

On Securing a Common Monetary Policy in Europe (*)

The uneven pace of EEC monetary integration in recent years contrasts starkly with the rapid and successful liberalization of tariffs and other restraints on foreign trade in the late 1950's and early 1960's. Planned forward progress, as proclaimed in the Werner Report adopted by the EEC Council of Ministers in February 1971, has continually gone awry. The upward floating of the German mark and Dutch guilder in May of 1971 upset the system of closely linked foreign exchange parities almost as soon as it was instituted. Under the Smithsonian Agreements of December 1971, the widening of the limits on official intervention to $2\frac{1}{4}$ per cent on either side of their dollar parities left a potential variation of as much as 9 per cent between any pair of EEC currencies — a range much too great to support the common agricultural policy and to eliminate the possibility of mercantilist rivalry in the setting of exchange rates.

Hence, in February of 1972 the Community instituted the well known "snake-in-the-tunnel" (ST) policy to halve permitted exchange-rate variation between any pair of EEC currencies. It went into effect with the surprisingly limited goal of keeping bilateral variation down to $4\frac{1}{2}$ per cent — rather than two per cent as would have been the goal under the old Bretton Woods system. But even this modest objective of a highly complex system of multiple currency intervention was frustrated in the sterling crisis of June 1972. Large sales of strong EEC currencies to purchase sterling failed to keep the British currency from piercing the snake's belly, and indeed falling below the Smithsonian limits themselves.¹

* The author is indebted to Professors John Scadding and Edward Shaw of Stanford University for their valuable comments.

¹ The British episode illustrates the rather attractive dual speculative opportunities offered speculators by the multiple intervention system. When pressure from one weak EEC currency drives the snake down to the tunnel floor, speculators go short in, say,

In late October 1972, the Council of Ministers tried a different tack by agreeing on a common policy toward national money supplies. All member countries were to hold price increases during 1973 to 4 per cent. To accomplish this, the annual rate of growth in each country's money supply is to be held to 4 per cent plus the estimated percentage rate of growth in its real Gross National Product. Other than moral suasion, however, no convincing new policy machinery was established to ensure that each member country actually met the mutual target. Moral suasion in monetary matters certainly has not worked too well in the past, and traders (speculators) in the European foreign-exchange markets may be forgiven for anticipating that monetary policies will continue to diverge.

In March 1973 after further devaluation of the U.S. dollar, a common float — with inter-European exchange fixed — was discussed. While too early to pass judgment, the potential participants in Europe seemed to have no clear idea of what their mutual monetary obligations should be, if a common float was to have any reasonable chance of succeeding.

Do the basic theoretical issues, as perceived by most writers on the subject, reflect the tangled state of European monetary policy as it has evolved in recent years? In fact a sharp dichotomy of opinion among theorists does exist.

On the one hand, there is the view that national autonomy in monetary matters can be eroded only gradually because of political and economic constraints. Steady reduction in the margin of exchange-rate variation would force harmonization of monetary policies, by the back door as it were. Such a "pseudo" exchange-rate union is one in which "member countries agree — no doubt solemnly — to maintain fixed exchange-rate relationships within the union but there is no explicit integration of economic policy, no common pool of foreign-exchange reserves, and no single central bank".² However, the ultimate intent of this pseudo exchange-rate union is full monetary integration.

sterling and long in, say, marks — which is of course the obverse strategy of what European central banks are doing. Then when sterling is eventually allowed to devalue, the remaining "strong" European currencies snap back up to their more normal position. If one accepts U.S. dollars as the true numéraire, then the speculator makes a profit on both his short sterling position and his long mark position.

² W.M. CORDEN, "Monetary Integration", *Essays in International Finance*, No. 93, April 1972, Princeton University, page 3.

On the other hand, many economists believe that to begin with a pseudo union — one where substantial exchange-rate rigidity is introduced with national monetary autonomy left intact — is not only unlikely to succeed but may be positively harmful. To maintain their balance of payments, countries become more prone to introduce controls on capital movements and compensating taxes or subsidies on commodity trade. Free convertibility across currencies is impaired, and the possibility of a complete monetary union is deferred further into the future. Even the basic customs union or common market itself may come under severe stress because of exchange-rate rigidity in the face of diverse monetary policies. The proponents of this second view emphasize the need to *begin* with full monetary integration, where money issue within the union is controlled by a single authority and foreign-exchange reserves are pooled and managed in common.

With two such contrasting conceptual approaches — the first more politically expedient but with uncertain economic consequences, and the second the reverse — it is hardly surprising that a coherent EEC policy toward monetary integration has been difficult to frame.

The economic strategy proposed in this paper is conceived as a possible middle way that is something more than a compromise between unmanageable extremes. Rather, I focus on certain neglected aspects of central bank behavior that are a continuing source of instability within the EEC, more because of indirection rather than because of conscious perversity. The pattern of official intervention in the foreign exchanges is related to money supplies within each country and for the union as a whole. My ultimate objective is to sketch elements of a monetary "order",³ whose rules can be easily understood, that imparts a high degree of automaticity to adjustment in international payments and to monetary growth within each EEC country. The need for and range of discretionary decision making by each national monetary authority, the Council of Ministers, or ad hoc committees of Central Bankers can then be reduced.

³ "An order, as distinct from a system, represents the framework and setting in which the system operates. It is a framework of laws, conventions, regulations, and mores that establish the setting of the system and the understanding of the environment by the participants in it. A monetary order is to a monetary system somewhat like a constitution is to a political or electoral system. We can think of the monetary system as the *modus operandi* of the monetary order". ROBERT A. MUNDELL, "The Future of the International System", in *Bretton Woods Revisited*, A.L.K. Acheson et al (eds.), University of Toronto Press, 1972.

The Smithsonian agreements and the ST system together imply a complex series of purchases and sales of foreign currencies by each of the European central banks. But each purchase of foreign exchange implies a corresponding sale of the domestic currency. What then should happen to the monetary base in each country? If the Bundesbank enters the market to purchase French francs with marks, should the German monetary base expand by the amount that the French monetary base contracts?

"Sterilization" can be defined as the process by which purely domestic techniques for creating money, such as discounting or open-market operations, offset the impact of purchases or sales of foreign exchange on the national monetary base. This offsetting may be largely automatic, as when it operates through the discount mechanism; or it can come through discretionary changes in reserve requirements and open-market operations for selling short- or long-term domestic securities. The degree to which sterilization is practiced is of critical importance in (1) determining whether the official foreign-exchange interventions are ultimately consistent with one another, and (2) in influencing the domestic monetary stability of each participating country.

Despite its critical importance, the proper scope of sterilization operations and its relationship to domestic monetary instruments, such as discounting or open-market operations, has not been the subject of international negotiations — even among countries as close as those of the EEC. Mutually negotiated limits on sterilization have received more attention from demographers than from writers on international finance. Systematic restraints on the sterilization of payments imbalances, however, are of crucial importance for successful evolution of the EEC from a pseudo exchange-rate union to full monetary integration.

The Monetary Impact of International Payments Imbalances

For analytical simplicity, assume the following:

(A) Exchange rates among EEC countries, at which official intervention takes place, are close to equilibrium levels in the sense that substantial imbalances have not cumulated from past years. Consequently, destabilizing speculation regarding changes in official

parities is absent and "acceptable" monetary policies (of a kind to be defined more precisely below) can be imposed in such a way as to maintain that rate structure.

(B) Insofar as EEC governments intervene to maintain the Smithsonian limit of $2\frac{1}{4}$ per cent on either side of their dollar parities, they increase or decrease their reserves of *direct* dollar claims on the United States. That is, no reserves are held in eurodollars and official currency pyramiding of dollar claims in Europe is avoided.⁴

(C) In maintaining the ST (snake-in-the-tunnel) system, surplus countries take the initiative to purchase the currencies of deficit countries, once the "weak" currency falls $2\frac{1}{4}$ per cent below the parity relationship with its strong EEC partners.⁵ Since the surplus country intervenes by selling its own currency when its value reaches the EEC band ceiling, this system is henceforth called the "ceiling" method of maintaining the ST.⁶

What then is the monetary impact of the ceiling method of official intervention in the foreign exchanges? At first glance, the ceiling technique appears to have a built-in inflationary bias. The supply of domestic money in surplus countries expands as their central banks purchase foreign exchange. Deficit countries appear to receive automatic financing for what could be continuance of inflationary policies.

Despite the asymmetrical nature of intervention using the ceiling

⁴ The pyramiding problem occurs when the eurodollar deposits of European governments are returned to circulation by Eurobanks lending the proceeds back to European borrowers. This anomaly has been noted by several writers. See FRITZ MACHLUP, "The Magicians and Their Rabbits", *Morgan Guarantee Survey*, May 1971, pp. 3-13. The importance of dealing only with direct dollar claims in order to maintain stability in the aggregate European money supply has been analyzed by RONALD MCKINNON, "Sterilization in Three Dimensions: Major Trading Countries, Eurocurrencies and the United States", in R. Aliber (ed.), *National Monetary Policies and the International System* (forthcoming).

⁵ Central banks in deficit countries still have to redeem their own currencies by giving up gold, dollars, SDR or some other internationally acceptable asset. However, the need to hold large reserves in the currencies of other EEC countries is avoided if deficit countries do not take the intervention initiative.

⁶ If instead the monetary authorities in deficit countries intervene to buy back their own currency with the currencies of other EEC members, this would be the "floor" method. This terminology of ceiling and floor was adopted by PASCAL SALIN in "The Problem of Symmetry in the Process of International Adjustment in the Reform of the International Monetary System" (mimeo) Université de Paris-Dauphine I.R.I.S., September 1972.

method, however, there need be no essential asymmetry or imbalance in the internal monetary adjustment required of the surplus and deficit countries involved. Correspondingly, the ceiling method need not be biased toward either inflation or deflation. But the conditions under which this neutrality holds are important to stipulate if the collapse of the exchange-rate union is to be avoided.

One common asymmetry is for the accumulation of official holdings of foreign currencies to initiate a domestic expansion of "high-powered" money within the country in surplus, without a corresponding contraction in the deficit country. Suppose that the central bank — and not the treasury — in the surplus country is responsible for purchasing foreign exchange under the ceiling method. As is commonly the case, suppose further that it is the commercial banks of the country in question that sell foreign exchange to the central bank. Then insofar as the claims of the commercial banks on the central bank increase, so does the reserve base, i.e. an expansion in domestic high-powered money occurs.⁷

The corresponding impact on the monetary base in the deficit country depends on the form in which its currency is held by the monetary authority in the surplus country. For example, suppose that the central bank in the surplus country merely acquires and holds commercial bank deposits in the deficit country. Then there is no measured contraction in the outstanding money stock in the deficit country, although that part owned by domestic nationals declines. The reserves of the commercial banks remain unchanged even though the country in question is experiencing a deficit in its balance of payments.

Besides the pronounced asymmetry in the adjustment required of the surplus and deficit countries in this particular scenario, aggregate monetary reserves held by commercial banks in the EEC as a whole have expanded. That is, "accidental" imbalances in international payments flows cause monetary expansion in the surplus countries in Europe without a commensurate contraction in deficit countries. The resulting loss of monetary control is similar to the

⁷ The situation need not be the same if foreign-exchange is purchased by cheques drawn on government (treasury) accounts with the commercial banks. If the commercial banks must maintain the same reserves against treasury accounts as they do with the general public, then their free reserves would not expand. However, private citizens' holding of domestic money would expand commensurately with the official purchases of foreign exchange.

instability generated by payments imbalances between any one European country and the United States.⁸

Once this asymmetry in European money creation is recognized as being important by authorities in the EEC, then policy procedures to deal with it are easily devised. All countries — specifically those with a deficit in their international payments — should set up a special account within their own central bank to which domestic currency holdings of foreign central banks are transferred automatically. If the German Bundesbank acquires deposits with French commercial banks, it should immediately switch these deposits to a special account with the Bank of France. In the absence of discretionary sterilization policies by the French monetary authorities, the reserve base of the French commercial banks would contract by the amount of the transfer, which is equal to the French balance of payments deficit with Germany, which in turn is equal to the expansion in the German monetary base.

If the process of official finance stops at this point, symmetry in the initial monetary impact of a payments imbalance has been achieved and the base of commercial bank reserves within the EEC as a whole has remained stable. However, these important gains can be undone if inappropriate measures are taken to "fund" the foreign bank balances now owned by the central bank of the surplus country. For example, deposits by foreign governments in the American Federal Reserve Bank of New York are usually employed to purchase higher-yield dollar securities. If the Fed purchases American treasury bills on the open market for foreign central banks, high-powered money is pumped back into the American economy so as to neutralize any contraction in the American monetary base. In short, the Fed has completely sterilized the American deficit. Once the mutual holding of European currencies becomes commonplace, similar destabilization will arise if debtor central banks in the EEC use open-market operations to purchase domestic securities for their creditors, thereby re-expanding the reserve base of their commercial banks.

Again, once this difficulty is recognized as a problem warranting official attention, it is easily dealt with. Insofar as a debtor central

⁸ The initial impact of European balance-of-payments surpluses with the United States is to expand bank reserves in Europe without any contraction of the monetary base in the United States. For an analysis of the official treatment of United States balance-of-payments deficits, see R. McKINNON, *op. cit.*

bank provides interest-bearing securities (denominated in the domestic currency) to foreign governments, they should be issued from its own official portfolio. Open-market operations to acquire such securities are thereby circumvented. Alternatively, existing foreign-exchange reserves of gold, SDR, or *direct* dollar claims can be used by the central bank in any one EEC country to repurchase its own liabilities from some other European central bank. Either way, the reserves of the commercial banks in both countries remain unaffected because funds are simply being transferred from one official account to another. Hence these intergovernment "redemptions" or "settlements" can take place in discrete amounts at some limited number of points of time — e.g. the end of every month — without affecting the operations of the private money markets. All the while, the latter remain under the continuous influence of the state of the international balance of payments.

Thus not too much ingenuity is required for the EEC to work out arrangements whereby continuous and balanced monetary adjustment is initiated in each country as the counterpart of participating in the ST system of foreign-exchange intervention. Besides the desirable symmetry involved, such a system has the great advantage of maintaining a stable European monetary base in the face of random and unexpected payments imbalances. If this system is introduced at a point in time when exchange rates are more or less correctly aligned and reflect the domestic price level of each participating EEC country — Assumption A above — then the balanced adjustment required of all countries will help ensure that this "equilibrium" set of exchange rates is maintained. Short-run capital will then be a stabilizing influence by flowing from surplus to deficit countries.

The symmetrical use of official purchases and sales of foreign exchange in the short run to alter the domestic monetary base has a theoretical rationale. In the absence of destabilizing speculative flows of short-term capital, payments imbalances among EEC countries can be interpreted in monetary terms.⁹ Deficits simply reflect

⁹ There is an emerging consensus among many writers for interpreting imbalances in international payments in monetary terms: see, for example, HARRY JOHNSON, "The Monetary Approach to Balance of Payments Theory", mimeo, University of Chicago, 1971; ROBERT MUNDELL, *Monetary Theory*, Goodyear, 1971; and RONALD MCKINNON, "Monetary Theory and Controlled Flexibility in the Foreign Exchanges", *Princeton Essays in International Finance*, No. 83, April 1971.

a relative excess supply of the national money at existing foreign and domestic price levels (including interest rates), while surpluses reflect a shortage of domestic monetary liquidity relative to monetary policies being pursued in other EEC countries. For example, excess domestic liquidity will induce nationals (including commercial banks) to purchase bonds or increase expenditures for commodities or both. The result is a balance-of-payments deficit induced by outflows of capital or by increases in net imports of commodities. The state of the balance of payments can be considered a rather sensitive indicator of excess (or deficient) monetary liquidity that itself induces official sales of foreign exchange to collect and retire domestic money. Indeed, the demand for each national money is likely to become more unstable as the availability increases of close foreign substitutes.

The Discount Mechanism and Partial Sterilization

Highly desirable as they may be, arrangements to ensure a symmetrical initial impact of international payment imbalances on each country's monetary base are necessary but probably not sufficient to secure the evolution from a pseudo exchange-rate union to full monetary integration. Further understandings must be reached regarding the internal use of discounting and open-market operations, and even less well-known control devices such as ceilings on bank credit and special central bank swaps in forward markets for foreign exchange. It is not my intention here to investigate the proper scope of any of these instruments in any detail. However, a case can be made that the discount (or rediscount) mechanism, as controlled by each national central bank, has a peculiarly important role to play in supporting a system of symmetrical interventions in the foreign-exchange markets. That is, among highly interdependent economies such as those of the EEC, discounting with each central bank — as affected by an appropriately chosen discount rate — has a strong comparative advantage in promoting domestic monetary stability without undermining the need for mutual international adjustment. By implication, therefore, the more "discretionary" domestic techniques of monetary control — i.e., those other than the discount mechanism — are more likely to be used perversely within any monetary regime where official purchases and sales of foreign exchange are important.

To demonstrate the complementary nature of appropriately managed national discount mechanisms, let us simply assume that the EEC has successfully designed a symmetrical system such as that sketched in the preceding section for intervening in the foreign exchanges. The initial impact of a payments imbalance causes an expansion in the monetary base of surplus countries and an equal contraction in those that are in deficit. How then would this pressure from the foreign exchanges affect discounting by commercial banks with their own national central bank, and what would be the appropriate policy response of the latter?

Consider first a country in deficit. Under the ceiling method of supporting the exchange rate, reserves would begin to flow out of its commercial banks into the account in its central bank especially designed for foreign official holders of the domestic currency. Faced with a loss in reserves, commercial banks would naturally be driven to the discount window for replenishment. A normal, and indeed correct, reflex action of the domestic monetary authority would be to raise the discount rate in response to the unusually heavy demand for credit from the central bank, coupled with the knowledge of a cumulating deficit in the balance of payments. This type of response is easily made virtually automatic — i.e., standard operating practice among central banks in the EEC. A floating central bank discount rate, tied to some appropriate open-market rate, could even be used to keep ahead of the commercial banks' demand for rediscounts.

Now suppose that the commercial banks in the deficit country had started from an "equilibrium" position in the sense that the beginning stock of discounted bills (or bonds) held by the central bank was equal to the volume of bills that the commercial banks wished to discount at the pre-existing discount rate of interest. In other words, non-price rationing techniques were not being used by the central bank. Then a significant rise in the discount rate in response to the deficit, with discounting by the commercial banks (and perhaps other financial institutions) being freely allowed at that higher rate, is twice blessed. First the greater expense of obtaining reserves means that the commercial banks would stop well short of reconstituting their own reserve positions to their pre-deficit levels. Secondly, insofar as a rise in the discount rate contributes to a more general rise in short-term rates of interest in the domestic money market, we have the familiar inflow of short-term capital from abroad that ameliorates the immediate monetary impact of the balance

of payments deficit — a benign influence if the deficit is likely to be reversed within a short period of time.

The implications of the first result, in particular, are worth spelling out in more detail. Allowing the commercial banks to borrow from the central bank, but having the borrowing rate high enough to have a penalty effect, permits some offset to the losses in bank reserves induced by the deficit in the balance of payments. In effect, the discount mechanism has encouraged partial, but not full, domestic sterilization of the monetary impact of the balance of payments. But if we have gone to some trouble to specify a system in which domestic monetary contraction must occur in response to an external deficit, why permit any "automatic" offset at all? Why risk undoing the contractionary effect that was carefully designed into the deficit country's response mechanism?

Unfortunately, the monetary authorities in the deficit country simply cannot know *a priori* how much of a domestic contraction will ultimately be required. Very little may be necessary if an incipient deficit quickly reverses itself with the aid of stabilizing capital inflows. Even with a more prolonged cumulating deficit, however, a dollar-for-dollar reduction in the domestic base of high-powered money may be quite inappropriate.

Our hypothetical excess supply of domestic money, as manifested by a deficit in the balance of payments, may simply reflect a willingness of nationals to reduce their domestic stocks of low-powered deposit money (held with the commercial banks) in favor of commodities or bonds. For simplicity, but not out of necessity, assume that the bond market bears the brunt of the initial adjustment in domestic portfolios to the state of excess monetary liquidity. Then this switch from domestic *low-powered money* to bonds (or more directly to foreign bonds) reduces domestic rates of interest and induces the capital outflow that underlies the deficit in the balance of payments. This provokes official intervention, as sketched above, to reduce the domestic stock of *high-powered money* — i.e., bank reserves and currency. Depending on the lags in the adjustment process, an excess supply of low-powered money could cause a dollar-for-dollar contraction in high-powered money, and thereby induce an unwarranted multiple contraction in deposits held with the domestic commercial banks.

However, once the commercial banks find themselves losing reserves beyond that level commensurate with a reduction in their

customers' willingness to hold deposits, they can go to the discount window and reconstitute their reserve position at a slight extra cost. In other words, they can maintain the supply of domestic money at an appropriate level reflecting the somewhat reduced demand to hold it on the part of the non-bank public. Most importantly, this flexible use of the discount mechanism avoids an unwarranted liquidity "squeeze" that could cumulate into a major liquidity crisis.¹⁰

Given this need to avoid an unwarranted monetary contraction, couldn't an astute central banker simply supply the needed reserves by more discretionary open-market operations? In fact, the monetary authority has no easy way to tell *a priori* whether partial sterilization of the monetary impact of a balance-of-payments deficit is always advisable. For example, suppose by some random chance, excess monetary liquidity again develops in the domestic economy. Instead of "excessive" holdings of low-powered money by the non-bank public, however, the commercial banks simply find themselves with excess reserves relative to the domestic demand for commercial-bank credit. Not surprisingly, lending these funds abroad manifests itself as a balance-of-payments deficit. Under our symmetrical system for intervening in the foreign exchanges, no further adjustment is needed because the reserve base of the commercial banks declines on a dollar-for-dollar basis. The excess domestic liquidity has been exactly removed through the international deficit, with no tendency for over-adjustment. Compensating action by the domestic monetary authority is not required.

We have distinguished two types of excess domestic liquidity, both of which induce a deficit in international payments, but only one (an excess supply of low-powered money) warrants partial sterilization of the monetary impact of the deficit. Ex ante, the monetary authority is unlikely to be able to distinguish one case from the other and take appropriate discretionary action, which may be none at all. However, with an "open" discount window continuously in touch with the market at equilibrium rates of interest, the two cases are distinguished almost subliminally. If an undue contraction of bank reserves occurs, the commercial banks are

¹⁰ Presuming the absence of short-term money markets, which operate across national boundaries in Europe, that are comparable to the American markets for treasury bills or federal funds.

automatically driven to the discount window; whereas if the source of the difficulty to begin with was excess reserves in the commercial banks, there would be no pressure to discount beyond the "normal" volume. The omniscience required of our monetary authority is greatly reduced by relying on an appropriately market-oriented discount mechanism, and not relying on more discretionary monetary instruments.

The mirror image of the above analysis applies to countries where there is a relative shortage of domestic monetary liquidity that manifests itself in a balance-of-payments surplus. The expansion in the domestic base of high-powered money, resulting from official intervention in the foreign exchange markets, may or may not be fully warranted. If not, then commercial banks would simply reduce their "normal" volume of outstanding credit with the central bank coming through the discount window. This presumes that unlike the Federal Reserve System, European commercial banks are typically large net debtors of their central banks — which indeed seems to be the case.¹¹

More generally, flexible reliance on the discount mechanism to smooth monetary adjustment can compensate for many institutional differences across European countries. The ratios of currency to demand deposits, of demand deposits to time deposits, and of official reserve requirements to all classes of deposits and loans, vary substantially from one European country to the next. Hence changes in high-powered money, initiated by symmetrical intervention in the foreign exchanges, may well be smoothed somewhat differently across deficit and surpluses countries. For this reason, appropriately sensitive discount mechanisms can substitute, in part, for much more detailed institutional harmonization. Agreement among EEC countries on the mutually consistent use of discounting is, therefore, of critical importance in the move towards monetary integration.

Is this idealized system of symmetrical official intervention in the foreign exchanges cum free discounting empirically realistic? For the postwar period, Garvy¹² and other writers have emphasized the much greater freedom of commercial banks to discount in Europe

¹¹ As suggested by GEORGE GARVY on page 184 of "The Discount Mechanism in Leading Industrial Countries Since World War II", pp. 169 to 276 in *Reappraisal of the Federal Reserve Discount Mechanism*, Vol. I, Board of Governors of the Federal Reserve System, 1971.

¹² *Op. cit.*, p. 179.

and Japan — open “dependent” economies — than in the United States — the reserve center. However, the monetary and balance-of-payments statistics of the late 1960's and early 1970's have been dominated by speculative (defensive) capital flows that required extraordinary sterilization measures on the part of central banks. The presence of disequilibrium exchange rates violates one of the important assumptions of the above analysis. It seems useful, therefore, to look at an earlier period where the constellation of exchange rates was more stable.

For the relative calm from 1950 to 1966 under the old Bretton Woods system, Michael Michaely has done an intensive empirical study of short-run responses, as manifested in national banking policies and movements in monetary aggregates, to international payments imbalances of major industrial economies. Not too surprisingly, he finds that nations experiencing external deficits responded with a policy of monetary tightness, and those with external surpluses responded — albeit more weakly on average — with monetary ease.¹³ In effect, convertible-currency countries practiced partial, but not full, sterilization of international payments imbalances; and the mechanics by which they accomplished this mutual monetary adjustment are of considerable interest.

Michaely does not attempt to divine the intentions of the monetary authorities. Rather, he constructs indices of what actually happened on a country-by-country basis from 1950 to 1966. The two principal indicators are the discount rate and the rate of growth in the money supply — M_1 approximately. The discount rate was consciously raised in periods of deficit and lowered during periods of surplus. On the other hand, contractions in the growth of money supply were largely governed by the payments deficits themselves, where the monetary authority sold foreign exchange (dollars) in order to collect and retire domestic money — usually high-powered money.

Typically, the monetary base was not allowed to contract by the cumulative amount of any international payments deficit, which Michaely measured by losses of foreign-exchange reserves. Central

¹³ MICHAEL MICHAELY, *The Responsiveness of Demand Policies to Balance of Payments: Postwar Patterns*, National Bureau of Economic Research, Columbia University Press, 1971, pp. 30-65. Apart from the United States with its special status as a reserve center, Michaely found that six out of eight major industrial countries exhibited this pattern, while monetary policy in the remaining two was “neutral” with respect to the balance of payments. Seven of the eight countries considered were European.

banks consistently lent to their commercial banks and to their own treasury authorities in an amount sufficient to partially but not fully offset (sterilize) the contraction in the high-powered money base that would otherwise have occurred. Michaely's evidence is the observed increase of credit granted by the central banks to various classes of domestic commercial banks in periods during which a particular country's balance of payments was in deficit and when, at the same time, the rate of growth in M_1 usually fell.

Although the old Bretton Woods System depended on the U.S. dollar as the intervention currency, not too much imagination is necessary to imagine similar, but more pronounced, internal responses to symmetrical official intervention by EEC central banks to maintain the ST system of exchange rates.

On Restricting The Scope of Open-Market Operations

The preceding sections described how *short-run* monetary policy might ideally be governed among countries aspiring to full monetary integration. Nothing was said about the long run, however. That is, no suggestions were made for assuring continuous secular expansion in the monetary base of each EEC country as growth proceeds. Indeed, this conceptual problem has not been formulated by individual EEC countries — let alone the Community in concert.

... In none of countries surveyed does there seem to be any specific philosophy or policy with regard to the way in which the cash base of the banking system should be enlarged to provide for secular growth. This lack may reflect, in part, an overhang from the real bills doctrine, which assumed, at least implicitly, that growth of “commerce” would generate an enlarged flow of bills to the central bank, which in turn would increase the reserve base. More importantly, in most of the countries studied, inflows of foreign exchange and — intermittently — government deficits have focused attention on the means for controlling excess liquidity rather than on the need to provide banks with reserves to assure adequate monetary growth. On the whole, therefore, it is proper to conclude that discounting in those countries is generally considered as a residual mechanism through which over-all availability of reserves is adjusted to longer-run growth requirements.¹⁴

¹⁴ GEORGE GARVY, *op. cit.*, p. 183.

This issue of secular growth must be faced although I don't intend to pursue it in any depth here.¹⁵ Clearly, the EEC could agree to continuous balanced purchases of domestic assets by national central banks in the open market according to some Friedman-type rule. Less satisfactorily, the EEC could continue its net accumulation of U.S. dollars as the principal mode. Finally, it could simply allow the volume of discounts (rediscounts) to expand at some agreed-on secular rate. The flexibility of this last instrument remains important as a complement to the first two. Nevertheless, agreement on the overall rate of secular expansion is itself probably more important than choosing any particular mode.

Assuming that this "long-run" problem is resolved, are there restraints that EEC central banks might impose on their own behavior over the short run? Again operating under Assumption A above that major foreign exchange crises are absent, open-market operations and other discretionary monetary instruments — such as changes in reserve requirements — might well be ruled out by mutual agreement. Such instruments are too likely to conflict with, and hence upset, an adjustment mechanism based on symmetrical official intervention in the foreign exchanges and a flexible discount mechanism.

Reducing the scope of open-market operations, as a vehicle for executing short-run monetary policy in the EEC, is strong medicine. Yet national monetary authorities have often followed discretionary monetary policies inimical both to external adjustment and to domestic monetary stability. Let us concentrate on one extreme case: British open-market operations in the post World War II period, that best illustrates the principle involved.

In his examination of the post-war monetary policies followed by major industrial countries, Michael Michaely noted an anomaly in the British response to recurrent deficits in the balance of payments.¹⁶ On one hand, The Bank of England seemed to adhere to the normal rules of the game by raising "Bank Rate" in response to measured deficits in the balance of payments. Unlike other European countries and Japan, however, the British money supply (narrowly defined

¹⁵ For a more detailed theoretical and empirical analysis of problems involved in establishing a monetary policy over the long run, see R. I. McKINNON, "Monetary Theory and Controlled Flexibility in the Foreign Exchanges", *Essays in International Finance*, No. 84, Princeton University, April 1971.

¹⁶ MICHAELY, *op. cit.*

as M_1) did not, on average, fall below its normal growth path in these deficit periods. Hence by one measure — the discount rate — British monetary policy was tightened in response to an external deficit, but by another measure — M_1 — no contracting effect seemed visible. Since the Bank of England was usually committed to enter the foreign exchange markets to retire sterling by selling its dollar reserves, why didn't the growth in M_1 contract to some significant degree?

The paradox is dispelled once one recognizes that the Bank of England was committed to two kinds of open-market operations, both of which seriously destabilized the British economy internally and inhibited an appropriate adjustment to the external deficit. First, the Bank of England operated under a full sterilization rule whereby it purchased U.K. treasury bills in the open market in equivalent amounts to any losses in foreign exchange reserves. Hence, the deficit itself could not have any contractionary effect on the British monetary base. There was no automatic stabilizer, therefore, to stop an incipient or very small foreign deficit from cumulating into a large one — at least not until the Bank of England was forced to raise Bank Rate discretely.¹⁷

Since a whole constellation of short-term lending and deposit rates of interest were tied to Bank Rate, one might still expect some visible contraction in M_1 although the deficit had run for some time before official action was taken. However, the Bank of England was also committed to support "gilt edges" (longer term government securities) in the open market. When short-term interest rates rose, there was some residual upward pressure on long term rates and corresponding downward pressure on the prices of gilt edges. Then the Bank of England was drawn into the market as a buyer of gilt edges and so tended to expand the monetary base even in a period where the balance of payments was in deficit.¹⁸

Hence the two kinds of open-market operations to which the Bank of England was committed dovetailed in such a way as to lead to a serious loss of monetary stability in Britain, considered from either a domestic or international point of view. Small imbalances in the supply of and demand for money were allowed to cumulate

¹⁷ As opposed to discretely.

¹⁸ For a more complete analysis of the rationale of postwar British monetary policy, see DONALD R. HODGEMAN, "British Techniques of Monetary Policy: A Critical Review", *The Journal of Money, Credit and Banking*, November 1971, pp. 760-799.

into large ones. While extreme, the British case does suggest that the EEC monetary authorities might well agree not to use open-market operations for short-run purposes in non-crisis periods — especially when preferred instruments of short-term monetary control are available.

Concluding Comments

While the evolution from a pseudo exchange-rate union to full monetary integration is a subtle affair, the technical problems of coordinating the actions of national central banks are not as overwhelming as they might first seem. Two important principles seem to stand out.

First, the impact of official intervention in the foreign exchanges on each national monetary base should be quantitatively significant and symmetrical as between deficit and surplus countries in the EEC. Only in this way can the monetary base of the union as a whole be stabilized. This symmetry cannot be taken for granted under present institutional arrangements.

Secondly, in support of a symmetrical foreign-exchange policy, a market-oriented discount window has a strong comparative advantage over open-market operations and over other more discretionary instruments of domestic monetary policy. Properly used, national discount mechanisms can eliminate much apparent conflict between the need for international adjustment on the one hand and domestic monetary stability on the other. In contrast, the continual use of open-market operations is more likely to be a destabilizing influence for that country whose central bank resorts to it, and also for the other members of the fledgling monetary union.

It is no accident that in the evolution of relationships among Federal Reserve Banks in the United States, all except one (the Federal Reserve Bank of New York) do not now engage in open-market operations. All Federal Reserve Banks do, however, provide a discount facility for commercial banks that are members, although discounting has fallen into limited use in recent years because of "frowning" and the development of nation-wide markets in federal funds and treasury bills. Without similar international money markets in Europe, discounting can, potentially, perform a valuable monetary service in the EEC for many years to come.

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