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Fiscal Deficits and Balance of Payments Disequilibrium in IMF Adjustment Programs*

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I. The Concept of Fiscal Deficit

One of the most important and lasting contributions of J. M. Keynes's thought to the development of modern economic theory has been the central role he assigned to fiscal policy in stabilizing output. Within the Keynesian framework, the economic result of the fiscal sector, whether a deficit or a surplus, is the most important balancing factor in the economy. The magnitude of the deficit or surplus is the central piece in the determination of the levels of aggregate demand, income, prices, and, eventually, in an open economy, of the balance of payments.

A point that has been considered as fundamental in the theory developed by Keynes is that an economy may converge to an equilibrium that is stable but which may be suboptimal or undesirable since it may involve unemployment or inflationary pressures.^{1/} In the Keynesian model, fiscal policy is the main instrument that has the power of shifting the economy from one equilibrium position to another. The implicit assumption of this Keynesian view is that the government has the means and the will to regulate the size of its revenues and expenditures and, in such a way, direct the economy toward a desirable level of equilibrium. This view is based on the conception that it is feasible for the fiscal authority to control, at each point in time, the size of the fiscal balance so as to bring it close to what the government wants it to be.

Later developments, particularly during the 1950s, made clear that there are dynamic elements, endogenous to the system, which are beyond the control of the authorities and which ultimately affect the outcome of the fiscal sector. For example, due to the built-in flexibility of

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^{1/} Don Patinkin has characterized this element as the focal point of Keynes's General Theory and as one of the central issues on which Keynes differed from his contemporaries. See Patinkin [1982].

tax revenue and without specific measures being taken by the authorities, the deficit is likely to increase automatically in recessions and to fall, or even disappear, in booms. In other words, fiscal imbalances are, at least partially, determined by the level of economic activity. Clearly then, while deficits influence and affect economic activity, they are themselves strongly affected by it. This behavior came to be considered desirable as a larger deficit was exactly what was thought to be needed in periods of recession; and a smaller deficit, or a surplus, was needed in periods of high economic activity.

It would be difficult to argue today that, in most countries, the fiscal deficit reflects exactly the level desired by the policymakers. Pressures on governments to increase public expenditure and to provide preferential treatment to some taxpayers, coupled with political constraints on their ability to act, have created many situations in which the fiscal deficit has acquired dynamics of its own.

The difference, over a given period of time, ^{1/} between total expenditure and ordinary revenue is determined by three major factors. The first is the long-run or trend level of taxes and expenditures. The second is the stage of the business, or commodity, cycle. Third are the (temporary) policies that may have changed, in the short run, the current levels of expenditure and/or revenue away from their trends. As a consequence one could estimate:

- (a) the actual fiscal balance, ignoring all the factors that may be influencing it;
- (b) the balance that would exist, if, ceteris paribus, the economy were neither in a recession nor in a boom, but was instead moving along its "normal" trend;
- (c) the balance that would exist, given the stage of economic activity, if revenue and expenditure had not been affected by short-term policy actions; and
- (d) the balance that would exist if the economy were on its trend and no temporary measures had distorted the level of taxes and expenditure.

The second of the definitions given above has often been referred to as the structural deficit. This concept has been used almost exclusively in connection with industrial countries where, by and large, the fiscal deficit has been affected by cyclical fluctuations

^{1/} As budgets normally cover a year, the most common period of time considered is a year.

but not by temporary policies. If this deficit is defined in relation to a level of income assumed to reflect potential output, it becomes identical to the full-employment budget surplus (FEBS) that played such a large role in the New Economic Policy pursued in the United States by the Kennedy and Johnson administrations in the 1960s. At present there are doubts as to whether the "normal" trend for the economy is equivalent to its "potential" trend. 1/ There are serious doubts as to how to define potential income. For example, what rate of unemployment implies "full employment"? We seem to be far less certain today than we were in the 1960s about how to answer that question. 2/ Because of this, the U.S. Council of Economic Advisers has suspended the calculation of potential income. In conclusion, while one may be able to define, in theory, a structural deficit, it is nevertheless very difficult to agree on its measurement.

In developing countries temporary policies have often played a substantive role in artificially raising or, more often, reducing the size of a country's fiscal deficit for a given year. Examples of such policies are: (1) the anticipation of future tax payments from some taxpayers; 3/ (2) the use of occasional tax amnesties that allow taxpayers who have evaded taxes in past years to "clean their slate" by making a once-for-all-payment equal to some fraction of tax due. This technique that has been used, for example, in Argentina, has at times generated, for a given year, revenues equal to as much as 1 per cent of gross national product (GNP); 4/ (3) campaigns to collect tax arrears; (4) the use of temporary taxes or surtaxes; 5/ (5) the postponement of payments to suppliers; (6) the postponement of wage payments to public employees; (7) the postponement of inevitable wage increases; and (8) increased sale of public property, including exploration rights.

1/ For example, suppose that the balance of payments result consistent with potential output is not sustainable, can one still assume that the "normal" trend of the economy is its "potential" defined in terms of a natural rate of unemployment?

2/ M. Friedman, for example, has claimed that institutional rigidities and variability of the inflation rate may change the "natural" rate of unemployment. See Friedman [1977].

3/ In this case, the government is essentially borrowing from the taxpayers but the tax payments so received are not considered as financing.

4/ Obviously, these are not recurrent revenues even though the country may from time to time provide these "amnesties." In each case, the amnesty is publicized as being the last one ever.

5/ The United States has also experimented with temporary taxes as witnessed by the "surtax" imposed in the late 1960s.

When the deficit of a given period is corrected for the effect of economic fluctuations and temporary measures, the developing countries' analogue of the structural deficit is obtained. This analytical concept can be called the "core" deficit. 1/ Between two countries with identical (actual) fiscal deficits, but with different core deficits, one would expect somewhat different policies for adjustment and, of course, different conditionality in a program with the International Monetary Fund. The proper long-run fiscal policy of a developing country should be oriented toward the core deficit rather than the actual deficit. However, as the core deficit is difficult to measure, economic policy is likely to continue to be based largely on the common measure of fiscal deficit. 2/

Although most economic observers have some notion of what a fiscal deficit is, there are so many definitions of it as to warrant a brief discussion. The definition outlined in the International Monetary Fund's Draft Manual on Government Finance Statistics (which is related to the actual deficit) arranges the payment and receipt elements for the government's accounts as follows:

Fiscal Deficit = (Revenue + Grants) - (Expenditure on Goods and Services + Transfer Payments + Net Lending); or, alternatively,

Fiscal Deficit = Borrowing + Net Decrease in Cash Holdings - Amortization.

This definition emphasizes cash flows rather than accrual concepts of revenues and expenditures. This is the definition that is more relevant in a discussion of the connection between the fiscal deficit and the balance of payments and is the one that is adopted in this paper. Nevertheless, we must point out that even this definition suffers from various shortcomings of which the following deserve mention.

First, and somewhat related to our discussion of the core deficit, cash flows may at times not fully reflect underlying trends. For example, if a government engages in additional purchases of goods and services but delays making actual payments (thus building up arrears), the cash concept may not reveal in the current year that the level of spending is being changed. 3/

1/ The measurement of the "core" deficit may be even more difficult than that of the structural deficit.

2/ For a discussion of related issues, see Tanzi [1982].

3/ Thus, while capturing the monetary impact of the budget, it may not capture the income-creating (i.e., the Keynesian) impact. It is for this reason that during the heyday of Keynesian economics (the mid-1960s) the emphasis was on an accrual rather than a cash concept.

Second, the classification of grants as revenue (rather than as a financing item) raises some questions as these grants are often not permanent sources of revenue but often fluctuate from year to year and may even vanish at the wrong time. Thus, if a government bases its multiyear expenditure commitments on this source of revenue, it may expose itself to the possibility of unpleasant surprises. For our purpose, it would thus seem better to consider grants as a financing item rather than as an ordinary source of revenue.

Third, in a situation where the rate of inflation is significant, it becomes difficult to distinguish in an economic (rather than legal) sense interest payments from amortization changes. As all interest payments are considered an expenditure, and as no allowance is made for the repayment element implicitly included in the interest payment, the size of the deficit may be distorted thus potentially leading a country toward wrong policies. 1/2/

In addition to the issue of measuring the deficit, it may also be important to consider the normative questions referring to the desirability of budget deficits. A deficit exists, of course, because the government has been unwilling or unable to raise ordinary revenue to the level of the country's expenditure. It must be recognized that apart from stabilization reasons, there may be allocative reasons which, especially for developing countries, justify the existence of a (core) deficit. Thus, suppose that additional tax revenue would be associated with considerable disincentive effects on the country's productive capacity; and suppose that the additional expenditure associated with the deficit is highly productive so that it will increase the capacity of the economy to grow over future years. In such a situation the deficit may be fully justified. But, even in this case, there must be a close correspondence between the stream of repayments and the stream of income that the deficit has generated. This issue is taken up again in connection with foreign financing. The basic point to be made here is that some (core) deficit may be justified in some developing countries. But the justification will depend on a cost-benefit evaluation of what the country gets from the expenditure associated with the benefit and the price it pays in terms of distortions, inflation, etc.

1/ But again this distortion is more important within a Keynesian framework than within a monetarist framework. If the deficit is financed through monetary expansion, the impact on prices and the balance of payments (if not on output) will be the same regardless of whether the expenditure for interest payment is a genuine expenditure or is an amortization.

2/ There is a lengthy discussion in the literature about the appropriate coverage and measurement of the fiscal budget. For some unconventional proposals, see Boskin [1982] and Buiter [1983].

II. Sources of Deficit Financing

The way in which a fiscal deficit is financed determines to a large extent the impact that it will have on the economy. For analytical purposes the financing of the deficit can be distinguished in different ways, all important, but emphasizing different aspects. One could distinguish between domestic and foreign financing, between inflationary and noninflationary financing, and between voluntary and compulsory financing.

1. Foreign financing

Up to recent years, the recourse to foreign financing of a fiscal deficit was somewhat limited. In the second half of the 1970s, however, as foreign loans became more readily available and deficits larger, and as this occurred at a time when politically, or technically, tax limits seemed to have been approached or reached in many countries, foreign financing became more and more common. This financing must distinguish between grants 1/ and concessionary loans on the one hand, and commercial credit on the other; and between short-run and long-run financing. If a country can finance its fiscal deficit through foreign grants (or through concessionary loans with a long maturity period), then the deficit may not have detrimental implications for the economy. 2/ If the additional expenditure is directed mainly toward imported goods, the additional demand can be satisfied by higher imports financed by grants. However, the country must avoid locking itself into types of public expenditure (such as pensions, consumer subsidies, larger bureaucracy) that cannot be reduced without great difficulties should the grants dry up, unless it has a sure commitment from the relevant sources that this revenue will continue at the needed level for the foreseeable future. Unfortunately, there are experiences of developing countries that came to rely on these grants for the types of expenditures described above and that faced serious hardships when these revenue sources dried up.

The second most attractive foreign source of financing of the fiscal deficit is provided by loans with long maturity (say, over ten years). If these loans carry real interest rates low enough to make many potential projects pass a relevant cost-benefit criterion, and if they are, in fact, used toward those projects that rank highest in terms of a cost-benefit (or present value) criterion, then the country will be fully justified in running the deficit and in financing it in

1/ In this discussion we consider grants as a financing item rather than as revenue. This is in contradiction with the treatment in the Draft Manual on Government Finance Statistics.

2/ If the deficit is associated with productive uses of resources, it will bring substantial benefits to the economy.

this way. 1/ The problems arise, and, unfortunately, they are common ones, when (1) the loans carry interest rates high enough as to disqualify most projects, (2) the loans are not utilized to finance productive expenditures but are used to support subsidies of various kinds, and (3) when long-run projects are financed with short-term loans. 2/

Fund programs always paid attention to the level and the time profile of a country's total foreign borrowing, and particularly, to the public sector's borrowing, to ensure that the limitations on the fiscal deficit imposed by domestic credit ceilings were not made useless by foreign borrowing. Operationally, this control was achieved by putting ceilings, in a Fund program with a country, on the central government's foreign borrowing with maturities of between one and ten years. This control was not always fully effective as, at times, countries violated its spirit by having public enterprises borrow abroad or by increasing short-run borrowing. Recent programs have thus often attempted to make these controls more effective by extending them to public enterprises and to short-term credit.

2. Noninflationary domestic financing

Shifting attention now to domestic financing, the basic distinction to be made is between domestic financing through inflationary means and domestic financing through noninflationary sources. Of somewhat less importance is the further distinction between voluntary and compulsory financing.

Noninflationary financing is normally associated with the sale of bonds to the public. The extent to which this source of financing is possible in a specific country at any given time depends on two considerations.

1/ This, of course, is the same criterion that is used by successful corporations to finance their investments through bond issue.

2/ The stream of loan repayment must bear some relation to the stream of additional income (including foreign currency earning) if the country is to avoid difficulties and maintain its creditworthiness. This is necessitated by the imperfection of the international capital market. A country that borrows short and invests long may face difficulties even when all the other criteria (low interest rate on loans, high cost-benefit ratio on projects) are met. Some countries have, in fact, tried to finance investments with long gestation periods with loans of a few months of maturity. Inevitably, they have run into financial difficulties. Short-term foreign credit must be utilized only to allow the government to help finance commercial activities (say, export of crops) that within a short time generate the foreign exchange to repay them.

The first is the size and sophistication of the country's capital market. As is well known, there is great disparity among developing countries as to the scope and sophistication of their capital markets. In some, the capital market is as developed as that of many industrial countries; in others, the financial structure is still relatively undeveloped, so that, under the best of circumstances, there would be substantial limitations to the sale of bonds to the public.

The second important factor, and one that is emphasized in Fund programs, is the interest rate policy being followed. A country that wishes to finance a substantial share of its fiscal deficit through the domestic sale of bonds cannot, at the same time, pursue a policy of financial repression whereby interest rates are maintained at levels that are below, and sometimes much below, the expected rate of inflation. ^{1/} Financial investors buy bonds when their return is attractive. ^{2/} Whenever their return is low or negative, the possibility of financing the fiscal deficit through this source will be severely limited, regardless of the size and financial sophistication of the country's capital market. In this situation, savers will buy goods, or will try to invest their financial assets abroad, thus reducing the capacity of the government to finance its fiscal deficit, while at the same time aggravating the balance of payments problem [see Tanzi and Blejer, 1982].

In passing it may be worthwhile to point out that when the rate of inflation is high and interest payments are taxable, the nominal rate of interest required to sell the bonds will have to adjust for both inflation and taxes. Thus, it may have to be substantially higher than the rate of inflation. This increase will be reduced when tax administration is poor so that many taxpayers do not pay taxes on their interest incomes or when the monetary correction portion of the interest payment is either not considered an income or is specifically exempt.

The connection between the financing of the fiscal deficit and financial policies has been recognized in Fund programs for a long time and this has been part of the reason, although not the only one, why Fund programs have emphasized the need for positive interest rates. One important aspect to recognize here, however, is that when interest rates are positive, and especially when they are significantly positive, and the fiscal deficit is large, the continuation of that deficit in future years will inevitably raise the share of the public debt in the GNP especially when the rate of growth of the economy is not high. As a

^{1/} In reality it may be difficult to determine what the expected rate of inflation is.

^{2/} Of course there will always be some investors who, because of money illusion or other reasons, may buy some bonds even when their rate of return is negative.

consequence, the proportion of total public expenditure that will go to the financing of that debt will also increase. In other words, the fiscal deficit will, in time, feed upon itself through the interest rate component of public expenditure. It is for this reason that Fund programs have often pursued the parallel objective of removal of financial repression and reduction of the size of the deficit. Unless these two objectives are pursued jointly, the results are likely to be disappointing over the long run.

Shifting now briefly to the other noninflationary way in which the government can finance its deficit, some compulsory means must be mentioned. Of these, two are worth mention. The first concerns the sale of bonds to social security institutions and to other pension funds. In some countries these institutions are required by law to buy public bonds and, to the extent that these bonds pay interest rates that are negative, this becomes in part an additional source of taxation, so that, in a proper sense, part of this financing should be classified as a tax revenue. 1/ Furthermore, if these institutions run deficits that must be financed by the budget, what the government gains on the one hand it will lose on the other. The second compulsory source of financing is the building up of arrears.

Arrears are created when the government purchases goods and services and does not make the payments on time. These arrears can be accumulated with respect to the private sector or the public enterprises. When the arrears are created against the private sector, there need not be any necessary inflationary effect as no monetary creation takes place. In this case it is just as if the private sector had bought government bonds at zero interest rate for the period until payment is made. However, there is indirect evidence, at least for some countries, that the providers of the goods or services (especially in connection with capital projects), knowing that they will be paid with delay, have bid up the prices at which they sell those goods or services to the government thus raising the price level as well as the size of the deficit. Therefore, although one may not expect a connection between building up of arrears (in respect of purchases by the public sector) and the rate of inflation, indirectly there is a connection.

If the arrears are accumulated against public enterprises, as is often the case, these public enterprises will run deficits (or higher deficits); and if these deficits are either financed directly by the central bank or indirectly through the budget, they will end up creating inflationary pressures in the country. 2/ Thus, even forms of financing that at first glance do not appear inflationary may, in fact, create

1/ Furthermore, in some countries public employees may be subject to moral pressure to buy the bonds.

2/ If these public enterprise deficits are financed directly by the central bank, they will not show in the central government's deficit.

pressures on prices. Recently, the Fund has been paying particular attention to arrears and various Fund programs have had clauses specifically directed to this issue.

3. Inflationary finance

Insofar as the specialized interest of the Fund is in the balance of payments of a country, the fiscal deficit acquires particular importance when it increases the money supply. As will be discussed in detail in the next section, the major connection between the fiscal deficit and the balance of payments comes from the effect that the deficit is likely to have on money creation. A deficit that is not associated with an expansion of the money supply can, of course, still have several effects on the economy, which, depending on the situation, may be desirable or undesirable [Penati, 1983]. However, for the majority of developing countries, it is rare when a sizable fiscal deficit does not bring about an expansion in the money supply. It is for this reason that the fiscal deficit plays such a large role in the Fund's adjustment programs.

The connection between financing of the deficit and monetary expansion (normally referred to as inflationary finance) can come in several ways. First, the central bank may buy government bonds directly, in which case monetary expansion is immediate. Second, the government may sell bonds to the public, including the commercial banks, and the central bank may in turn buy the bonds from the public. In this case, the connection between financing of the deficit and monetary expansion is not as immediate and direct as in the previous case, but the end result is the same. Third, the central bank may extend credit to public enterprises at highly concessionary rates. In this case, the monetary expansion may not show up as a direct financing of the deficit, so that one may fail to recognize the connection between the fiscal deficit and money creation [see Wattleworth, 1983]. However, consideration of the whole public sector and not just of the central government would make this connection more explicit.

In all these cases the net result is an increase in the amount of money, in nominal terms, in circulation. If the economy is growing at a fast pace and the income elasticity of the demand for money is high, its growth will be accompanied by an increase in the demand for money; therefore, part of the monetary expansion will satisfy this additional demand without necessarily leading to price increases or to balance of payments deterioration. However, given the income elasticity, the greater is the growth of the money supply compared to the growth of the economy, the more likely inflationary pressures would arise. The effect of monetary expansion on prices and on the balance of payments will depend on variables such as inflationary expectations, the size of the monetary base, and the elasticity of the liquidity preference schedule. Normally, an increase in inflationary

expectation will lower the real stock of money that people wish to hold. A fall in the real stock of money will imply that the financing of a given deficit through monetary expansion becomes more inflationary.

To conclude this section, a brief mention should be made of the fact that monetary expansion can also reduce the share of tax revenue into national income thus raising further the size of the deficit itself. This will occur because of (1) the reliance on the part of developing countries on specific taxes (excises and imports), (2) long lags in the collection of income taxes and some other taxes, and (3) the tendency of exchange rates to become overvalued in periods of inflation, thus affecting revenues from ad valorem import duties. When inflation is high, this factor can become very important [see Tanzi, 1978].

III. Fiscal Disequilibrium and the Balance of Payments

The consequences of fiscal disequilibrium on the external sector of the economy cannot be separated from the overall macroeconomic effects of fiscal policy. However, in order to consider the role of fiscal adjustment in the stabilization process, we will concentrate here mainly on the direct consequences of fiscal disequilibrium and of its financing on the balance of payments.

Although there is no full agreement in the literature about the channels through which fiscal policies and alternative financing strategies affect the balance of payments, it is clear that expansionary fiscal policies, which are not financed in a manner that implies a commensurate reduction in the use of resources by the private sector, would entail pressures on output, prices, and the balance of payments. By how much each of these three variables would be affected by fiscal-induced excess demand depends on the specific conditions of the economy. Prices will be affected more and output will expand less the closer is the economy to its full employment level and the more anticipated has been the fiscal expansion. With respect to the balance of payments effects, alternative models have stressed different channels of adjustment but, in general, the stronger is the effect of fiscal expansion on output and the less it affects prices, the less it will tend to affect the external position of the country.

The two mainstreams of analysis of the effects of fiscal expansion on the balance of payments are the monetary model of the balance of payments and the more traditional macroeconomic models based on the Keynesian framework. Within the context of our analysis the monetary model would focus on the effects that fiscal deficits and their financing have on the composition of the financial assets portfolio of the private sector and would compare these effects with those on the overall availability of goods and services. The interaction of these two effects would determine the balance of payments outcome.

Within the more conventional Keynesian framework, the focus is on the impact of fiscal policy on the savings and investment functions or, more precisely, on the gap between domestic income and expenditures. Although much of the analysis of the effects of fiscal policies within this type of open economy model has been based on the relationships between marginal propensities to consume and to import, more recent models have considered in detail the characteristics of the real sector and the differential impact of fiscal actions under alternative assumptions. Thus, for example, it has been shown that an expansionary fiscal policy has larger negative impact on the balance of payments the more rigid are real wages and the smaller is the portion of government expenditures falling on nontraded goods.

In order to illustrate the functioning of the monetary model, consider an expansionary fiscal action, defined as an increase in public sector expenditures, fully financed by taxes. As postulated by the well-known balanced-budget-multiplier hypothesis, such an expansion would lead to increases in aggregate demand throughout the economy which will result in output expansion and/or inflationary pressures. ^{1/} Unless the economy was operating substantially below its capacity level, and therefore most of the effect of fiscal expansion eventually results in an equivalent increase in the level of output, the tax financing of government expenditures would tend, in the short run, to reduce the level of disposable income. The monetary approach to the balance of payments stresses the effect of such a contraction in income on the demand for financial assets of the private sector. Because a reduction in the level of real disposable income reduces the transaction demand for real balances, it may induce substitutions from money to real goods with the consequent expansion in aggregate demand. Clearly, however, the reduction in the disposable income of the private sector tends to reduce consumption and offset the effect on demand associated with portfolio substitutions. The net effect on the balance of payments depends therefore on the relative strength of these two effects. If the monetary effect dominates, it is likely that the contractionary effect on demand caused by tax increases would be partially offset by the results of portfolio substitutions and, as a consequence, private sector demand would contract substantially less than the increase in government spending. In that case, spillover effects on the external sector are likely to arise with a consequent deterioration in the balance of payments.

1. Financing aspects of expansionary fiscal policy

Our analysis so far has disregarded the financing aspects of fiscal expansion. However, the financing mechanism of fiscal disequilibrium is of central importance in the determination of its impact on the

^{1/} It is assumed here that the additional public expenditures do not take the form of transfer payments.

balance of payments. The alternative ways of financing government expenditures and fiscal deficits were surveyed in the previous section. In terms of their effects on the balance of payments there are two important distinctions. First, we can distinguish between those mechanisms of financing that entail an expansion of liquidity and those which, while raising the stock of government liabilities, do not directly imply an increase in the nominal value of liquid assets in the hands of the public. Second, it is possible to differentiate between the effects of domestic and foreign-financed deficits.

a. Financing through monetary expansion

The most negative effect on the balance of payments, as measured by the impact on the level of international reserves, is likely to arise from fiscal expansion financed by direct borrowing from the central bank. Since this mechanism implies, in general, an increase in the money supply, it tends to create an excess of liquidity in the hands of the public. Such excess liquidity will tend to increase the demand for domestic and foreign goods, as well as for alternative financial assets, including foreign assets, and will, therefore, tend to put pressure on prices and on the balance of payments. ^{1/} This is the well-known mechanism of adjustment postulated by the monetary approach to the balance of payments and implies that the excess supply of money created by the monetization of the deficit would only be eliminated as foreign exchange reserves have been depleted enough to restore equilibrium in the money market. In addition, the pressure put by excess liquidity on the level of prices has an additional equilibrating effect by reducing the real value of the outstanding money stock.

In an economy operating under a fixed exchange rate system, it can be said that, the more open is the economy (the higher the share of traded goods in total expenditure), the larger will be the role of the balance of payments adjustment in the equilibrating process, and, therefore, the larger the losses of reserves and the less the impact of monetized deficits on domestic inflation. Clearly, if the exchange rate is allowed to adjust, the monetization of fiscal deficits will put upward pressure on the exchange rate, reducing the losses of reserves and increasing the inflationary impact. In the limit, with a fully flexible exchange rate, most of the burden of restoring monetary equilibrium would be carried by the changes in the exchange rate operating through changes in the price level. The level of international reserves will clearly be affected much less in this case.

^{1/} Of course in a fast growing economy some monetary expansion may not be inflationary as additional money is needed to fuel additional transactions.

The monetary impact of central bank expansion of domestic credit to finance public sector deficits can be reduced if sterilization measures and other types of contractionary monetary policies are adopted. The expansion of domestic credit to the public sector must be accompanied by an equivalent contraction of credit to the private sector through changes in reserve requirements or through the imposition of other restrictions on the ability of the banking system to expand lending. This will certainly limit the credit available for the private sector and, if interest rates are market determined, it will tend to push up the levels of interest rates and will lead to the well-known "crowding out effect." ^{1/} The stronger is the crowding out effect, the lesser will be the balance of payments impact of central bank financing of public sector deficits. Thus, in financing large deficits through the central bank, the authorities are confronted with the trade-off between compromising the achievement of monetary targets, with the consequent balance of payments and inflationary results, and constraining the financing of the private sector, with the ensuing effects for economic activity and investments.

This type of consideration may help to explain the motivation behind some of the measures included in a typical Fund program. It is common to observe that total credit ceilings are normally accompanied by a subceiling on the amount of credit to the government. Without such a subceiling, the private sector might run the risk of being fully excluded from the credit market and the stabilization program would probably cause a sharp fall in economic activity.

It should be mentioned, in this context, that the external sector's effects of monetary finance are likely to be similar whether the expansion of central bank credit is captured by the central government or whether it takes the form of concessional credit to public enterprises. Some differential impact effect may arise from differences in the expenditure patterns of the various components of the public sector, but the ultimate effect, working through excess liquidity, will have similar balance of payments consequences.

b. Financing through borrowing from domestic private sector

An alternative to monetary finance of fiscal deficits is the domestic borrowing from the bank and nonbank private sector. The appropriate theoretical framework to deal with the effect of debt financing is provided by the portfolio models of balance of payments and exchange rate determination. Portfolio models depart from monetary

^{1/} Of course a more direct form of crowding out is through credit rationing. However, if crowding out occurs through credit rationing, rather than through interest rate adjustment, capital flight becomes more likely with greater deterioration in the balance of payments.

models in that they assume imperfect substitution between domestic and foreign bonds and, therefore, they are viewed as different assets with different demand functions for each of them. These demands depend, among other variables, on the domestic and foreign interest rates, on the expectations about future exchange rate movements, and on differential tax treatment of domestic and foreign investment income. Within this framework, the sale of bonds in order to finance budget deficits may lead to an excess supply of bonds denominated in domestic currency especially if the capital market is small and, more important, if interest rates are constrained. In order to restore portfolio equilibrium, the domestic private sector will attempt to move into foreign-currency-denominated assets which will lead to a balance of payments deterioration, particularly through the capital account. The loss of reserves arising from the diversification toward foreign-currency-denominated assets may also result in expectations of exchange rate devaluation with the consequent additional worsening of the capital account and, also, in a deterioration of the current account.

The increase in the supply of domestic bonds may not lead to excess demand for foreign assets, and to a deterioration in the balance of payments, if the domestic rate of interest is free to adjust enough to restore portfolio equilibrium. But the magnitude of the increase may have to be quite substantial. 1/ Such an increase in interest rates is bound to result, again, in crowding out effects by, for example, redirecting bank credit away from the private sector and, as indicated earlier, it will make the fiscal deficit worse over the longer run unless effective measures aimed at its reduction are taken immediately. 2/ It is clear, therefore, that debt financing will affect the balance of payments more if financial yields are not allowed to clear the market. Compulsory bond issues (and, to some extent, the building up of arrears with the domestic private sector) are likely to have stronger negative external effects than interest-rate-induced increases in the demand for bonds of the public sector, although the latter will certainly crowd out more private sector spending.

An additional way by which debt financing may have balance of payments effects depends on the question of whether government bonds are net wealth. The extent to which government bonds constitute net private wealth has not been resolved in the literature. It is sometimes argued that the public does not consider these bonds as additions to real wealth since they discount the future tax liabilities implied by

1/ In reality, there must be some limit to how many bonds can be sold, that is, the demand for bonds will become vertical.

2/ The fiscal deficit is also likely to deteriorate in the short run if the fall in economic activity reduces, as it is likely to do, tax revenue.

an increase in the government debt. ^{1/} If this so-called "Ricardian equivalence" does not hold and, therefore, if government bonds are indeed regarded as net wealth by the private sector, a deficit will be perceived as increasing private sector wealth. When real wealth is an argument in the consumption function, debt-financed deficits will increase consumption and imports and, therefore, the balance of payments will tend to deteriorate. In addition, the asset model postulates another channel of balance of payments worsening. If the composition of the financial portfolio is to remain unchanged, the increase in wealth leads to increases in the demand for foreign-exchange-denominated bonds with the consequent deterioration of the capital account.

c. Financing through foreign borrowing

The effects of foreign finance of budget deficits depend, as in the case of domestic finance deficits, on the magnitude of the increases in liquidity in the hands of the private sector. Direct borrowing from abroad by the treasury or by public enterprises, as well as concessionary loans and foreign grants, will have, if fully monetized, a similar effect as central bank financed budget disequilibrium on aggregate demand. But, of course, to the extent that foreign borrowing allows greater imports, the supply of goods is also increased. This would make foreign financing of the deficit less inflationary than central bank financing. This lower impact on domestic inflation is more marked when foreign borrowing is directly used by the government to purchase traded goods or for direct imports for its own use.

The excess liquidity arising from the monetization of foreign transfers generally results in excess demand for goods. It thus puts pressure on the price level and on the balance of payments. ^{2/} Foreign borrowing may, therefore, raise the level of gross foreign exchange reserves, but will tend to deplete net, or owned, reserves. In other words, policies that reduce the domestically financed overall government deficit by inducing foreign capital inflows will, ceteris paribus, have positive effects on the overall balance of payments performance but not necessarily on the current account. An implication of this is that although the domestically financed government deficit is the appropriate macroeconomic fiscal target in considering policies that influence the overall balance of payments position, foreign finance of the fiscal

^{1/} For a discussion of this issue and further references, see Barro [1974] and Buiter and Tobin [1979]. Some recent empirical evidence, however, indicates that most of the basic implications of the "Ricardian equivalence theorem" is contradicted by the U.S. data. See Feldstein [1982].

^{2/} Clearly, the more open is the economy, and the less flexible is the exchange rate, the stronger will be the impact on the balance of payments and the smaller the effect of excess liquidity on the price level.

deficit has crucial importance for the composition of the balance of payments outcome. Moreover, external financing of fiscal deficits has implications for the longer-term external performance of the country by increasing external indebtedness and, therefore, by raising the burden of future debt service. 1/

It should be pointed out that foreign financing of the fiscal deficit does not always succeed in maintaining the level of gross reserves. In fact, the increase in the service ratio and the anticipation of future devaluations may induce private sector capital outflows which, on balance, may offset the capital inflows generated by the government. Expected devaluations may, of course, lead to further, although probably temporary, deterioration of the current account due to the advancing of imports and postponements of exports.

Fiscal deficits have sometimes been used for stabilization purposes, particularly to smooth the macroeconomic impact of business cycles. In that case, the use of previously accumulated foreign exchange reserves for financing government expenditures may be the most desirable procedure since interest rates will be less affected, and therefore less crowding out effects are likely to arise, and also, the level of the country indebtedness will remain unchanged. However, if expectations, foreign credit ratings, and financial stability are largely affected by the observed level of reserves, the optimality of this type of financing may not be absolute.

IV. Fiscal Deficits in Fund Programs

The International Monetary Fund has primary responsibility among international organizations for balance of payments adjustment and the proper functioning of the international financial system. Therefore, the main objective of Fund financial programs is to reduce or eliminate disequilibrium in the balance of payments. However, difficulties in the balance of payments of a country are often a symptom rather than the basic cause of economic disequilibrium; as a consequence, Fund financial programs aim at eliminating the basic causes of that disequilibrium. Often the basic cause for the external imbalance of a country has been

1/ There is not necessarily a complete connection between official foreign borrowing and fiscal imbalance. In many countries, for example, external borrowing is undertaken by the government or by public enterprises in order to increase gross reserves and strengthen confidence. Moreover, in many cases, governments undertake all commercial foreign borrowing because they have better access to foreign markets and can obtain better terms than the private sector. In those cases, official foreign borrowing is similar to trade and suppliers' credit.

excessive monetary expansion. 1/ It is this monetary expansion that brings about changes in relative prices, thus encouraging imports, discouraging exports, and inducing unfavorable capital movements. Monetary expansion does not occur automatically but is itself promoted by other factors. These factors may find their origin in the private sector of an economy but, more often, they find their origin in the public sector. In recent years large fiscal deficits have been the main cause of excessive monetary expansion in many developing countries.

Because of the heterogeneity of the Fund's membership and the different social and economic systems that Fund members have, the Fund is inherently neutral about the size of the public sector of a country. However, for the reasons indicated above, it is not neutral about the size of the fiscal deficit and especially its financing. A fiscal deficit can be reduced by cutting expenditure or by raising revenue. Fund missions have looked at both sides of a country's budget and have recommended expenditure cuts or revenue increases, depending on the particular situation. If the fiscal deficit has been caused mainly by substantial and unsustainable recent expansion in expenditure, Fund missions have recommended that expenditure cuts be made. If, on the other hand, revenue fall has been the major cause of the fiscal deterioration, or if the tax level of the country is unusually low, the Fund may recommend raising that level. In many cases, Fund missions have recommended that the country pursue both channels of adjustment, that is, expenditure cuts and revenue increases. 2/ As in recent years the cause of fiscal deterioration has often been the expansion of expenditure, rather than the fall in revenue, countries have been advised more often to reduce expenditure than to increase revenue. Fund missions have been highly sensitive to possible disincentive effects of tax increases as well as to the distributional and efficiency effects of cuts in public expenditure. In any event, final decisions as to how budgetary imbalances are to be reduced lie, as they inevitably must, with the authorities of the member country.

Fund programs generally contain statements of goals or objectives in relation to improvement in (1) the balance of payments, (2) growth performance, and (3) the rate of inflation. At times a reduction of payment arrears and economic diversification have also been specified as a program's objectives. Of course not all of these objectives are specified in each program. Most programs mention balance of payments improvement, and many programs specify growth and the improvement in the fiscal accounts.

1/ Obviously, wrong exchange rate policies or interest rate policies can also bring external imbalances.

2/ With respect to revenue increases, administrative improvements have generally been given preference over increase in rates.

When a country agrees to a Fund program, it commits itself to the observance of certain performance clauses. The nonobservance of performance clauses interrupts a member's right to use Fund resources under a program until new understandings are reached with the Fund. Most programs include performance clauses related to (1) domestic bank credit expansion; (2) the use of domestic bank credit by the government; (3) the growth of the external debt; and (4) restrictions on external trade and payments. Some programs also include performance clauses related to the size of the fiscal deficit in nominal terms and understandings about economic policies to be pursued during the period of the program. Such understandings may include particular fiscal actions such as removal of subsidies or changes in particular taxes.

The fiscal deficit becomes important both in relation to the first of these performance criteria, namely, the domestic bank credit expansion, and when it is directly specified in a performance clause. Normally, the program will specify that no more than a certain amount of the total credit expansion will be channeled toward the fiscal sector. In other words, the program specifies what share of the total credit expansion will go toward the government and what share will go toward the private sector. In general, the country will not have any binding commitments related to the level of tax revenue or the level of government expenditure, but to the fiscal deficit financed by credit expansion and/or the overall fiscal deficit. As monetary data are usually more reliable and more timely than fiscal data (and as monetary expansion is often the basic problem, rather than the deficit itself), the behavior of the fiscal deficit (which may be related to the central government or to a broader concept, such as the public sector) is in many cases monitored through the amount of credit expansion absorbed by the government. This credit expansion is grosso modo an indication of the monetary expansion for which the public sector is responsible. In some cases a Fund financial program will stipulate, not as a performance clause but as a target, the reduction in the fiscal deficit expressed as a proportion of the gross domestic product (GDP) that is considered desirable to attain. For example, in 1980, out of 26 Fund programs, 18 contemplated a reduction in the fiscal deficit of at least 1 per cent of GDP, 12 contemplated a reduction of at least 2 per cent of GDP; and 8 contemplated a reduction of at least 5 per cent [Doe, 1983]. Behind this reduction in the size of the fiscal deficit there were, as indicated, general agreements about policies aimed at cutting public expenditure or increasing public revenues.

Recent studies have indicated that, by and large, observance of fiscal understandings between the countries and the Fund were accompanied by improvements in the countries' current accounts and overall balance of payments [Kelly, 1982]. They have also indicated that the nonobservance of the fiscal agreement was often accompanied by a continuation of the serious external imbalances.

References

- Barro, Robert J., "Are Government Bonds Net Wealth?," Journal of Political Economy, Vol. 82 (November-December 1974), pp. 1095-1117.
- Boskin, Michael J., "Federal Government Deficits: Some Myths and Realities," American Economic Review, Vol. 72 (May 1982), pp. 296-303.
- Buiter, Willem H., "The Proper Measurement of the Public Sector Deficit and its Implications for Policy Evaluation and Design," DM/82/84, IMF Staff Papers, forthcoming 1983.
- _____ and James Tobin, "Debt Neutrality: A Brief Review of Doctrine and Evidence," in George M. von Furstenberg, ed., Social Security versus Private Saving, Vol. 1 in the Series on Capital Investment and Saving, sponsored by the American Council of Life Insurance (Cambridge, Mass.: Ballinger Pub. Co., 1979), pp. 39-63.
- Doe, Lubin, "Fiscal Policy and Adjustment in the 1980 Fund Financial Programs," forthcoming DM.
- Feldstein, Martin, "Government Deficits and Aggregate Demand," Journal of Monetary Economics, Vol. 9 (January 1982), pp. 1-20.
- Freidman, Milton, "Inflation and Unemployment," Journal of Political Economy, Vol. 85 (June 1977), pp. 451-72.
- Kelly, Margaret R., "Fiscal Adjustment and Fund-Supported Programs, 1971-80," IMF Staff Papers, Vol. 29 (December 1982), pp. 561-602.
- Patinkin, Don, Anticipation of the General Theory? (Chicago: University of Chicago Press, 1982).
- Penati, Alessandro, "Expansionary Fiscal Policy and the Exchange Rate: A Review," DM/83/14, IMF Staff Papers, forthcoming.
- Tanzi, Vito, "Inflation, Real Tax Revenue, and the Case for Inflationary Finance: Theory with an Application to Argentina," IMF Staff Papers, Vol. 25 (September 1978), pp. 417-51.
- _____, "Fiscal Disequilibrium in Developing Countries," World Development, Vol. 10 (December 1982), pp. 1069-1082.
- _____ and Mario I. Blejer, "Inflation, Interest Rate Policy, and Currency Substitutions in Developing Economies: A Discussion of Some Major Issues," World Development, Vol. 10 (September 1982), pp. 781-89.
- Wattleworth, Michael A., "Credit Subsidies in Budgetary Lending," DM/83/40.