increase in the monetary base of country A and a reduction in the monetary base of the other EMS countries whose currencies were used for intervention – would result if there was spot settlement in official ECUs, namely if country A converted its acquisitions of other member currencies into official ECUs.

The analysis in the preceding paragraph would also be applicable in the event that withdrawals of ECU deposits and increased ECU borrowing by residents of country A were induced not by a tightening of domestic interest rates but by expectations of an appreciation of currency A within the EMS parity grid. The only difference would be that, instead of working towards a realignment of interest rates, the capital flows might now tend to require a differentiation of monetary policies between EMS member

countries so as to neutralise the impact of the changed exchange rate expectations.

In practice, changes in monetary policy and destabilising exchange rate expectations may, of course, go hand in hand. In our example the tightening of interest rates in country A might also lead to expectations of an appreciation within the EMS parity grid. In such a situation the restoration of exchange-market equilibrium might require more than full transmission of the rise in country A's interest rates to the other member countries. In other words, in order to contain destabilising exchange rate pressures interest rates might have to be raised by even more in other member countries than in country A, meaning that the tighter monetary policy of country A would bite more abroad than at home.

In fact, with a well-developed and generally accessible ECU market, there might be a danger of destabilising capital flows between member countries becoming an endemic feature of the EMS as long as substantial differences in inflation rates remained between member countries. In the longer run nominal interest rate differentials might be expected to compensate for inflation differentials and the associated longer-term exchange rate trends. In other words, in the case of the lower-inflation countries, the lower level of interest rates would neutralise the attraction exerted by their currencies' appreciation-proneness. While covered interest parity would, therefore, tend to prevail in the long run, this would not be the case in the short run in the periods between the realignments. Owing to the fact that the adjustment in exchange rates would usually come about not in a gradual manner but in discrete steps, there would be, so to speak, almost permanent disequilibrium. After the parity adjustments – provided they were considered by the market to be sufficient and sustainable for some time – conditions would resemble those in a fixed rate system and capital would flow to the countries with the higher inflation and nominal interest rates. But once the market began to feel that a new realignment was due these flows would be reversed and capital, irrespective of nominal interest rate differentials, would move into the low-inflation

countries. By working against a convergence of economic performances once a parity adjustment has occurred, this kind of mechanism would tend to increase the frequency with which parity adjustments become necessary.

Taking country A as a proxy for the low-inflation EMS member and country B for the member with the higher inflation rate, immediately after a parity adjustment residents of country A would increase their ECU deposits (the interest yield being higher than that on domestic currency deposits) while reducing their ECU borrowing. The resultant net inflow of funds to the ECU market from residents of country A would fuel the net flow of ECU funds to country B, where residents would draw down their ECU deposits while stepping up their ECU borrowing. The concomitant exchange rate pressures would tend to make for a more restrictive monetary policy in low-inflation country A and a more expansionary policy in country B.

(d)

It is, of course, true that the above analysis of the capital flow and exchange rate implications of changes in interest rate differentials and exchange rate expectations would apply equally to an EMS without ECUs, with the capital flows occurring in national currencies or via the Euro-market. However, the existence of an ECU market might aggravate the problems by affecting the volume and the geographical pattern of international capital flows.

As regards volume, a well-developed and broad market for ECU deposits and credits existing alongside the traditional domestic markets would undoubtedly increase the responsiveness of capital flows to changes in interest rate differentials and exchange rate expectations within the EMS. Under present conditions a tightening of interest rates in country A would lead to capital inflows largely via an increase in borrowing in the Euro-currency market, though bilateral capital flows between EMS member countries would also take place. Whereas access to direct financial borrowing in the Euro-

market, or in other member countries, is at present confined for the most part to large firms, the existence of an all-encompassing ECU market in parallel with the markets in domestic currency deposits and credits would make it very easy for anyone to switch between domestic currency and ECUs, particularly when it could be done within the same local bank. This would bring about the same kind of capital inflows as recourse to the Euro-markets, but on a larger scale.

As regards the geographical pattern of international capital flows, the preceding paragraph has already suggested that, to the extent that depositing and borrowing in ECUs would not be entirely additional, it would tend largely to act as a substitute for borrowing in the Euro-dollar market. While the exchange rate implications and interest linkage effects of a given geographical pattern of international capital flows will be independent of the currency in which these flows are denominated, a change in currency denomination may modify the exchange rate and transmission effects by affecting the geographical pattern of the flows.

For example, if the capital inflow into country A induced by the rise in country A's interest rate level took place mainly via residents' borrowing in the Euro-dollar market, it would be financed in large measure with new funds from the United States. This is because the increased borrowing demands would tend to push up Euro-dollar interest rates and, since the links between the Euro-market and the domestic market for a currency are particularly close – only residents of the country concerned can arbitrage on an uncovered basis between the Euro-market and the domestic market for their currency without incurring an exchange risk – these higher Euro-dollar interest rates would first of all attract new funds from the United States. Moreover, while the stronger demand for Euro-dollar funds and the somewhat higher level of Euro-dollar interest rates would also tend to reduce the Euro-banks' lending to (and increase their deposit-taking from) residents of countries other than the United States, there is no reason to believe that this would particularly affect the other EMS member countries. In the case of

dollar borrowing, therefore, the capital inflows attracted by the higher interest level in country A would stem in large measure from non-EMS countries, notably the United States, and it is above all currency A's dollar exchange rate that would be affected.

If, on the other hand, the capital flow into country A took the form of ECU borrowing by residents of that country, the banks would seek to cover their resultant net creditor positions in ECUs vis-à-vis residents of country A either by borrowing ECUs directly, chiefly from other EMS member countries, or by borrowing the corresponding bundle of EMS currencies. Even if this latter financing was effected primarily in the Euro-currency market, the new funds would, for the reasons set out above, come largely from the home countries of the currencies concerned, that is the other EMS member countries. The higher interest rates in country A, therefore, would lead in the first place to an appreciation of currency A against the other member currencies. Consequently, there would be a greater likelihood of the cross rates between member currencies being pushed to the limits of the EMS parity grid, with corresponding intervention and monetary policy implications.

(e)

To sum up, well-developed ECU deposit and credit markets existing alongside the traditional financial markets in domestic currency would tend to substitute to a considerable extent for the Euro-dollar market. They would thereby lead to increased capital flows between EMS member countries at the expense of capital flows between those countries and the United States plus the rest of the world. Instead of acting primarily on the dollar exchange rate, a rise in country A's interest rates would therefore tend to be transmitted more strongly to intra-EMS exchange rates and to monetary conditions in other EMS member countries.

In other words, through its impact on capital mobility and the geographical composition of international capital flows, the existence of a broad and well-developed ECU market in bank

deposits and bank credits would bind the national markets of EMS member countries closer together, thereby further reducing the scope for independent monetary policies. This might not be such a bad thing once all member countries had achieved a high degree of price stability and there was no further need for parity adjustments within the system.

In such a situation, which would of course require a substantial degree of common policy formulation, monetary policy could be used by individual member countries as a powerful instrument for balance-of-payments purposes, as even very small divergences by individual countries from the common interest level would be sufficient to influence capital flows in such a way as to avoid external payments imbalances.

Problems could, however, arise in a situation in which there were still major inflation and nominal interest rate differentials between EMS member countries, with a consequent need for periodic parity adjustments. In such a scenario capital flows will at times not be governed by real interest rate differentials. Increased capital mobility between member countries could mean that, particularly in the aftermath of parity adjustments, capital would flow "uphill" to the higher-inflation countries, encouraging a policy pattern that would tend to uphold the intra-EMS differences in inflation performance and increase the frequency of required realignments. These problems are, of course, not altogether new, but under present conditions they would tend to be materially aggravated should the ECU denomination become an important element in the credit and payments circuits of EMS member countries.

With respect to international capital mobility, too, the conclusion would therefore seem to be similar to that reached at the end of Part I of this paper. From a cost/benefit point of view the case for a broad parallel market in ECU deposits and credits would seem to be strongest in a situation in which a high degree of co-ordination of policies and convergence of economic performances (particularly in the field of inflation rates) among EMS member countries had already been achieved.

III
Money and credit creation in ECUs

Finally, it may be appropriate to address the question whether a large and well-developed ECU banking sector existing alongside conventional domestic currency banking could, through endogenous credit and money creation, frustrate the stance of domestic monetary policies.

(a)

In a national context the banks' autonomous credit and money-creating potential is based on the fact that their liabilities are the main payment medium of the economy. When the availability of excess reserves and sufficiently strong credit demand permit the banks to expand their lending beyond the supply of new savings, the increase in aggregate demand and income circulation associated with this credit growth will also be reflected in a further expansion of the banks' monetary liabilities, thereby forming the basis for a second round of credit, income and money expansion, and so on.

Where a policy of monetary targeting is applied, the scope for such a process of endogenous credit and money creation would, of course, be narrowly circumscribed. But even in the absence of monetary targeting, the magnitude of this kind of multiplier process would be limited by the banks' need to constitute reserves against increases in deposits, by balance-sheet constraints and by the leakage of funds into transactions balances held in forms other than banks' deposit liabilities, such as currency. And even if these constraints did not exist (for example as a result of ample reserve creation by the central bank) the multiplier process would be limited by the leakages of income expenditure into additional savings and into the purchase of foreign goods and services (which in a system of pure floating would be instantaneously offset by capital inflows). While the increase in domestic or imported saving might also add to

the banks' balance-sheet growth, the intermediation of such savings does not increase aggregate demand, and the expansionary process would stop right there. In other words, in the absence of balance-sheet constraints and other leakages, the multiplier process associated with the original autonomous credit creation by the banks would be closely interrelated with the Keynesian type of income multiplier, whose magnitude might, of course, be temporarily boosted by accelerator effects. Thus, by expanding their credits the banks might add not only to the demand for their monetary liabilities, but also to that for their own credits.

What would be the scope for such an endogenous process of credit and money creation within the ECU market? Although, in view of what was said in Part I, this might seem to be a somewhat unlikely scenario, let us start, for expository purposes, with the assumptions that: firstly, there are no reserve requirements on ECU deposits and credits and the banks are also free from other balance-sheet constraints; and, secondly, while there is official targeting of the monetary and credit aggregates denominated in domestic currency, there are no such constraints on the growth of non-banks' ECU deposits or borrowings. Consequently, if there was a shift of deposits from domestic currency into ECUs the contractive impact of this shift on domestic currency deposits and credits would be neutralised, so that the expansion of the ECU business would all be additional.

The absence of reserve requirements on ECU deposits would obviously not mean that, in the case of a shift of deposits from domestic currency into ECUs, the banks could expand their ECU credits and monetary liabilities by much more than the amount of this shift even if sufficient credit demand existed. While in the event of an induced expansion of the banks' ECU balance sheets the reserve leakage would in fact be zero, there would still be leakages into currency circulation and, more importantly, there would be a new kind of leakage, viz. into bank deposits denominated in currencies other than ECUs. Since it could not be presumed that, when the proceeds of the ECU credits were spent, they would go

primarily to firms and individuals that maintained their transactions balances in ECUs, this leakage would in fact tend to be very much larger than the reserve leakage in the case of domestic currency deposits. For example, if the ECU accounted on average for 20 per cent. of new transactions balances accumulated by residents of an EMS country, this leakage into other currencies would tend to amount to about 80 per cent. (100-20), which alone would limit the scope for autonomous money and credit creation within the ECU market to fairly modest proportions.

The assumption here is, of course, that the 80 per cent. which would leak mainly into the traditional money circuits denominated in domestic currency would be neutralised immediately by the authorities. While, in a monetary targeting context, such an official reaction may be a reasonable assumption in a medium or long-term perspective, in the short term there would usually tend to be some scope for fluctuations in the growth of the money stock, particularly when the upper limit of the monetary target range had not been reached. In that case the multiplier effect associated with credit creation in ECUs might be quite large initially, but with most of the secondary money and credit growth taking place in the traditional domestic currency sector.

Finally, as an alternative scenario it is also conceivable that in response to an increase in borrowing demand the banks might expand their ECU credits without having experienced a prior increase in ECU deposits, covering their open ECU positions by borrowing the individual basket currencies. In this case, however, overall expansionary effects would result and an overall multiplier process would be set in motion only if surplus liquidity existed in these domestic currency sectors to start with and there was therefore no crowding-out of domestic lending.

(b)

So far we have implicitly assumed that credit and money creation in ECUs takes place pari passu in all EMS member countries

without any increase in net capital flows between these countries. This will obviously be the exception rather than the rule and it is necessary to take into account the possible balance-of-payments and exchange rate dimensions of credit and money creation in the ECU market. While maintaining for the moment the assumption of no, or at least lower, regulatory constraints than on domestic currency banking, let us, for instance, consider the following situation: firstly, there is within the EMS member countries a shift from domestic currency to ECU deposits and this increased supply of ECU funds is also translated into increased ECU lending; and, secondly, while the increase in ECU deposits is concentrated on one group of member countries (let us call them country A), the bulk of the increase in ECU lending takes place in another group of member countries (country B).

To the extent that some of the new ECU deposits in country A would be used for domestic lending, expansionary effects would tend to occur within country A itself; but where the ECU funds were on-lent to residents of country B the effects would be less clear. Assuming once more that current-account balances are not affected in the short term by exchange rate movements, a change in net capital flows between the two countries could occur only to the extent that the authorities of country A and/or B intervened in the exchange markets. This would happen automatically if currencies A and/or B were pushed to their limits in the EMS band as a result of the ex ante capital flow from country A to country B. But even before their currency reached its upper limit in the band the authorities of country B might begin to ease their monetary policy in order to dampen the upward exchange rate pressures. This more expansionary stance of monetary policy in country B would mean that the increased monetary growth associated with a rise in ECU deposits in country A would take place for the most part in country B. Of course, by giving rise, via a stimulation of aggregate demand, to increased imports of goods and services the induced expansionary process in country B would also send impulses to other countries and reinforce the expansionary process in country A itself.

However, this is not the only conceivable outcome. Instead of country B intervening and easing its monetary policy, country A might, as a result of the capital outflows, first find itself compelled to intervene in the exchange market and to tighten its monetary policy. In this case, which in the light of historical experience would seem to be the more likely, the whole expansionary process might be checked from the start.

(c)

The analysis of possible multiplier effects in the ECU market presented in the preceding section is obviously highly conditional and somewhat inconclusive. This simply reflects the fact that in a truly international market, such as the prospective market for ECU deposits and credits, where a large proportion of credit flows cuts across national borders and therefore has implications for exchange rates, official intervention and monetary policy, it becomes rather meaningless to speak of determinate "ex ante" multiplier effects. On the contrary, virtually anything can happen depending on how the national monetary authorities of the countries concerned respond to these capital flows, and in particular on the distribution of the responsibility for adjustment between the countries experiencing upward and downward exchange rate pressures. There is no determinism, only policy choices. Consequently, the multiplier effects associated with an autonomous shift towards ECU deposits or with autonomous ECU credit expansion could be significant; they could equally be negligible or non-existent. And it is even very doubtful whether under such circumstances the "multiplier" is useful as an analytical concept.

Moreover, the validity of the analysis in the preceding two sections has depended on the assumption that monetary targeting in the EMS member countries and reserve requirements were confined to positions in domestic currency. However, as already mentioned in Part I, once the ECU denomination began to play an important rôle in money and credit circuits, reserve requirements and monetary

targets would probably have to be extended to include positions in ECUs. In that case shifts of funds from the conventional banking sector to the ECU market would not add to the banks' credit and money-creating potential and the ability of the ECU banking market to raise itself by its own bootstraps would be very limited indeed. In other words, in the presence of fairly uniform regulatory treatment of domestic currency and ECU banking, which would probably be necessary once the ECU market became, as assumed in this paper, an important money and credit circuit within the EMS membership area, autonomous credit and money creation would be unlikely to be any greater a problem in the ECU sector than in the conventional domestic currency sector.