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MONETARY AND FISCAL POLICIES
IN AN OPEN ECONOMY

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Monetary and Fiscal Policies in an Open Economy

ABSTRACT

The central theme of this paper is that international linkages between national economies influence, in fundamentally important ways, the effectiveness and proper conduct of national macroeconomic policies. Specifically, this paper summarizes the implications for the conduct of macroeconomic policies in open economies of both the traditional approach to open economy macroeconomics and of more recent developments. As recent experience demonstrates, no country is immune from disturbances originating in the rest of the world and no government can sensibly conduct its macroeconomic policy on the assumption that it operates in a closed economy. National economies are linked not only through the mechanism of the Keynesian foreign-trade multiplier but also through the complex of linkages implied by commodity trade, capital mobility and the exchange of national monies. These linkages are not properties of a particular model but implications of parity conditions and equilibrium requirements in goods and asset markets, income and balance sheets constraints, the absence of long-run money illusion, and consistency of expectations which impose important constraints on the conduct of macroeconomic policy in an open economy.

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The central theme of this paper is that international linkages between national economies influence, in fundamentally important ways, the effectiveness and proper conduct of national macroeconomic policies. Specifically, our purpose is to summarize the implications for the conduct of macroeconomic policies in open economies of both the traditional approach to open economy macroeconomics (as developed largely by James E. Meade, Robert A. Mundell and J. Marcus Fleming) and of more recent developments. Our discussion is organized around three key linkages between national economies: through commodity trade, through capital mobility, and through exchange of national monies. These linkages have important implications concerning the effects of macroeconomic policies in open economies that differ from the effects of such policies in closed economies.

Recent developments in the theory of macroeconomic policy have established conditions for the effectiveness of policies in influencing output and employment which emphasize the distinction between anticipated and unanticipated policy actions, the importance of incomplete information, and the consequences of contracts that fix nominal wages and prices over finite intervals. In this paper, we shall not analyze how these conditions are modified in an open economy. However, since our concern is with macroeconomic policy, a principal objective of which is to influence output and employment, we shall assume that requisite conditions for such influence are satisfied.

I. Commodity Market Linkages

International trade links the prices of goods produced and consumed in different national economies. This linkage has at least three implications for the conduct of macroeconomic policy in open economies.

First, according to the principle of purchasing power parity, the price level in one country (in terms of domestic money) should equal the price level in a foreign country (in terms of foreign money) multiplied by the exchange

rate between domestic money and foreign money. Because of transport costs, trade barriers, different weighting schemes for price indices and changes in relative prices of non-traded goods, this link is not rigid; but the evidence indicates that this principle holds fairly well over long time periods (though it has weakened during the 1970s). The key implication of purchasing power parity is that a country cannot choose its long-run inflation rate independently of its long-run monetary policy and the long-run behavior of its exchange rate. A country, particularly a small country, that fixes the exchange rate between its domestic money and the money of some foreign country will experience a domestic inflation rate and a domestic rate of monetary expansion that are strongly influenced by the monetary policy of that foreign country. This is so even if changes in real economic conditions (which are largely independent of domestic monetary policy) induce divergences from strict purchasing power parity.

Second, the world monetary system and the conduct of national monetary policies must allow for changes in equilibrium relationships between national price levels induced by changes in relative prices of internationally traded goods and of non-tradable goods. To maintain a system of fixed exchange rates, changes in equilibrium relationships among national price levels must be accommodated by differentials among national inflation rates, supported by appropriate national economic policies. Under a system of controlled or managed floating, it is essential that countries either allow their inflation rates or the rates of change of exchange rates to accommodate equilibrium changes in relative national price levels. A rule that links changes in the exchange rates rigidly to changes in domestic and foreign prices, in accord with relative purchasing power parity, is not consistent with this requirement.

Third, macroeconomic policy can do little to offset changes in equilibrium levels of real income resulting from changes in relative prices of internationally traded goods. A case in point is the recent increase in the relative price of

oil. Monetary policy can influence the extent to which the increase in the relative price of oil affects general price levels and perhaps short-run levels of employment in oil exporting and oil importing countries. Tax and expenditure policy can affect the extent to which gains and losses of real income are translated into changes in real expenditure, or are financed by changes in foreign lending and borrowing. By influencing the level and distribution of real expenditure, fiscal policy can also affect the relative prices of non-tradable commodities and the distribution of the change in real national income among individuals within the economy. However, neither monetary nor fiscal policy can alter to any appreciable extent the average change in the long-run level of real expenditure resulting from a change in the relative prices of internationally traded commodities that are beyond the control of national economic policies.

II. Capital Market Linkages

International capital mobility links interest rates on financial assets denominated in different national monies through the interest parity relationship. This relationship requires that interest differentials between securities denominated in different currencies equal the forward discount or premium on foreign exchange. The empirical evidence indicates that this relationship holds almost exactly for easily tradable securities identical in all respects except currency of denomination, but somewhat less well for assets exchanged primarily in national credit markets (see Robert Z. Aliber, Michael Dooley and Peter Isard, and Jacob A. Frenkel and Richard M. Levich). International capital mobility also allows countries to finance imbalances in their current accounts and thus provides an important channel for the international transmission of macroeconomic disturbances. The linkage of interest rates through interest parity and the transmission of macroeconomic disturbances through international

capital flows have significant implications for the conduct of macroeconomic policy in open economies.

International capital mobility imposes a severe constraint on the use of monetary policy for domestic stabilization purposes. Under a fixed exchange rate, an increase in the domestic credit component of the money supply in a small open economy may temporarily reduce interest rates on domestic securities, but it will induce a capital outflow and a corresponding loss of foreign exchange reserves that will rapidly reduce the money supply back to its previous equilibrium level. Monetary expansion by a large country, which affects conditions in world financial markets, can be somewhat more effective in influencing domestic prices, output and employment. However, even a large country will suffer a loss of foreign exchange reserves that is inversely related to its size in the world economy. Sterilization operations of a central bank may temporarily insulate the domestic money supply from changes in foreign exchange reserves; but, in the long run, sterilization cannot sustain a money supply that differs from the equilibrium level of money demand. Under a flexible exchange rate, a government regains long-run control over the nominal money supply. However, international capital mobility still limits the effectiveness of monetary policy: Any increase in aggregate demand induced by lower domestic interest rates is partially dissipated in increased expenditures on imported goods, financed by international capital flows; and exchange rate adjustments that occur rapidly in response to perceived changes in monetary policy are likely to lead to rapid adjustments of domestic prices and wage rates, thereby limiting the effect of monetary policy on output and employment.

A high degree of capital mobility also implies a low degree of effectiveness of fiscal policy. Under a flexible exchange rate, a fixed domestic money supply and a domestic interest rate fixed by conditions in world markets (and by exchange rate expectations which affect the forward discount or premium on

foreign exchange) impose a strict constraint on the level of domestic income that is consistent with monetary equilibrium. Fiscal policy actions do not affect this constraint (except possibly by altering exchange rate expectations) and, hence, cannot affect the equilibrium level of domestic income. Under a fixed exchange rate, the money supply is not fixed because the capital inflow induced by an expansionary fiscal policy will increase the foreign exchange reserves of the monetary authority. The initial expansionary effect of any fiscal stimulus, however, is limited by the extent to which it falls on domestically produced goods that are not close substitutes for imports; and the subsequent multiplier effects of any fiscal stimulus are limited by the high marginal propensity to spend on internationally traded goods.

To achieve the maximum effect from fiscal and monetary policy in open economies, it follows that such policies should be directed toward goods and assets that are isolated from world trade, that is, toward goods and assets for which the home country is "large" relative to the size of the market. Changes in government expenditures on non-tradable goods are likely to be more effective in influencing domestic output and employment than changes in government expenditure on internationally traded goods. Similarly, open market operations involving financial assets that are not close substitutes for international financial assets are more likely to influence interest rates and thus other macroeconomic variables [see Rudiger Dornbusch, William Branson and Russell Boyer]. This does not imply, however, that it is desirable to artificially restrict trade and capital movements in order to enhance the effectiveness of macroeconomic policy. Such restrictions have an important cost in terms of reducing the benefits that a country derives from integration of markets. Moreover, substitution possibilities among goods and among financial assets limit the effectiveness of restrictions on trade and capital movements. As many policymakers have discovered, using macroeconomic policy for domestic stabilization

objectives in an open economy is like trying to heat a house when the doors and windows are open and the cold wind is blowing.

Finally, international capital mobility implies that current account imbalances can be financed by capital movements, independent of the government's willingness to allow changes in its foreign exchange reserves. Hence, with capital mobility, the current account which measures both the net contribution of the foreign sector to aggregate demand for domestically produced goods and the change in a country's net debtor position, is always a concern of macroeconomic policy, regardless of the exchange rate regime. As emphasized by the absorption approach to the balance of payments [see Sidney Alexander and Harry G. Johnson (1958)], the current account is equal to the excess of national income over national expenditure. It follows that the policies required to bring about an improvement in the current account are not primarily commercial policies that affect the domestic relative prices of imported goods, but monetary and especially fiscal policies that stimulate private saving and that reduce the government's own excess of spending over income.

III. Monetary Linkages

The concept of monetary equilibrium as requiring equality between the demand and supply of money, is a basic ingredient in both closed and open economy macroeconomic theory. It implies that any change in the supply of money or any exogenous disturbance to money demand must lead to changes in the equilibrium values of one or more of the variables that influence money demand. It also implies that any disturbance or policy action that does not directly affect the demand or supply of money must, in equilibrium, lead to offsetting changes in the variables that influence money demand that are consistent with a constant level of that demand.

The implications of monetary equilibrium for the macroeconomic policy

of an open economy operating under a fixed exchange rate are reflected in the principles of the monetary approach to the balance of payments [see Michael Mussa (1974) and the articles in Frenkel and Johnson (1976)]. Specifically, the use of monetary policy for domestic stabilization purposes is constrained by the equilibrium level of the demand for money which is largely beyond the control of the monetary authority. An expansion of the domestic credit component of the money supply may temporarily raise prices (especially of non-traded goods), raise output (especially in industries with sticky wages and prices), and reduce interest rates (especially for domestic securities sheltered from world financial markets). In the longer run, however, the direct effect of monetary expansion on desired spending and on desired portfolio reallocations, and the indirect effects of changes in prices and interest rates will induce deficits in the current and capital accounts of the balance of payments. Hence the foreign exchange reserve component of the money supply will decline until the money supply is reduced to the long-run equilibrium level of money demand. For a large country, the long-run equilibrium level of money demand may be influenced by the effect of domestic monetary expansion on the world price level. However, except for a reserve currency country, whose national money is accepted as a foreign exchange reserve by other countries, the principal long-run effect of monetary policy will be on the composition of assets on the central bank's balance sheet rather than on the magnitude of its monetary liabilities. Further, other economic policies affect a country's foreign exchange reserves (and hence its cumulative official settlements balance) only to the extent that they affect the demand to hold domestic money. For example, an import tariff can induce a once-and-for-all increase in the level of reserves to the extent that it increases the domestic price level and thus the demand to hold domestic money. But, it cannot induce a continuing inflow of foreign exchange reserves by reducing imports relative to exports [see Mussa (1974)].

The requirements of monetary equilibrium also constrain economic policy under a flexible exchange rate. A flexible exchange rate is not an additional policy tool that can be manipulated by the government, but rather an endogenous variable that is determined by market forces which are influenced by the actual and expected conduct of fiscal and, especially, monetary policy. In particular, from the homogeneity postulate, it follows that, other things constant, in the long run, changes in the nominal money supply will lead to proportionate changes in all nominal prices, including the price of foreign exchange. This is one of the fundamental tenets of the monetary approach to exchange rates [see Frenkel and Johnson (1978)].

Other important implications of this approach follow from the essential dynamic linkage between current exchange rates and expectations of future exchange rates implied by international mobility of financial assets denominated in different national monies.¹ First, since future government policies will influence future exchange rates, it follows that expectations concerning future policies should influence current exchange rates. Hence, the effect of any particular policy action on exchange rates (and through exchange rates on other macroeconomic variables) will depend on its effect on expectations concerning future policy actions. Second, the sensitivity of exchange rates to expectations of future policy implies that the traditional approach to macroeconomic policy analysis, which views policy as isolated actions in response to particular circumstances, is inappropriate. Instead, it is necessary to analyze the general framework of government policy, within which the effect of any particular action depends on the public's perception of the implications of that action for the future conduct of policy. Third, since exchange rates respond quickly to new information about events likely to affect foreign exchange markets, exchange rate adjustments are an important channel for rapid transmission of macroeconomic disturbances and of government policies. In particular, new information that leads

to the expectation of a higher rate of inflation is likely to induce an immediate depreciation of the foreign exchange value of domestic money which will be rapidly translated into increased domestic prices of internationally traded commodities. In addition, exchange rate depreciation may serve as a signal for upward adjustments in the prices of domestic goods and in wage rates. Fourth, if there is short-run stickiness of prices of domestic goods in terms of national monies, then rapid exchange rate adjustments will induce changes in the relative prices of different national outputs. Such relative price changes are a desirable response to changing real economic conditions requiring adjustments of relative prices; and a flexible exchange rate regime may have an important advantage in facilitating such adjustments. However, unnecessary changes in relative prices in response to purely monetary disturbances may have significant social costs that can be avoided or reduced by pursuing monetary policies that are not themselves an independent source of monetary disturbances and that offset, as much as possible, exogenous fluctuations in money demands. Fifth, official intervention in foreign exchange markets, which alters only the supplies of non-monetary assets available to the public, may have a limited influence on exchange rates through portfolio balance effects. In addition, such intervention may have a more powerful effect on exchange rates by signaling to the public the intentions of governments concerning future policies. Finally, exchange rates may be useful as an indicator for monetary policy directed at offsetting fluctuations in money demand, especially when rapidly changing inflationary expectations make nominal interest rates an unreliable indicator of fluctuations in money demand. For example, the combination of rising nominal interest rates and appreciation of the foreign exchange value of domestic money would probably indicate an increase in the demand for domestic money that should be accommodated by an increase in supply; whereas the combination of rising interest rates and depreciation would probably indicate an

acceleration of inflationary expectations that should not be fueled by an accommodative monetary policy.

IV. Concluding Remarks

In this paper we have discussed the implications of "openness" of an economy for the effectiveness and appropriate conduct of macroeconomic policies. As recent experience demonstrates, no country is immune from disturbances originating in the rest of the world and no government can sensibly conduct its macroeconomic policy on the assumption that it operates in a closed economy. National economies are linked not only through the mechanism of the Keynesian foreign-trade multiplier but also through the complex of linkages implied by commodity trade, capital mobility and the exchange of national monies. These linkages are not properties of a particular model but implications of parity conditions and equilibrium requirements in goods and asset markets, income and balance sheets constraints, the absence of long-run money illusion, and consistency of expectations which impose important constraints on the conduct of macroeconomic policy in an open economy.

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FOOTNOTES

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¹The emphasis on new information which alters expectations concerning future exchange rates and thereby induces an immediate adjustment of current exchange rates is fundamental in explaining the recent volatility of exchange rates; see Mussa (1976, 1979), Dornbusch (1978), Frenkel (1980) and Frenkel and Mussa.