Imported Inflation and Monetary Policy

I. Introduction

Not long before his resignation as U.S. Treasury Department Under-Secretary for Monetary Affairs, Dr. Robert V. Roosa declared in a public address:

> "The days of simple reliance upon monetary policy... may possibly be gone forever...
> The main reason for these paradoxical developments is that our traditional views on the role of monetary policy in correcting international imbalance presumed a different sort of world. Countries with external deficits were supposed to have full employment and rising prices; countries with external surpluses were supposed to have under-employment and comparatively low prices. For these conditions, tight money could meet both the foreign and the domestic needs of the deficit country; easy money could meet both the external and the internal needs of the surplus country. I do not want to say that such circumstances will not recur. What I do say is that we cannot presume that this will be the only pattern." (1).

To illustrate his point, Dr. Roosa cites the recent experience of the Netherlands:

> "In the case of the Netherlands, without reviewing all of the relevant story, a deficit had also developed early this year after some period of surplus on balance. The Government had, somewhat earlier, deliberately accepted a controlled degree of inflation as part of the corrective needed for restoring a balance in payments, but that seemed to begin to get out of hand. Internal restraint became necessary. The credit markets were tightened and interest rates raised to heights

(1) Robert V. Roosa, *Money Flows and Balance of Payments Adjustment*, remarks before the New York Chamber of Commerce, October 8, 1964. Treasury Department press release Washington, D.C., pp. 5, 10.

> that had not been seen in the Netherlands for some years. The result? An unprecedented volume of funds has been repatriated or invested in the Netherlands just as its balance of payments seemed to be moving back into equilibrium. Tight money has not, at least not unmistakably, been the sole and satisfactory answer." (2).

In his commentary, Dr. Roosa succinctly describes the concern of officials and scholars alike regarding the problem of designing an economic policy for a deficit country that is suffering from unemployment, or a surplus country subject to inflationary pressures, in an era in which restrictions on capital movements are being eased, in which financial markets are being increasingly integrated.

On this side of the Atlantic, Dr. M.W. Holtrop, President of the Netherlands Bank, has discussed the problem in the context of U.S.-European relationships:

> "As a result of the U.S. deficit Europe has been faced with a demand for goods and assets that has been financed directly or indirectly by the U.S. Payment has been effected with the Fl, DM, and FF created by the central banks in exchange for the gold and dollars added to the exchange reserves. In this way there has been a constant increase in the volume of liquidity not only of the European economy but also of European banks, and the foundation has been laid for further domestic expansion." (3).

At the Tokyo meetings of the International Monetary Fund, the Atlantic Community dispute over imported inflation reached a fever pitch. In a review of those meetings, Dr. Karl Blessing, President of the German Federal Bank, stated the following:

> "Notwithstanding the heated controversy between the surplus and deficit countries, the real discussions in Tokyo concerned the functioning of our monetary system, its supposed or genuine defects, and its further development; they were touched off by M. Giscard d'Esta-

(2) *Ibid.*, pp. 11, 12.

(3) M. W. Holtrop, *Rising Prosperity and Inflation*, remarks before the Basle Statistical and Economic Society, Bank for International Settlements Press Review, Basle, Switzerland, 10 December, 1963, No. 239. A more general treatment of the problem is contained in President Holtrop's paper, *Monetary Policy in an Open Economy: Its Objectives, Instruments, Limitations, and Dilemmas*, Princeton Essays in International Finance, September, 1963, No. 43, pp. 27-29. For an ingenious attempt to identify empirically the existence of imported inflation, see the *Annual Report of The Netherlands Bank for the Year 1963*, pp. 70, 76.

ing, the French Finance Minister, who came out in favour of an improved world monetary system. In his opinion, the gold exchange standard is largely responsible for post-war creeping inflation, since it allows reserve countries to finance balance-of-payments deficits easily and practically without limit, and enables them to avoid taking internal measures of adjustment in good time; in the last analysis, therefore, the European countries are suffering from inflation imported from the reserve-currency countries. Mr. D. Dillon and Mr. R. Maudling opposed this view, Mr. Dillon emphasizing that the U.S. is not responsible for the creeping inflation in Europe; there is, he said, no inflation in the U.S., so that the U.S. has no inflation to export; he blamed excessive growth and demand in certain western European countries for the inflationary pressure experienced by them, and suggested that the surplus positions of these countries could be removed by a liberal import policy and an increase in capital exports. Mr. Maudling took the same line, maintaining that there was at present no world-wide inflation.

The above-mentioned controversy concerned a question of principle, and further clarification is needed. There is no doubt that creeping inflation in Europe has been partly caused by developments in Europe itself, such as excessive demand emanating from the public sector, building booms, or excessive wage claims. On the other hand, it is undeniable that it is difficult or impossible to fight these inflationary tendencies successfully as long as the European countries record balance-of-payments surpluses that directly or indirectly are a reflection of the U.S.'s present or previous balance-of-payments deficit." (4).

In a paper delivered at the recent meetings of the American Economic Association, Drs. Gilbert and McClam of the Bank for International Settlements secretariat concluded that the importation of money capital restricts the usefulness of monetary policy:

> "It is evident that this responsiveness of funds from abroad to internal monetary restraint imposes a definite limitation on the use of monetary policy for strictly domestic purposes." (5).

(4) Quoted from a summary of a speech given by Dr. Karl Blessing to the Schwäbische Gesellschaft in Stuttgart, West Germany, October 19, 1964, appearing in the Bank for International Settlements Press Review, Basle, Switzerland, 22 and 23 October, 1964, Nos. 206 and 207. See also an address by President Blessing before officials of the Bank of Japan in Tokyo, 22 April, 1963.

(5) Milton Gilbert and Warren McClam, *Domestic and External Equilibrium: European Objectives and Policies*, paper presented to the annual meeting of the American Economic Association, Chicago, Illinois, December 29, 1964. See also the *Bank for International Settlements Thirty-fourth Annual Report*, 1 April, 1963-31 March, 1964, Basle, Switzerland, 8 June, 1964, pp. 31, 35, 36 and 56.

(6) For a reference to this aspect of the problem in the U.S. context, see J. M. Culbertson, *Full Employment or Stagnation*, New York: McGraw-Hill, 1964, p. 189.

(7) Cf., eg. Bela Balassa, *The Theory of Economic Integration*, London: George Allen and Unwin, 1961, p. 261; Hans O. Lundstrom, *Capital Movements and Economic Integration*, Leyden: A. W. Sythoff, 1961, p. 106; and Ernest Bock, "Unifying Europe's Capital Market", *The Banker*, December, 1962, p. 780.

(8) Cf. Robert A. Mundell, "The Appropriate Use of Monetary and Fiscal Policy for Internal and External Stability", *International Monetary Fund Staff Papers*, March, 1962, pp. 70, 77.

In this paper we wish to examine the thesis that monetary policy cannot be used as a weapon against domestic inflation in a surplus country under a regime of fixed exchange rates. We shall focus on this case rather than on that of a deficit country suffering from unemployment (6). To some extent, the arguments in the two situations are symmetrical. On the other hand, an important asymmetry exists. Contemplation of "national bankruptcy" is presumably more terrifying than the accumulation of foreign exchange reserves, even to the most unreconstructed disciple of Adam Smith!

The issue and its solution also have obvious implications for the future of the integration of E.E.C. capital markets, since this will involve the removal of restrictions on capital movements among the six member countries (7). In any event, we propose to restrict our analysis to the case of a European country which is subjected to inflationary pressures because of a capital inflow from the United States.

It must be pointed out initially that the effects of a tight money policy are not unambiguous even in the case of a domestic inflation accompanied by a deficit in the balance of payments. It is true that credit restrictions and higher interest rates would improve the current account through the curtailment of price inflation. Higher interest rates would also lead to the improvement of the capital account by promoting a capital inflow. On the other hand, a deflationary monetary policy may at the same time stunt the rate of growth and therefore may also have an unfavourable effect upon the capital account because of the adverse effect on profit expectations. Consequently, we do not suppose that a restrictive monetary policy is necessarily the best policy stance to assume. A tight fiscal-easy money combination may be preferable to a monistic solution consisting solely of monetary stringency (8).

Nor are we denying that the deficit in the U.S. balance of payments is *potentially* inflationary for the rest of the world. Of cause it is. Secretary Dillon's defense, as reported by President Blessing above, that the U.S. price level has not risen is not convincing; his argument reflects the long rejected purchasing power doctrine.

Two kinds of constraints are alleged to hinder the use of monetary policy, namely, internal and external. These sets of constraints will be considered in turn.

II. Internal Constraints on the Use of Monetary Policy?

Perhaps a classic assertion to the effect that domestic monetary policy is incapable of coping with a balance-of-payments surplus is supplied in the following quotation from Professor Lutz:

> "A country which tries to prevent inflation at home while inflation is going on abroad cannot succeed in the longer run unless it is willing to alter its foreign exchange rate. So long as the rate is kept fixed the Central Bank is bound to lose control over the money supply, and therefore over the level of total spending. The accumulation of foreign exchange and gold caused by the surplus in the balance of payments on current account and by the influx of short-term funds — both of which are the usual concomitants of a strict monetary policy under the condition assumed — floods the country's economic system with liquidity. And the Central Bank is unable to remove the excess liquidity by using the customary instruments. It is true, of course, that the Central Bank by raising reserve requirements and selling securities in the open market can, for a time at least, prevent secondary deposit expansion by the commercial banks. But it is almost bound to leave the banks with sufficient cash to support the *primary* deposit expansion which derives directly from the sales to them of foreign exchange by their customers. An attempt to prevent even this primary expansion would imply forcing the commercial banks to call in loans, or sell securities, at the same rate as that at which foreign exchange was being sold to them. This is a policy which is practically out of the question. And the rate of primary deposit expansion alone may well exceed the rate of increase which the Central Bank deems appropriate to the needs of the growing economy...
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> "The Central Bank is, in the longer run, bound also to lose the fight against the secondary deposit expansion. The point will be reached when reserve requirements have been raised to the legal maximum, and when open market paper is no longer available in sufficient amount." (9).

We shall not debate legal constraints. Clearly, reserve requirements are *not* subject to a legal maximum at the parliamentary level. Moreover, a central bank could, in principle, create open market paper, in the form of its own obligations, without limit (10).

Barring legal hindrances of this nature, both the potential primary and secondary expansions resulting from a balance-of-payments surplus could be prevented through open market sales. Furthermore, this may be achieved without causing a decrease in commercial bank assets below their original level. Assume a ten per cent cash reserve requirement and the indicated values for selected items from the statement of condition for the central bank and from the consolidated statement of condition for the commercial banking system.

Situation (1)

Central Bank

Assets		*Liabilities*	
Foreign exchange	0	Commercial bank deposits	10
Government securities	15		

Commercial Banking System

Assets		*Liabilities*	
Deposits with Central Bank	10	Demand deposits	100
Loans	50		
Government securities	25		

Now assume an increase in exports of goods and services or an increase in capital imports of 10. Recipients of the foreign exchange convert it into domestic money by selling it to the commercial banks. The commercial banks then offer the foreign exchange to the central bank. The latter must convert the foreign exchange into legal reserves, because, we shall suppose, the exchange rate is at the level where the central bank must purchase additional foreign exchange,

(9) F. A. Lutz, *International Payments and Monetary Policy in the World Today*, Wicksell Lectures 1961, Stockholm: Almquist and Wicksell, 1961, pp. 37, 38.

(10) For example, the Danish National Bank has been given statutory authority to create open market paper in the form of its own obligations.

if offered, to keep the exchange rate within prescribed limits. The position of the banking system then becomes:

Situation (2)

CENTRAL BANK

Assets		*Liabilities*	
Foreign exchange	10	Commercial bank deposits	20
Government securities	15		

COMMERCIAL BANKING SYSTEM

Assets		*Liabilities*	
Deposits with Central Bank	20	Demand deposits	110
Loans	50		
Government securities	25		

Such a primary deposit expansion can itself be destroyed — hence the question of a secondary expansion does not arise — through open market sales of 10 to non-banking institutions. The resulting balance sheets would be as follows:

Situation (3)

CENTRAL BANK

Assets		*Liabilities*	
Foreign exchange	10	Commercial bank deposits	10
Government securities	5		

COMMERCIAL BANKING SYSTEM

Assets		*Liabilities*	
Deposits with Central Bank	10	Demand deposits	100
Loans	50		
Government securities	25		

The monetary effect of the inflow of foreign exchange is therefore eliminated without affecting in any way the initial asset position of the commercial banks.

The open market paper — Government securities in this instance — might, on the other hand, be sold to the commercial banks

themselves: again, the primary expansion would be eliminated. It would be necessary for the commercial banks to permit loans to run off in order to increase their holdings of Government securities, but total earning assets would remain the same as before.

It should be noted that the open market selling operation just described could be conducted *pari passu* with the acquisition of foreign exchange by the central bank. In this way, the expansion of commercial bank reserves could be prevented from occurring in the first place.

Alternatively, the central bank in question might meet the threatened inflation by raising cash reserve requirements to twenty per cent. In this case, the final balance sheet position woud be as follows:

Situation (3a)

CENTRAL BANKING SYSTEM

Assets		*Liabilities*	
Foreign exchange	10	Commercial bank deposits	20
Government securities	15		

COMMERCIAL BANKING SYSTEM

Assets		*Liabilities*	
Deposits with Central Bank	20	Demand deposits	100
Loans	50		
Government securities	15		

The earning assets of the commercial banking system are reduced, in the above example, through a reduction in the Government securities portfolio. The primary expansion is, nevertheless, prevented, or at least destroyed after the fact.

According to Professor Lutz, a policy of raising requirements "... is practically out of the question" (11). No explanation is supplied. Is it because the diminution in earning assets will threaten the viability of the banking system? If so, the profit position of the banks could readily be supported through the substitution of security for cash reserves, the payment of interest on central bank deposits, or the use of some other suitable device.

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(11) *Ibid.*

A more plausible explanation of the "impracticability" of the proposed solution is that it would involve a level of interest rates rather higher than that which is felt to be tolerable. If the country in question does not have a well developed capital market, the absorption of securities sold by the central bank or by the commercial banks might entail a substantial increase in interest rates. Such a development might, for example, constitute a threat to the government's housing policy, or lead to an unwanted increase in the cost of financing the public debt. In any event, if the use of monetary policy is to be rejected because of the existence of an interest rate ceiling — a ceiling which would be exceeded were an appropriate monetary policy put into effect — the existence of the ceiling should be made explicit in discussions of the inflation problem. For it is the ceiling on interest rates, not any inherent defect in the monetary instrument, that renders this instrument unequal to the task at hand. Moreover, the effectiveness of monetary policy is independent of the source of the disturbance, that is, foreign or domestic.

One might suppose that if the external balance leads to an undesirable expansion in central bank assets, the monetary authorities would engage in offsetting operations. The actual record for three European countries for 1962 and 1963 is presented in the accompanying table (12).

FOREIGN AND DOMESTIC ASSETS OF CENTRAL BANKS IN FRANCE, GERMANY AND THE NETHERLANDS

	End of 1961	End of 1962	End of 1963
Bank of France (billions of francs)			
Foreign assets	16.76	20.18	24.36
Domestic assets	31.42	34.06	36.63
Total assets	48.18	54.24	60.99
Federal Bank (billions of marks)			
Foreign assets	32.2	31.3	33.8
Domestic assets	11.3	14.2	14.2
Total assets	43.5	45.5	48.0
Netherlands Bank (billions of guilders)			
Foreign assets	7.08	7.02	7.60
Domestic assets	0.34	0.53	0.65
Total assets	7.42	7.55	8.25

(12) International Monetary Fund, *International Financial Statistics*, Supplement.

There, the record shows that in no case was there a diminution in domestic assets, and actual increases occurred in the case of France and the Netherlands in 1962 and 1963, and in Germany in 1962. Apparently in these years the central banks felt that they should acquire domestic assets, adding to the expansion of central bank assets caused by the inflow of foreign exchange. This seems to show that the expansion of central bank assets caused by the inflow of foreign exchange was not sufficient to meet the needs of the economy in the eyes of the authorities. In other words, insufficient "inflation" was "imported".

III. External Constraints on the Use of Monetary Policy?

In the previous section we have considered possible internal constraints upon the use of monetary policy. Suppose, however, that such constraints do not exist. It is, nevertheless, contended by some that domestic monetary policy is subject to external constraints. Specifically, it is suggested that a tight money policy will be vitiated by a simultaneous inflow of foreign capital.

On the assumptions of perfect mobility of capital and fixed exchange rates, Professor Mundell states the case as follows:

> "A central bank purchase of securities creates excess reserves and puts downward pressure on the interest rate. But a fall in the interest rate is prevented by a capital outflow, and this worsens the balance of payments. To prevent the exchange rate from falling, the central bank intervenes in the market, selling foreign exchange and buying domestic money. The process continues until the accumulated foreign exchange deficit is equal to the open market purchase and the money supply is restored to its original level.
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> "This shows that monetary policy under fixed exchange rates has no sustainable effect on the level of income. The increase in the money supply arising from open market purchases is returned to the central bank through its exchange stabilization operations. What the central bank has in fact done is to purchase securities initially for money, and then buy money with foreign exchange, the monetary effects of the combined operations cancelling. The only final effect of the open market purchase is an equivalent fall in foreign exchange reserves..." (13).

(13) R. A. Mundell, "Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates", *Canadian Journal of Economics and Political Science*, vol. XXIX,

If we interpret him correctly, Professor Mundell is saying that, under a regime of fixed exchange rates and perfect mobility of capital, every attempt to tighten money in a given country will be offset by an inflow of foreign capital. On this interpretation, is Professor Mundell right?

Suppose there is a country in Europe which is enjoying the simultaneous achievement of the aggregate economic objectives of full employment, price stability, a high growth rate, and balance-of-payments equilibrium. Suppose further that the exchange rate is only slightly above the point at which the country's monetary authorities would have to buy foreign exchange, if offered, in order to prevent the exchange rate from shifting outside of acceptable limits.

Now suppose the equilibrium is disturbed. Specifically, assume that the central bank in an American country undertakes open market purchases in order to expand its money supply. With capital perfectly mobile, the slightest tendency for interest rates to fall in the American country's money market is prevented by the flow of capital across the Atlantic in search of higher yields. This flow of capital into the European country will expand demand deposits and commercial bank reserves. But the central bank of the European country knows immediately that commercial bank reserves are rising. To eliminate the primary expansion and to prevent a secondary expansion of the money supply, and thus a fall in interest rates, the European country's central bank sells open market paper in an amount equal to the inflow of foreign exchange.

Suppose that the frustrated central bankers in the American country continue to inject new reserves into their banking system, capital continues to flow across the Atlantic, and central bankers in the European country continue to react by destroying the newly created reserves and money supply. With capital perfectly mobile, it might appear that this process could go on for ever. On both sides of the Atlantic, every attempt to achieve an effective monetary policy would be frustrated by the international flow of capital.

Alternatively, we may suppose that the initial equilibrium in the European country is disturbed by an autonomous increase in

No. 4, November, 1963, p. 479. Also see EGON SOHMEN, *International Monetary Problems and the Foreign Exchanges*, Princeton Special Papers in International Economics, April, 1963, No. 4, p. 53.

commodity exports, or in direct investment by Americans not involving the importation of American goods and services. The rise in exports has the same monetary effects as the capital inflow assumed in the previous case. Open market sales are conducted but every sale attracts an equivalent increase in the supply of foreign capital. Hence, the European central bank's attempts to offset the inflationary effects of the autonomous increase in expenditures are frustrated, again by the inflow of foreign capital.

Does the importation of foreign capital necessarily act as an external constraint on the effective pursuit of domestic monetary policy? A negative response to this question follows upon a closer examination of the assumption of capital mobility. Here, a crucial distinction must be made. *Perfect capital mobility does not mean a perfectly elastic supply of capital.* If capital is perfectly mobile, it is free to move across national boundaries without restriction. Perfect capital mobility is a necessary condition for the existence of an external constraint upon the effective use of domestic monetary policy. It is *not* a sufficient condition. The assumption of a perfectly elastic supply of capital provides the sufficient condition. This assumption, however, is not realistic; and on this fact the argument of the external constraint falls.

Capital is unique in that its intangible counterpart is not subject to the homogeneity characteristics which are more appropriate when used in connection with other factors of production. Specifically, the issuance of paper claims by a particular enterprise changes the inherent quality of outstanding claims because of the balance sheet effects entailed. In other words, the debt-equity ratio increases as additional debt instruments are sold. Consequently, the riskiness of the new, as well as outstanding, claims increases. The principle involved here has a balance-of-payments application.

Suppose that the European country is attempting to impose a deflationary monetary policy, but each restrictive move is vitiated by the importation of foreign capital. At some point in the process, the conventional wisdom of foreign capitalists will induce them to stop shifting capital to Europe. One of the key ratios in the evaluation of the ability of a country to bear foreign debts is the ratio of its debt service to its current account earnings. This ratio will grow faster, the larger the central bank's open market sales, because larger sales will attract more capital. Eventually, foreigners will

insist on higher rates of interest on investments in the European country than elsewhere. The European country will be able to raise its interest rates above those in the rest of the world, and inflation can be prevented. All that is required is that the European central bank pursue a vigorous monetary policy (14).

With the pursuit of vigorous monetary policy other ratios employed in the evaluation of a country's ability to service external debt will also deteriorate. These include, assuming that money income of the nation does not rise, the ratio of debt service to government revenues, to national savings, and to " compressible " imports. The only ratio that will improve is that of gold and foreign exchange reserves to imports, and even this improvement depends on what, if any, liabilities are counted against gross gold and foreign exchange assets. Disagreement exists on how best to measure international liquidity (15).

IV. Conclusion

It has been the purpose of this paper to examine the conditions under which the effective execution of domestic monetary policy is hampered by a balance-of-payments surplus. In finding that under certain conditions neither internal nor external constraints vitiate effective monetary action, we are not dissenting from the view that a lack of coordination of national monetary policies in an integrated financial system may result in balance-of-payments disequilibria. What we do question is the assertion that freedom of capital movements in a fixed exchange rate system necessarily eliminates the possibility of conducting national monetary policies.

Nor do we wish it to be inferred from our analysis that we favor the use of monetary policy as the primary weapon to be used to achieve domestic economic objectives.

The effective simultaneous achievement of the various goals of economic policy require the mobilization of most, if not all, of the

(14) This will entail a larger burden on the European country than the American; for even if the European central bank invests its foreign balances rather than holding them idle or converting them into gold, the investment outlet will typically consist of relatively low yielding money market paper.

(15) Fritz Machlup, *Plans for Reform of the International Monetary System* (Princeton: International Finance Section, 1964), n. 4.

available instruments. Mr. Roosa is surely right when he says in the above noted speech " that we must try to develop new methods, or new combinations of old methods, among most of the more industrialized countries..." (16).

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(16) *Op. cit.*, p. 12. It is interesting to note that there is inherent in the imported inflation model a development that eventually forces the surplus country into a tighter fiscal position. This effect relies on the differential investment returns received by the countries concerned. The American capital which flows into Europe will be owned by private individuals and presumably will be invested in relatively high yielding securities or undertakings in Europe. The foreign exchange increment owned by the European country's central bank, on the other hand, will either be invested in relatively low-yielding money market paper, held in idle balances, or converted into gold. To meet the rising net interest payments to foreigners, the European country must levy higher taxes (barring an infinite increase in the national debt).