CAPITAL MOBILITY AND STABILIZATION POLICY UNDER FIXED AND FLEXIBLE EXCHANGE RATES[*]

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THE world is still a closed economy, but its regions and countries are becoming increasingly open. The trend, which has been manifested in both freer movement of goods and increased mobility of capital, has been stimulated by the dismantling of trade and exchange controls in Europe, the gradual erosion of the real burden of tariff protection, and the stability, unparalleled since 1914, of the exchange rates. The international economic climate has changed in the direction of financial integration[1] and this has important implications for economic policy.

My paper concerns the theoretical and practical implications of the increased mobility of capital. In order to present my conclusions in the simplest possible way, and to bring the implications for policy into sharpest relief, I assume the extreme degree of mobility that prevails when a country cannot maintain an interest rate different from the general level prevailing abroad. This assumption will overstate the case but it has the merit of posing a stereotype towards which international financial relations seem to be heading. At the same time it might be argued that the assumption is not far from the truth in those financial centres, of which Zurich, Amsterdam, and Brussels may be taken as examples, where the authorities already recognize their lessening ability to dominate money market conditions and insulate them from foreign influences. It should also have a high degree of relevance to a country like Canada whose financial markets are dominated to a great degree by the vast New York market.

I. METHOD OF ANALYSIS

The assumption of perfect capital mobility can be taken to mean that all securities in the system are perfect substitutes. Since different currencies are involved this implies that existing exchange rates are expected to persist indefinitely (even when the exchange rate is not pegged) and that spot and

[1]See James C. Ingram, "A Proposal for Financial Integration in the Atlantic Community," Joint Economic Committee print, Nov. 1962, for a valuable analysis of financial integration under fixed exchange rates; Harry G. Johnson, "Equilibrium under Fixed Exchange Rates," *American Economic Review*, LIII, May, 1963, 112–19, for a discussion of some of the advantages of closing the exchange rate margins; C. P. Kindleberger, "European Economic Integration and the Development of a Single Financial Center for Long-Term Capital," *Weltwirtschaftliches Archiv*, Band 90, 1963, Heft 2, 189–210, for a discussion of competition among financial centres as integration proceeds; and A. N. McLeod, "Credit Expansion in an Open Economy," *Economic Journal*, LXII, Sept., 1962, 611–40, for a theoretical discussion of related topics.

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forward exchange rates are identical. All the complications associated with speculation, the forward market, and exchange rate margins are thereby assumed not to exist.

In order to focus attention on policies affecting the level of employment, I assume unemployed resources, constant returns to scale, and fixed money wage rates; this means that the supply of domestic output is elastic and its price level constant. I further assume that saving and taxes rise with income, that the balance of trade depends only on income and the exchange rate, that investment depends on the rate of interest, and that the demand for money depends only on income and the rate of interest. My last assumption is that the country under consideration is too small to influence foreign incomes or the world level of interest rates.

Monetary policy will be assumed to take the form of open market purchases of securities, and *fiscal policy* the form of an increase in government spending (on home goods) financed by an increase in the public debt. Floating exchange rates result when the monetary authorities do not intervene in the exchange market, and fixed exchange rates when they intervene to buy and sell international reserves at a fixed price.

TABLE I

Market Sector	Goods		Securities		Money		International Reserves	
Government	$T-G$	+	Government Borrowing	+	Government Dishoarding	+	*1	= 0
	+		+		+		+	+
Private	$S-I$	+	Private Borrowing	+	Private Dishoarding	+	*2	= 0
	+		+		+		+	+
Foreign	$M-X$	+	Capital Outflow	+	*3	+	Increase in Reserves	= 0
	+		+		+		+	+
Banking	*4	+	Open Market Sales	+	Monetary Expansion	+	Foreign Exchange Sales	= 0
	‖	+	‖	+	‖	+	‖	= ‖
	0		0		0		0	0

*Negligible or ignored items: (1) would refer to Treasury holdings of foreign exchange; (2) to the non-bank public's holdings of foreign exchange; (3) to foreigners' holdings of domestic money (domestic currency is not a "key" currency); and (4) to the net contribution of the banking system to goods account. In the analysis government dishoarding will also be assumed zero.

Note that if the entries are defined as *ex ante* or *planned* magnitudes both the horizontal and vertical sums to zero are *equilibrium conditions*, but if they are defined as *ex post* or *realized* magnitudes the sums to zero are *identities*. Note also that the rows could be disaggregated, making special distinctions between households and firms, commercial and central banks, etc., down to each individual spending unit, just as the columns could be multiplied to distinguish between different classes of goods, money, and securities.

It will be helpful, in the following discussion, to bear in mind the distinction between conditions of *sectoral* and *market* equilibria (illustrated in the table). There is a set of sectoral restraints (described by the rows in the table) which show how expenditure in each sector of the open economy is financed: a budget deficit $(G-T)$ in the *government* sector is financed by an increase in the public debt or a reduction in government cash balances (dishoarding); an excess of investment over saving $(I-S)$ in the *private* sector is financed by net

private borrowing or a reduction in privately-held money balances; a trade balance deficit ($M - X$) in the *foreign* sector[2] is financed by capital imports or a reduction in international reserves; and, finally, an excess of purchases over sales of domestic assets of the banking sector is financed by an increase in the monetary liabilities of the banking system (the money supply) or by a reduction in foreign exchange reserves. For simplicity of exposition, I shall assume that there is, initially, no lending between the sectors.

There is also a set of market restraints (described by columns in the table) which refer to the condition that demand and supply of each object of exchange be equal. The *goods and services* market is in equilibrium when the difference between investment and saving is equal to the sum of the budget surplus and the trade balance deficit. The *capital* market is in equilibrium when foreigners and domestic banks are willing to accumulate the increase in net debt of the government and the public. The *foreign exchange* market is in equilibrium when the actual increase in reserves is equal to the rate (which may be positive or negative) at which the central bank wants to buy reserves.[3] And the *money* market is in equilibrium when the community is willing to accumulate the increase in the money supply offered by the banking system. I shall also assume that, initially, each market is in equilibrium.

II. Policies under Flexible Exchange Rates

Under flexible exchange rates the central bank does not intervene to fix a given exchange rate, although this need not preclude autonomous purchases and sales of foreign exchange.

Monetary Policy. Consider the effect of an open market purchase of domestic securities in the context of a flexible exchange rate system. This results in an increase in bank reserves, a multiple expansion of money and credit, and downward pressure on the rate of interest. But the interest rate is prevented from falling by an outflow of capital, which causes a deficit in the balance of payments, and a depreciation of the exchange rate. In turn, the exchange rate depreciation (normally) improves the balance of trade and stimulates, by the multiplier process, income and employment. A new equilibrium is established when income has risen sufficiently to induce the domestic community to hold the increased stock of money created by the banking system. Since interest rates are unaltered this means that income must rise in proportion to the increase in the money supply, the factor of proportionality being the given ratio of income and money (income velocity).

In the new equilibrium private saving and taxes will have increased as a consequence of the increase in income, and this implies both net private lending and retirement of government debt. Equilibrium in the capital market then requires equality between the sum of net private lending plus debt retirement, and the rate of capital exports, which in conjunction with the

[2]The foreign sector refers to all the transactions of the country as a whole with respect to the outside world.

[3]For certain purposes it would be more elegant to define a separate market for foreign goods as distinct from domestic goods, but the present approach is satisfactory for the purpose on hand.

requirement of balance of payments equilibrium, implies a balance of trade surplus. Monetary policy therefore has a strong effect on the level of income and employment, not because it alters the rate of interest, but because it induces a capital outflow, depreciates the exchange rate, and causes an export surplus.[4]

It will now be shown that central bank operations in the foreign exchange market ("open market operations" in foreign exchange) can be considered an alternative form of monetary policy. Suppose the central bank buys foreign reserves (gold or foreign currency) with domestic money. This increases bank reserves, causing a multiple expansion of the money supply. The monetary expansion puts downward pressure on the interest rate and induces a capital outflow, further depreciating the exchange rate and creating an export surplus, which in turn increases, through the multiplier effect, income and employment. Eventually, when income has increased sufficiently to induce the community to hold the increased stock of money, the income-generating process ceases and all sectors are again in equilibrium, with the increased saving and taxes financing the capital outflow. This conclusion is virtually the same as the conclusion earlier reached regarding monetary policy, with the single important difference that *foreign* assets of the banks are increased in the case of foreign exchange policy while *domestic* assets are increased in the case of monetary policy. Foreign exchange policy, like monetary policy, becomes a forceful tool of stabilization policy under flexible exchange rates.

Fiscal Policy. Assume an increase in government spending financed by government borrowing. The increased spending creates an excess demand for goods and tends to raise income. But this would increase the demand for money, raise interest rates, attract a capital inflow, and appreciate the exchange rate, which in turn would have a depressing effect on income. In fact, therefore, the negative effect on income of exchange rate appreciation has to offset exactly the positive multiplier effect on income of the original increase in government spending. Income cannot change unless the money supply or interest rates change, and since the former is constant in the absence of central bank action and the latter is fixed by the world level of interest rates, income remains fixed. Since income is constant, saving and taxes are unchanged, which means, because of the condition that the goods market be in equilibrium, that the change in government spending is equal to the import surplus. In turn, the flexible exchange rate implies balance of payments equilibrium and therefore a capital inflow equal to the import surplus. Thus, both capital and goods market equilibria are assured by equality between the rate of increase in the public debt and the rate of capital imports, and between the budget deficit and the import surplus. Fiscal policy thus completely loses its force as a domestic stabilizer when the exchange rate is allowed to fluctuate and the money supply is held constant. Just as monetary policy derives its importance as a domestic stabilizer from its influence on capital flows and the exchange rate, so fiscal policy is frustrated in its effects by these same considerations.

[4]Richard E. Caves arrives at essentially the same result in his paper, "Flexible Exchange Rates," *American Economic Review*, LIII, May, 1963, 120–29.

III. Policies under Fixed Exchange Rates

Under fixed exchange rates the central bank intervenes in the exchange market by buying and selling reserves at the exchange parity; as already noted the exchange margins are assumed to be zero.

Monetary Policy. 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.

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: the central bank has simply traded domestic assets for foreign assets.

Fiscal Policy. Assume an increase in government spending superimposed on the foreign exchange policy of pegging the exchange rate. The increased spending has a multiplier effect upon income, increasing saving, taxes, and imports. Taxes increase by less than the increase in government spending so the government supplies securities at a rate equal to the budget deficit, whereas the private sector absorbs securities at a rate equal to the increase in saving.

After the new equilibrium is established both the goods and capital markets must be in balance. In the goods market the budget deficit has as its counterpart the sum of the excess of private saving over investment and the balance of trade deficit, which implies that the induced balance of trade deficit is less than the budget deficit. In the capital market the private and foreign sectors must be willing to accumulate the new flow of government issues. But since the excess private saving is equal to the flow of private lending, and since the budget deficit equals the flow of new government issues, capital market equilibrium requires that the import deficit be exactly balanced by a capital inflow, so that there is balance of payments equilibrium after all adjustments have taken place.

There will nevertheless be a change in foreign exchange reserves. Before the flow equilibrium is established the demand for money will increase, at a constant interest rate, in proportion to the increase in income. To acquire the needed liquidity the private sector sells securities and this puts upward pressure on the interest rate, and attracts foreign capital. This improves the balance of payments temporarily, forcing the central bank to intervene by buying foreign reserves and increasing the money supply. The money supply

is therefore increased indirectly through the back door of exchange rate policy. Foreign exchange reserves accumulate by the full amount of the increased cash reserves needed by the banking system to supply the increased money demanded by the public as a consequence of the increase in income.

IV. OTHER POLICY COMBINATIONS

Other cases deserve attention in view of their prominence in policy discussions. In the following cases it is assumed that exchange rates are fixed.

Central Bank Financing of Fiscal Deficits. An important special case of combined operations of monetary, fiscal, and exchange policies is central bank financing of budget deficits under fixed exchange rates. As before, the increase in government spending yields a multiplier effect on income. In the new equilibrium there is a budget deficit, an excess of saving over investment, and a balance of trade deficit. The government issues securities at a rate equal to the budget deficit and these are (by assumption) taken up by the central bank. Capital market equilibrium therefore requires that the net flow demand for securities on the part of the private sector be equal to the net capital outflow.

It is easy to see that in the new equilibrium the balance of payments deficit and the consequent rate at which reserves are falling is exactly equal to the budget deficit and to the rate at which the central bank is buying government securities. Since the capital outflow is equal to the excess of saving over investment, and the loss of reserves is equal to the balance of payments deficit, which is the sum of the trade deficit and the capital outflow, reserves fall at a rate equal to the sum of the import deficit and the excess of saving over investment. Then since this sum equals the budget deficit, by the condition of equilibrium in the goods market, it follows that reserves fall at a rate equal to the budget deficit. The budget deficit is entirely at the expense of reserves.

There is, however, in this instance too an initial stock adjustment process. As income increases the demand for money grows, the private sector dispenses with stocks of securities, causing a capital inflow and an increase in reserves. This increase in reserves is a once-for-all inflow equal to the increase in cash reserves necessary for the banks to satisfy the increased demand for money. The rate of fall in reserves takes place, therefore, from a higher initial level.

The Special Case of Sterilization Operations. Sterilization (or neutralization) policy is a specific combination of monetary and exchange policy. When the central bank buys or sells foreign exchange the money supply increases or decreases, and the purpose of sterilization policy is to offset this effect. The mechanism is for the central bank to sell securities at the same rate that it is buying foreign exchange, and to buy securities at the same rate that it is selling foreign exchange. In reality, therefore, neutralization policy involves an exchange of foreign reserves and bonds. The exchange rate is stabilized by buying and selling reserves in exchange for securities.

Suppose the government increases spending during a time when neutralization policy is being followed. The increase in spending would normally have a multiplier effect on income. But this would increase the demand for money

and put upward pressure on interest rates as the private sector dispenses with holdings of securities; this would cause a capital inflow and induce a balance of payments surplus. But now the authorities, in their rate-pegging operation, buy foreign exchange and simultaneously sell securities, thus putting added pressure on interest rates and accelerating the inflow of capital without satisfying the increased demand for money. The system has now become inconsistent, for goods market equilibrium requires an increase in income, but an increase in income can only take place if either the money supply expands or interest rates rise. The capital inflow prevents interest rates from rising and the neutralization policy inhibits the money supply from expanding. Something has to give, and it must either be the money supply or the exchange rate. If the central bank sells securities at the same rate as it is buying reserves, it cannot buy reserves at a rate fast enough to keep the exchange rate from appreciating. And if the central bank buys reserves at a rate fast enough to stabilize the exchange rate, it cannot sell securities fast enough to keep the money supply constant. Either the exchange rate appreciates or money income rises.

In a similar way it can be shown that, from an initial position of equilibrium, open market operations (monetary policy) lead to an inconsistent and over-determined result. A purchase of securities by the central bank would cause a capital outflow, balance of payments deficit, and sales of foreign exchange by the central bank. The restrictive monetary impact of the foreign exchange sales are then offset by further open market purchases which induce further sales of foreign exchange. The process repeats itself at an accelerating speed. There is no new equilibrium because the public wants to hold just so much money, and the central bank's attempt to alter this equilibrium simply results in a fall in reserves. The sterilization procedures merely perpetuate the self-generating process until exchange reserves are exhausted, or until the world level of interest rates falls.

V. DIAGRAMMATIC ILLUSTRATION

These results can be illustrated by diagrams similar to those I have used for analysis of related problems.[5] In the top quadrant of both Figures 1 and 2,

[5]"The Appropriate Use of Monetary and Fiscal Policy for Internal and External Stability," *IMF Staff Papers*, IX, no. 1, March, 1962; "The International Disequilibrium System," *Kyklos*, XIV, no. 2, 1961, 153–72; and "Employment Policy Under Flexible Exchange Rates," this JOURNAL, XXVII, no. 4, Nov., 1961, 509–17. In the latter paper (the main purpose of which was to show that commercial policy—import restriction or export promotion—was ineffective under flexible exchange rates) it was argued that *both* monetary and fiscal policies are more effective under flexible exchange rates than under fixed exchange rates. The apparent conflict with the present analysis lies in the different definition of monetary and fiscal policy and in the extreme assumption in the present paper of perfect capital mobility. In the earlier paper fiscal policy was taken to be an increase in government spending with interest rates maintained constant by the central bank, while capital inflows were assumed to be a function of the rate of interest alone; in other words no capital inflow takes place (because the domestic interest rate is constant) while the money supply is allowed to expand in proportion to the increase in income induced by the more expansive fiscal policy. In the present paper, I have defined fiscal policy as an increase in government spending financed by government bond issues with *no* change in the money supply. In both cases the underlying model is (in essence) the same

XX plots the relation between the interest rate and income (given the exchange rate) along which there is no excess demand in the goods and services market (internal balance); *LL* describes a similar relation for the money market; and *FF* gives the external balance condition which is dominated by the world level of interest rates. Analogously in the bottom quadrants, *XX* plots internal balance, and *FF* external balance as a function of income and the exchange rate. The internal balance line in the top quadrant applies only for the given exchange rate represented by π_0 in the bottom quadrant, and the external balance schedule in the bottom quadrant applies only for the initial rate of capital imports (assumed to be zero).

Consider the effects of monetary policy (Figure 1). From *Q* an increase in the money supply shifts *LL* in the upper quadrant to *L'L'*, implying at the original interest rate and income level (at *Q*) excess liquidity; this causes a capital outflow. Under flexible exchange rates *FF* in the lower quadrant shifts downward to *F'F'*, and the improvement in the trade balance increases income and employment as *XX* in the top quadrant is pushed by the devaluation towards *X'X'*. The new equilibrium is at *P*, with an improved trade balance and greater capital outflow (or lessened inflow).

With the exchange rate fixed at π_0, however, the increase in the money supply merely creates excess liquidity, an export of capital, a balance of payments deficit, and a reduction in the money supply with no shift in *XX* in the top quadrant. The line *L'L'* returns to its original position and *Q* is restored as equilibrium at a lower level of reserves; *Q* is the only possible equilibrium consistent with both *FF* and *XX* so the money supply will adapt to it if it is allowed to. But if the increase in the money supply is accompanied by *sterilization* operations, that is, if *L'L'* is maintained, there can be no equilibrium. The central bank buys securities, gold flows out, and the central bank buys more securities. Since the exchange rate is maintained at π_0, *XX* in the top quadrant

and would yield the same results if the same assumptions were made about capital mobility and the same definitions were used.

It may puzzle the reader why I went to some length to alter the definitions of monetary and fiscal policy and thus to bring about a seemingly artificial difference between the conclusions based purely upon different definitions. The reason is that monetary policy cannot in any meaningful sense be defined as an alteration in the interest rate when capital is perfectly mobile, since the authorities cannot change the market rate of interest. Nor can monetary policy be defined, under conditions of perfect capital mobility, as an increase in the money supply, since the central bank has no power over the money supply either (except in transitory positions of disequilibrium) when the exchange rate is fixed. The central bank has, on the other hand, the ability to conduct an open market operation (which only temporarily changes the money supply) and that is the basis of my choice of this definition of monetary policy for the present analysis.

In an earlier paper I analysed some of the purely dynamic aspects of the adjustment process ("The Monetary Dynamics of International Adjustment Under Fixed and Flexible Exchange Rates," *Quarterly Journal of Economics*, May, 1960, 227–57) on varying assumptions regarding capital mobility, but the treatment of the perfect capital mobility case in that paper suffers from the defects I have tried to avoid in this paper by my different definition of "monetary policy." However, the basic conclusions of that paper are not vitiated by the present analysis since the basic problem posed, in the flexible exchange rate case, that "monetary policy" exerts its influence on domestic incomes only indirectly through the exchange rate, still remains, with possibilities of cyclicity and even instability depending on the adjustment speeds; in the present case it can be shown that instability at least would be ruled out if the exchange rate adapted virtually instantaneously.
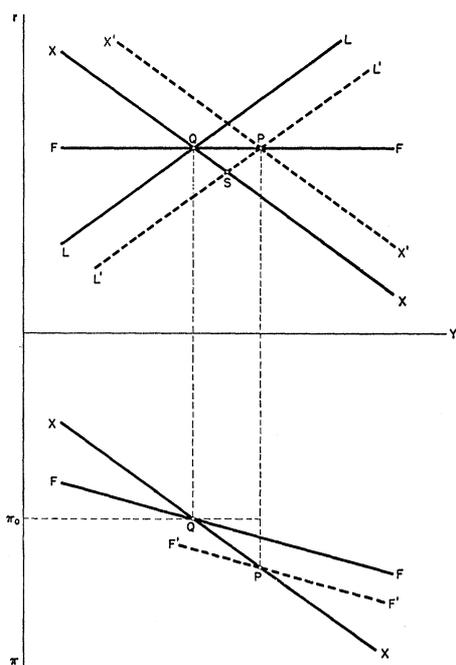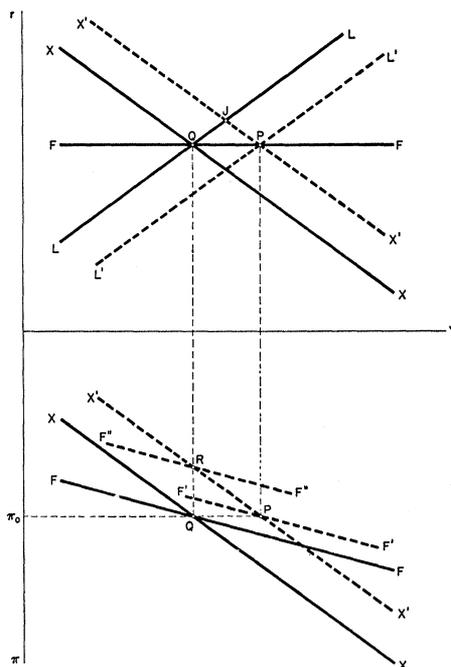
Figure 1. Monetary Policy

Figure 2. Fiscal Policy

is unaffected, as is FF. The attempt of the central bank to maintain $L'L'$ cannot satisfy both the conditions that the interest rate remains at the world level and that the new equilibrium be on XX. Either the exchange rate must change (shifting XX to $X'X'$) or the attempt to maintain $L'L'$ by sterilization operations must be abandoned.

Consider next the case of fiscal policy (Figure 2). An increase in government spending shifts XX to $X'X'$ in both quadrants. At the fixed exchange rate π_0 this increases income and increases the demand for money. Interest rates tend to rise, capital is attracted from abroad, the balance of payments improves and the money supply increases, eventually establishing $L'L'$ as the new money curve. After this instantaneous "stock adjustment," process capital is attracted from abroad sufficiently to establish $F'F'$ as the new foreign balance line, with the equilibrium P in both quadrants.

Under flexible rates, however, the money supply remains constant. The increased spending puts upward pressure on interest rates and appreciates the exchange rate. FF therefore shifts downward to $F''F''$ establishing R as the new equilibrium. At R the price of foreign exchange is lower but output and employment are unchanged.

Again, if the exchange rate is fixed *and* the authorities attempt to sterilize the initial gold inflow one of the policies must fail. This is because the new equilibrium (P) on FF and $X'X'$ in the upper quadrant is only consistent if the money supply is allowed to expand. Obviously the points J and P cannot be maintained simultaneously.

Certain qualifications or extensions to the analysis should be mentioned. The demand for money is likely to depend upon the exchange rate in addition to the interest rate and the level of income; this would slightly reduce the effectiveness of a given change in the quantity of money, and slightly increase the effectiveness of fiscal policy on income and employment under flexible exchange rates, while, of course, it has no significance in the case of fixed exchange rates.

Another possible influence is the real balance effect, but this cannot alter in any essential way the final result: income rises, under flexible exchange rates, in proportion to the increase in the money supply, whereas income remains unchanged, in the case of fixed exchange rates, because the quantity of money does not increase.

A further factor that might be considered is the negative effect of changes in the exchange rate upon the level of saving, but again there is no important alteration in the results: although the budget deficit arising from increased government spending under flexible exchange rates is then partly financed by an increase in saving of the private sector the conclusions regarding changes in the level of output and employment are unaltered.

The conclusions of course have not made any allowance for growth. Because of growth the money supply would normally be increased at a rate more or less commensurate with the actual or desired growth of the economy; my conclusions are, so to speak, superimposed on the growth situation. Moreover, many of our actual observations about the economic world are observations of disequilibrium positions; it is clearly possible to alter the money supply (under fixed exchange rates) if there is excess or deficient liquidity, although even this is in practice unnecessary since we can be assured, as we were as long ago as the days of Ricardo, that the money supply would automatically settle down to its equilibrium level. In any case these observations do not vitiate the principles I have been trying to elucidate.

CONCLUSIONS

I have demonstrated that perfect capital mobility implies different concepts of stabilization policy from those to which we have become accustomed in the post-war period. Monetary policy has no impact on employment under fixed exchange rates while fiscal policy has no effect on employment under flexible exchange rates. On the other hand, fiscal policy has a strong effect on employment under fixed exchange rates (simple Keynesian conclusions hold) while monetary policy has a strong effect on employment under flexible exchange rates (classical quantity theory conclusions hold).

A further implication of the analysis is that monetary policy under fixed exchange rates becomes a device for altering the levels of reserves, while fiscal policy under flexible exchange rates becomes a device for altering the balance of trade, both policies leaving unaffected the level of output and employment. Under fixed exchange rates, open market operations by the central bank result in equal changes in the gold stock, open market purchases causing it to decline and open market sales causing it to increase. And under flexible exchange

rates, budget deficits or surpluses induced by changes in taxes or government spending cause corresponding changes in the trade balance.

Gold sterilization policies make no sense in a world of fixed exchange rates and perfect capital mobility and will ultimately lead to the breakdown of the fixed exchange system. In the absence of gold sterilization, as we have seen, an attempt of the central bank to alter the money supply is frustrated by capital outflows and automatically offsetting monetary changes through the exchange equalization operations; this is running water into a sink that is filled to the brim, causing the water to spill over the edges at the same rate that it is coming out of the tap.[6] But sterilization operations are analogous to trying to prevent the water from spilling out, even though the sink is full and water is still pouring out of the tap.

If my assumptions about capital mobility were valid in Canada,[7] it would mean that expansive fiscal policy under flexible exchange rates was of little help in increasing employment because of the ensuing inflow of capital which kept the exchange rate high and induced a balance of trade deficit: we should have observed a zero or very small multiplier. By the same token, now that Canada has adopted a fixed exchange system, we should not reason from earlier negative experience about the size of the multiplier and conclude that the multiplier is *now* low: while a reduction in the budget deficit under flexible rates would have helped the trade balance without too much damage to employment, a reduction in the budget deficit today could be expected to have a sizable impact on excess demand and unemployment.

Of course the assumption of perfect capital mobility is not literally valid; my conclusions are black and white rather than dark and light grey. To the extent that Canada can maintain an interest rate equilibrium different from that of the United States, without strong capital inflows, fiscal expansion can be expected to play *some* role in employment policy under flexible exchange rates, and monetary policy can have *some* influence on employment and output under fixed exchange rates. But if this possibility exists for us today, we can conjecture that it will exist to a lesser extent in the future.

[6]John Exter used a reservoir simile in "The Gold Losses," a speech delivered before the Economic Club of Detroit, May 7, 1962.

[7]See the accounts of the Canadian experience by Clarence Barber in his submission to the Royal Commission on Banking and Finance, April, 1962, "The Canadian Economy in Trouble," and by Harry Johnson from his speech to the Canadian Club of Toronto, November, 1962, "Canada in a Changing World." Perhaps the most complete verification of the applicability of the conclusions to the Canadian case is provided in an econometric paper by R. Rhomberg to be published in the *Journal of Political Economy*.