

MONETARY POLICY AND THE EMS

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This article focuses on three issues. First, some of the central features of the European Monetary System (EMS) are outlined. Second, the role of monetary policy in an individual country in an exchange rate union is examined. In that context we consider the situation where the individual country is "very small", "small" or "large", relative to the economic size of the exchange rate union (as represented by, say, the magnitude of the union's money supply). Third, we underline the need for coordination of national monetary policies in an exchange rate union, such as the EMS, and go on to consider the long term prospects of the EMS.

THE EMS

The following are some of the central features of the EMS.

(i) Each currency of participating countries has a central rate or starting point defined in terms of ECU — a unit of account made up of given quantities of all EEC currencies, the weight assigned to each reflecting the economic importance of the country in question.

(ii) The central rates expressed in ECU's establish a grid of bilateral cross rates between each pair of participating currencies. With the exception of Italy, a fluctuation of $\pm 2.25\%$ in the bilateral cross rates is the maximum permitted.

(iii) Among participating currencies, the EMS is along the lines of a quasi-fixed exchange rate regime like the Bretton Woods System which (in so far as EMS countries are concerned) it replaced. The range of *intra*-EMS exchange rate fluctuation is in fact limited to less than the theoretical 4.5%, by two considerations. First of all, the band for fluctuation of a given currency must be maintained *simultaneously* against all other EMS currencies. For example, suppose that currency A is at the middle of its permitted range against B, and that B is at the bottom of its permitted range against C. In that case A is also at the bottom of its theoretical range against C, and therefore it cannot move

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down at all against B. Considerations such as these mean that the effective range of fluctuation available to currencies is less than the theoretical 4.5%. A second factor limiting fluctuation within the bands is the fact that the ECU is used to identify currencies diverging from their central rates in terms of the ECU. Where such divergence exceeds specified limits (which would normally occur *before* a currency reached its bilateral intervention limit against another currency) the authorities of the country in question are expected to take corrective measures (e.g. intervention in exchange markets, monetary policy measures, or changes in central rates). The two considerations just mentioned mean that the EMS is best analysed as a quasi-fixed exchange rate system among participating countries.

(iv) Because the currencies of which it is made up are moving, mainly against non-EMS currencies, the ECU is itself floating.

(v) A fifth feature of the EMS is that the ECU is a new international reserve asset. Under the arrangements which implemented the EMS, each central bank deposited 20% of its gold and 20% of its dollar holdings with the European Monetary Cooperation Fund (EMCF); in return it obtained a supply of ECU's to be used in settlements between the central banks of participating countries. The deposits with the EMCF run for three months: the gold and dollars are then repaid in their original amounts, revalued in the light of their recent market prices, and then deposited once more with the EMCF in return for the appropriate amount of ECU's. The EMCF was established by the Council of Ministers in 1973 without being assigned any precise task. However, the potential importance of the ECU as a reserve asset will be greatly increased if, as is intended for 1981, the EMCF is transformed into the European Monetary Fund. It has been suggested¹ that there would then be another creation of ECU's. Furthermore, according to a report in *The Economist*², it is intended that eventually ECU's will be issued not only against gold and dollars, but also against national currencies. This prospect raises the possibility of the ECU evolving into a full common EEC currency.

MONETARY POLICY IN AN INDIVIDUAL COUNTRY WITHIN AN EXCHANGE RATE UNION.

It is widely recognised among specialists in the macroeconomics of open economies that monetary policy can have little or no lasting influence on the level of nominal national income in a very small open economy under fixed exchange rates within a large exchange rate union.³ In what follows we assume that the economies of an exchange rate union maintain a free float against the rest of the world. First, a few definitions:

By monetary policy we mean a once-and-for-all change — we will say increase — in the domestic assets of the consolidated banking system. So we can think of monetary policy as open market purchases by the central bank, leading to domestic credit expansion. By lasting influence is meant a permanent change in nominal domestic income after the economy has adjusted to the increase in the domestic assets of the banking system. By fixed exchange rates within an exchange rate union we mean that spot rates are kept fixed and are expected to stay fixed, so that spot and forward rates coincide. By saying that the home economy is very small we mean that it can be modelled as infinitesimally small relative to its partners, so that it has no perceptible effect on income or prices or foreign exchange reserves in the other countries of the exchange rate union. Given these four definitions, one needs only three (reasonable) assumptions to prove that in terms of its impact on nominal domestic income, monetary policy is *totally* ineffective in a *very* small open economy in an exchange rate union. The three assumptions are:

- (i) The economy is stable, in the sense that if it is not in equilibrium, it tends to move towards equilibrium.
- (ii) Starting from equilibrium, an increase in the money supply causes a balance of payments deficit.
- (iii) The resulting reserve loss causes a contraction in the money supply.

Under the circumstances indicated, an “expansionary” monetary policy would affect only the composition of the assets of the consolidated banking system: the increase in domestic assets would be exactly offset by a decrease in foreign assets, i.e. foreign exchange reserves, so there would be no change in the equilibrium money supply. Note that this conclusion is independent of the degree of international capital mobility or of the ratio of non-traded to traded goods (both of which affect only the speed of adjustment). Note also that the definition of monetary policy rules out the possibility of sterilization operations by the central bank — that is, it rules out the creation of a flow of domestic assets equal in amount but opposite in sign to the flow of foreign exchange reserve losses.

The conclusion that monetary policy is totally ineffective depends on the assumption that the home country is infinitesimally small relative to its partners in the exchange rate union. That assumption enabled us to ignore the impact of the home country's reserve losses on the money supplies of its partners. In practice the home country may be small, but hardly infinitesimally small. However, defining the effectiveness of monetary policy as the increase in nominal domestic income which results from a one “pound” increase in the domestic assets of the home country's banking system, it is possible (under reasonable

simplifying assumptions) to show that this effectiveness is proportional to the relative size, within the exchange rate union, of the country undertaking the open market purchases. That conclusion follows from the proposition that, within an exchange rate union, the final impact on all variables, except the distribution among member countries of foreign exchange reserves, of an increase in the domestic assets of any one country's banking system, is the same as that of an equivalent increase in the domestic assets of the banking system of any other country in the exchange rate union.⁴ In elaborating on these propositions we shall consider two cases — that in which a "classical" macroeconomic model applies and that of a "Keynesian" one.

Suppose, for purposes of illustration, that there are only two countries in the exchange rate union and that the classical model holds, so that there is full employment in both. Then it can be shown that the full equilibrium effect of an increase in the money supply of country one is proportional to the size of that country in the exchange rate union: the increase in the union's money supply is distributed in proportion to existing money stocks. For example, suppose that initially $M_1 = £10$ and $M_2 = £90$, and that M_1 is increased by £1. At the new equilibrium M_1 will have increased by only 10 pence, the other 90 pence having spilled out due to reserve movements into country two, thereby increasing M_2 . In consequence, prices will increase by only about one per cent, even though the stock of money in country one initially increased by ten per cent. Thus, in a classical full employment model, an increase in the money supply by one country in an exchange rate union increases both money stocks and prices in all member countries in the same proportion.

It can also be shown, under reasonable simplifying assumptions, that similar conclusions hold for a "Keynesian" world where we start off with unemployment equilibria due to wage rigidity. In this case, an increase in the exchange rate union's money supply (regardless of which member country initiated the increase) is again distributed among member countries in proportion to their initial income and money stock levels. Also, their real incomes change in the same proportion.

As Swoboda has emphasized, the above findings are independent of the degree of international capital mobility. Thus, using the dollar as the numeraire currency in a world exchange rate union (a world of fixed exchange rates), he concisely concludes that "the effectiveness of monetary policy, defined as the full-equilibrium impact on domestic money income of a one dollar open-market operation is directly proportional to the size of the home country relative to that of the rest of the world, this effectiveness tending to zero as the country becomes very small in relative terms."⁵

From the above considerations and in the context of the EMS we can conclude: because Ireland is small, and under quasi-fixed exchange rates within the EMS, an x per cent increase in the domestic assets of the Irish banking system will, other things being equal, lead to close to an equal absolute decrease in Ireland's foreign exchange reserves, but to little change in money supplies or nominal incomes either in Ireland or in our EMS partner countries. However, because of West Germany's weight in the EMS, an $x\%$ increase in the domestic assets of the German banking system would lead to a relatively smaller absolute loss in Germany's foreign exchange reserves, as well as to a significant increase in nominal GNP in each of the EMS countries.

We have argued that expansionary monetary policies in an exchange rate union have some effectiveness, in the sense that they generate some increase in nominal incomes in the long run. An obvious question is whether they increase real incomes or just prices. This is tantamount to asking: which model represents the real world — a classical model in which real wages are flexible or a Keynesian model with rigid money wages? It would seem very doubtful that real wages are rigid in the long run; in that case, monetary expansion by countries in an exchange rate union affects the union's rate of inflation (and the rate of depreciation of the union currencies vis-a-vis the rest of the world) rather than the union's output. In the short run, however, money wages are to some extent rigid. In that case the Keynesian model holds and monetary expansion can increase real income — but probably only in the short run. However, even in the Keynesian model, the effectiveness of an expansionary monetary policy in an exchange rate union approaches zero the smaller the country pursuing the policy is relative to its partner countries. Note that all of the conclusions up to now are independent of the degree of capital mobility and the ratio of non-traded to traded goods (both of which only affect the speed of adjustment).

It should be clear from the preceding that the principal role of monetary policy in Ireland in the context of the EMS is in maintaining the level of foreign exchange reserves. As an approximation, and in terms of long run growth and inflation paths, the equilibrium growth rate in the money supply in a very small economy in an exchange rate union is equal to the growth rate in real output plus the growth rate in prices (the latter, under a viable EMS, being determined mainly beyond Ireland's control). Any attempt at increasing such an economy's money supply growth rate above the equilibrium rate through domestic credit expansion results merely in a balance of payments deficit in the very small economy.

Until now we have assumed that within the exchange rate union, spot rates were fixed and coincided with forward rates. In the EMS spot rates can fluctuate slightly; also forward rates may diverge from spot

rates. These considerations could add marginally to the short-run potency of monetary policy in Ireland, but given the limitations on the extent to which the Irish pound can fluctuate within the parity grid, and to the extent to which markets believe that the cross central rates can be maintained indefinitely, any added potency of monetary policy in the short run must be very marginal indeed.

So far we have ruled out the possibility that a small economy in an exchange rate union might be able to sterilize the monetary effects of a balance of payments deficit. However, in the short run such an economy might succeed in affecting its nominal GNP by maintaining its money supply above the full equilibrium level, through sterilization operations. Its central bank might do so by continuously engaging in open market purchases, thereby creating a flow of domestic assets equal in value to the flow of foreign exchange losses implied by the maintenance of its money supply above the full equilibrium level. However, if such sterilization operations were conducted for long the economy would run out of reserves. Thus permanent sterilization operations would be incompatible with fixed exchange rates, and hence, incompatible with continued membership of the country in an exchange rate union.

It can be seen that monetary measures can rarely be effective policy instruments in the pursuit of internal balance (full employment) in a small economy in an exchange rate union. However, that is not to say that they are unimportant: by their impact on the level of foreign exchange reserves, they are very powerful instruments of balance of payments policy. We can conclude that other policy instruments — fiscal policy and most importantly, incomes policy (by affecting profit margins) — are necessary for internal balance, leaving monetary measures to take care of balance in the external sector.

CO-ORDINATION OF MONETARY POLICIES

To what extent can we regard the EMS as a concrete step in the direction of European monetary union? In this context we note that if capital is allowed to be mobile internally (and that is a long-term objective of the EEC) there can be little or no substantive distinction between full exchange rate union and full monetary union. We also note that members of a viable exchange rate union (assuming that they maintain their separate monetary authorities) must be willing to pursue consistent monetary policies. In the long run an open economy can decide on its monetary policy on the one hand or on its exchange rate cum inflation rate on the other hand, but not on both independently of each other. If, under quasi-fixed exchange rates, a country for long expands domestic credit at a rate greatly in excess of its partners, it will lose foreign exchange reserves and will be forced to devalue. It will also have

higher inflation rates than its (former) partners. Therefore, a viable exchange rate union requires coordination of credit policies among participating countries; otherwise there is the virtual certainty that some countries will, from time to time, run out of reserves and be forced to devalue.

The experience of EEC countries to date suggests that the monetary policies necessary to ensure fixed exchange rates within the EMS imply a degree of monetary discipline far more stringent than national monetary authorities have shown. The principal reason why some countries have been unwilling to apply strict monetary discipline is because of the temporary but substantial losses in output which would prevail in consequence. Some elaboration is in order.

Suppose, because of high inflation in the past, that workers expect a high inflation rate in the year ahead. They will take such expectations into account in bargaining for nominal wages in the coming year. If the actual rate of inflation turns out to be lower than expected, the real wage will rise, and profit margins, employment and output will therefore fall. For these reasons governments may be pressured into pursuing expansionary monetary policies, leading to loss of reserves, currency devaluation and high inflation.

Some of the present difficulties of EMS countries originate from the early 1970's. As inflation spread around Europe, individual countries reacted differently. By the mid-1970's great divergences in inflation rates had emerged among EEC countries. These divergencies were due mainly to different policy reactions, i.e., different views among governments in regard to the relative evils of inflation and short-run unemployment. The initial divergencies were amplified by the expectations effect, i.e., the initial inflationary impetus led to expectations of inflation which had to be overfulfilled if a high level of real output was to be maintained. The divergencies in inflation rates inevitably meant that exchange rates had to diverge.

In attempting to assess the extent to which the EMS is in advance toward monetary union it is helpful to make the distinction between what Corden⁶ calls a pseudo exchange rate union and a complete exchange rate union. In a pseudo union individual countries have their own central banks and therefore determine their own credit policies. By contrast, in a complete exchange rate union reserves are pooled and there is a single central bank. Developments toward monetary union in the EEC to date have been attempts to create a pseudo union. Thus in 1972 exchange margins were narrowed in connection with the Snake scheme, but, for reasons already indicated, at various times countries left the scheme and allowed their currencies to depreciate; there was no firm commitment to staying in on the part of some countries. Of

course, the Snake and the EMS can be regarded as phases of a gradualist approach toward complete exchange rate union. However, the problem is that until a complete union is established, there still exist separate monetary authorities who reserve the right to pursue their own policies and to devalue if necessary. So long as countries have their own monetary authorities, wage contracts will tend to be negotiated on the expectation that each authority will pursue its own policies. Furthermore, exchange rate unions like the EMS are liable to create a speculator's paradise since the possibility of impending changes in exchange rates can be foreseen and the direction of the changes can be predicted with confidence. On the other hand, if exchange rates were irrevocably fixed (which would be tantamount to having a single currency within the exchange rate union) there would be no speculative capital movements within the union: if, in effect, there is only one money internally, there cannot be movement internally from that money to another.

There are strong arguments to the effect that if the EEC does want a stable monetary union, it will have to be by way of monetary union all at once rather than via the gradualist approach pursued to date. Monetary union all at once has been described by Corden as follows: "On one day a Community central bank is established, it takes over the foreign-exchange reserves of the member countries, and it acquires the sole right to manufacture legal tender and hence base money. If this is seen as a decisive, irrevocable transformation, then expectations will be immediately adjusted"⁷ and the costs of adapting to a common rate of inflation would be minimised.

Monetary union all at once, and hence convergence to a common rate of inflation, has been politically unacceptable because some countries have been unwilling to accept the short run adjustment costs which would be involved. Hence it would seem that we shall experience periodic revaluations and devaluations in the EMS. But the prospects of such parity changes will encourage speculation. The danger then is that the EMS will end up in a series of exchange rate crises and collapse. One group of well-known economists⁸ has argued that the chances of that happening are substantive because:

- (i) EMS countries have refused to choose that country which will act as the trend-setter of monetary policy, to which all others will have to adjust to maintain exchange rate stability.
- (ii) No agreement has been reached on the kinds of policies to be followed by a trend-setting country.
- (iii) No steps have been agreed which would ensure domestic monetary policies consistent with exchange rate stability.

REFERENCES

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3. See, for example, A. K. Swoboda, "Monetary Policy under Fixed Exchange Rates: Effectiveness, the Speed of Adjustment and Proper Use", *Economica*, May 1973. The reader is urged to consult Swoboda's paper for support on several of the assertions made in this paper.
4. For proofs of this and related propositions, see A. K. Swoboda, *ibid.*, and A. K. Swoboda and R. Dornbusch, "Adjustment, Policy, and Monetary Equilibrium in a Two-Country Model", in M. B. Connolly and A. K. Swoboda, eds., *International Trade and Money*, London, George Allen and Unwin, 1973.
5. A. K. Swoboda, *op. cit.*, p. 143.
6. W. M. Corden, *Inflation, Exchange Rates, and the World Economy*, The University of Chicago Press, 1976, chap. 10.
7. *Ibid.*, p. 150.
8. See Shadow European Economic Policy Committee, "Europe Enters the Eighties", *Banca Nazionale Del Lavoro Quarterly Review*, June 1979.