The Pakistan Development Review
Vol. XXVI, No. 3 (Autumn 1987)

Invited Lecture

Stabilization and Economic Growth in Developing Countries

MOHSIN S. KHAN*

I. INTRODUCTION

The need for stabilization typically arises when a country experiences an imbalance between domestic aggregate demand and aggregate supply, which is reflected in a worsening of its external payments position and an increase in the rate of inflation. To combat these twin problems, policies are required that restrain domestic demand and, at the same time, expand the production of tradeable goods, thereby easing the balance of payments constraint. Policies to influence the aggregate level or rate of growth of domestic demand and absorption, generally labelled as "demand-side policies", include the whole range of monetary and fiscal measures, while the shifting of resources towards the production of tradeables involves altering the country's real exchange rate through devaluation. In general, monetary and fiscal policies and exchange rate action are considered an integral, if not an indispensable component of any stabilization programme.[1]

While the effects of both demand-side and exchange rate policies on the balance of payments and inflation are well-understood, their effects on economic growth are quite uncertain. In recent years the view that such policies impose significant economic costs, particularly in the form of reduced growth and employment, has become fairly widespread. Consequently, the basic question that is currently being asked by academics, policy-makers in the developing world, and the international community at large, is what policies can be employed, and in what combination, to achieve the goal of macro-economic adjustment – characterized principally by a viable balance of payments and a low rate of inflation – without sacrificing growth in the process. Viability of the balance of payments is defined as a current-account deficit that is consistent with a sustainable level of capital

*The author is Chief of the Financial Studies Division of the IMF, Washington, D.C. He is grateful to Mr A. G. N. Kazi, Professor Syed Nawab Haider Naqvi, and Dr Arshad Zaman for helpful comments. The suggestions of the discussants – Dr S. I. Cohen and Dr Asghar Qadir – are also appreciated. The views expressed in this paper are the sole responsibility of the author and do not reflect those of the IMF.

[1] The importance of demand-management and exchange rate policies has been acknowledged even by critics of orthodox stabilization programmes. See, for example, Diaz-Alejandro (1984) and Killick (1984).

inflows, where sustainability is taken in relation to the current and future debt-servicing capacity of the economy. Of course, such a judgement is difficult to make *ex ante*, but it is nonetheless necessary. In the present circumstances of foreign financing constraints, a more accurate definition of viability would be a current-account deficit that is consistent with a "voluntary" level of capital inflows (commercial bank lending, aid, and lending by international agencies). With growth as an explicit objective, structural policies, that is, policies intended to increase the supply of goods and services at a given level of domestic demand, assume crucial importance. These types of policies, by raising the current and future growth rate of the economy, can theoretically offset any contractionary effects that accompany demand-management policies. At the level of generality of this paper, it is not necessary to match targets – balance of payments, inflation, and growth – and instruments – demand-management, exchange rate action, and structural policies – in the Meade-Tinbergen sense, although it should be stressed that when one comes down to the specifics of designing a programme such an exercise would have to be undertaken.

The purpose of this paper is essentially to address some aspects of the criticism that stabilization policies necessarily have an adverse impact on economic growth. Assuming that stabilization involves monetary and fiscal contraction, as well as devaluation of the currency, the paper examines specifically the available empirical evidence on the effects of each of these policies on the growth rate in developing countries. Only after having done so can one ascertain properly whether there is a trade-off between stabilization and growth, and if there is, design adjustment programmes that minimize this trade-off. Such adjustment programmes, as will be shown, require greater emphasis on structural policies aimed at increasing the productive potential of the economy.

The remainder of the paper proceeds as follows. Section II discusses some general aspects of the relation between stabilization and economic growth. The empirical evidence on the effects of monetary policy, fiscal policy, and devaluation, respectively, on the level or rate of growth of output is taken up in Section III. The growth effects of structural policies are examined in Section IV. The concluding section summarizes the principal results that emerge from the study.

II. RELATION BETWEEN STABILIZATION PROGRAMMES AND ECONOMIC GROWTH

In considering whether stabilization policies and faster growth are in some sense incompatible, it is useful to draw a distinction between the short-term and the long-term issues relating to this question.

Short-term Issues

If the initial problem is one of excess aggregate domestic demand, then, in order to restore equilibrium in the balance of payments and reduce the rate of inflation, absorption must be reduced in the short run. Although this reduction in absorption, and particularly if consumption is affected, can be perceived as a decline in living standards, it should not be regarded as a "cost" of the stabilization programme, since absorption is merely being brought back into line with the availability of resources. The real issue is how the reduction in absorption – whether brought about by demand-side policies or exchange rate action, or some combination of the two – will influence the level and rate of growth of output or real income. In theory, one can conceive of situations in which the reduction in absorption can be achieved without affecting output. This would be possible, for example, if all the adjustment were entirely confined to the current account of the balance of payments and is obtained through some combination of an increase in receipts and a decrease in payments. In practice, however, this extreme result is unlikely to occur, and even if it did, the inflation objective would not be met. For example, a country could impose controls on imports, as has been suggested by Taylor (1981), to improve its trade balance. However, aside from the difficulties involved in managing a system of import and exchange controls efficiently and effectively over time, it is likely that such restrictions would intensify domestic inflationary pressures.

The reduction in aggregate demand necessary to achieve both the balance of payments and inflation objectives will, in most circumstances, be accompanied by some fall in the growth of output, particularly if inflation has become ingrained in the system and wages are rigid downwards because of the existence of formal and informal indexation schemes. This decline in the growth rate, however, is a necessary part of the adjustment to eliminate underlying imbalances in the economy. In other words, stabilization aims at leading the economy onto a more stable and sustainable growth path from a possibly higher but unsustainable path that often accompanies the supply-demand imbalances. The critical question, of course, concerns the size and duration of the growth effects of the policies designed to reduce absorption.

Clearly, stabilization policies should not attempt to reduce absorption below the level that can be financed out of current savings and a sustainable level of capital inflows. Any reductions in absorption and growth that go beyond the levels necessary to achieve the objectives of the stabilization programme can be fairly viewed as the true "costs" of stabilization. However, since the "necessary" reduction in absorption and the consequent decline in growth are not measurable precisely, such a notion of costs is difficult to quantify and thus to assess.

Long-term Issues

Even if it was determined that stabilization programmes reduce output in the short run, this effect could be outweighed by the long-term benefits resulting from the adoption of appropriate adjustment policies. Indeed, it is a basic premise of stabilization programmes that balance of payments recovery and reduction in inflation do not necessarily conflict with the objective of higher economic growth when the time horizon is lengthened sufficiently.

This view is based on a number of considerations. First, even if a reduction in absorption impairs growth over the short run, to the extent that a stabilization programme succeeds in avoiding the drastic cut in absorption that would result from a complete loss of foreign creditor support, the programme can be said to protect the growth of the economy currently and in the future. The basic objective of the stabilization effort is essentially to provide for a more orderly adjustment of the imbalances in the economy than would result from a cessation of foreign financing. Second, financial stability resulting from a successful stabilization programme can have a beneficial effect on the state of confidence in the economy. This improvement in confidence would encourage both domestically financed and foreign-financed investment, leading to gains in employment, productivity, and output. Third, if inflation is allowed to persist for extended periods this would create serious distortions in relative prices and an inefficient allocation of resources. Stopping inflation and removing distortions would raise both economic welfare and the long-run productive potential of the economy. Finally, structural policies in adjustment programmes can increase the long-run capacity of the economy by improving the allocation of resources and stimulating domestic savings and investment. To the extent that structural policies are successful, they diminish any inescapable negative impact upon growth of measures that focus on reducing aggregate demand.

III. EFFECTS OF SPECIFIC STABILIZATION POLICIES

This section examines the empirical evidence available from studies that use a time-series approach in determining the growth effects of: (1) monetary policy; (2) fiscal policy; and (3) exchange rate policy. The common methodology adopted in these studies is to formulate a model relating the rate of growth of output to certain policy instruments (and other relevant variables). The effects of changes in policy on growth are then determined either directly from the values of the coefficients obtained from estimating the model or by performing simulation experiments with the estimated model. In a recent survey, Khan and Knight (1985) have assembled available empirical evidence on the subject for developing countries, and the discussion below relies heavily on the evidence provided in that study.

Monetary Policy

Despite the attention it receives in both the theoretical and empirical literature, the size of the effect of changes in the rate of growth of the money supply on economic growth is still a matter of controversy. The simple version of the monetary approach to the balance of payments, as outlined, for example, in Frenkel and Johnson (1976) and IMF (1977), suggests that in the long-run in a small open economy operating under a fixed exchange rate, a reduction in domestic credit will be fully offset by international reserve flows that restore the money stock to the level desired by the public. Consequently, in this framework monetary policy would have no long-run effect on the level or the rate of growth of output. However, during the adjustment process a decline in the rate of domestic credit expansion may be associated with a reduction in capacity utilization and rise in unemployment. The size and duration of the deflationary effect of a restrictive monetary policy depends, among other things, on: (a) the speed with which the initial credit restriction is reflected in changes in international reserves (an effect that depends on the responsiveness of the current account and the degree of capital mobility); (b) the response of domestic inflation to the excess demand for real money balances created by the credit restraint policy; (c) the extent to which an excess demand for money reduces aggregate demand in the economy[2]; and (d) the effect on investment of a rise in the cost, or a reduction in the availability, of bank credit. As these various factors can interact in complex ways, the net outcome of tighter monetary policy on growth turns out to be ultimately an empirical question.

The empirical studies examined by Khan and Knight (1985) suggest that a monetary contraction does indeed tend to exert a deflationary effect on domestic output in the short run. It is shown that on average a 10 percentage point reduction in the growth of money or domestic credit would reduce the rate of growth of output by a little less than 1 percentage point over one year. By the second and third years the contractionary effect is dissipated and growth begins to pick up. Basically, the survey by Khan and Knight (1985) supports the rule of thumb suggested by Hanson (1980) that in developing countries the elasticity of output with respect to money is about 0.1. While this effect would seem at first sight to be rather small, it should be noted that some stabilization programmes have involved large initial reductions in monetary growth, so that the output effects of a restrictive monetary policy can, in practice, still be quite substantial.

Since monetary policy can affect growth through its impact on domestic investment, further empirical evidence on the effects of changes in domestic credit

[2]This effect will obviously depend partly on the degree of excess demand for goods in the economy, and in general the larger the excess aggregate demand, the smaller would be the effects on growth.

on output can be deduced from studies of investment behaviour in developing countries. A consensus has emerged in recent years that, in contrast to the case in industrial countries, one of the principal constraints to investment in developing countries is the availability of credit, rather than its cost. Even when adjusted for risk, the rates of return on capital in these countries are typically higher than real interest rates on loanable funds, which are often kept artificially low by governments for a variety of reasons. In such cases it would be unusual to find investors undertaking investment up to the point where the anticipated marginal product of capital is just equal to its service cost, as is assumed in theoretical models of investment. Indeed, the administrative control of interest rates at low real levels is likely to result in a chronic excess demand for capital, with some investments with low rates of return receiving priority over other higher-yielding investments.

In circumstances in which the amount of financing is limited and interest rates are not permitted to function smoothly as an allocative device, as is the case in many developing countries, it is more realistic to assume that private investment would be constrained by the availability of bank financing. Thus, an increase in the flow of real credit will generally have a positive effect on real investment. Since the control of bank credit represents the main instrument of monetary policy in developing countries, the government can directly influence the rate at which investors achieve their desired level of investment by varying the flow of domestic credit and its allocation between the public and private sectors. The few existing studies on investment in developing countries confirm the hypothesis that in developing countries credit extended by the banking system can have a sizeable impact on private capital formation. The real credit elasticity of investment is estimated to be between 0.05 and 0.15, depending on the countries and the time periods in question.

Fiscal Policy

Direct evidence on the relationship between changes in government spending or taxes and economic growth in developing countries is quite scarce. In standard Keynesian models a reduction in government expenditure or an increase in taxation is expected to have a multiplier effect on the level of real income, at least in the short run. While this proposition is very well known, remarkably few studies introduce fiscal variables directly into a growth model for developing countries, and those that have done so have not found the effect to be statistically significant. The lack of meaningful results is probably a reflection of the fact that the relation between fiscal policy and the level of output (or the rate of capacity utilization) in developing countries is more complicated than textbook Keynesian macro-economic theory would suggest. Consequently, a more intensive investigation of the relationship between government spending and taxation, savings, investment, and the growth rate seems warranted.

The effects of fiscal deficits on growth also turn out to be difficult to establish empirically because of the close linkage between fiscal and monetary policy in developing countries. Because financial and bond markets are relatively underdeveloped, governments have to rely primarily on bank credit for their financing needs. As such, there is a close correspondence between the fiscal deficit and changes in the supply of domestic credit, and therefore the total money supply, unless the authorities are prepared to allow the private sector to be crowded out of the credit markets. In other words, fiscal deficits in developing countries tend to be automatically monetized owing to the absence of markets for government bonds. Naturally in growth models that include monetary variables, such as the growth of domestic credit or the money supply, it is not surprising to find fiscal deficits playing only a modest independent role.

Other than from the demand side, fiscal policy can influence output through the effects of public sector investment on private investment. Of course, there is considerable uncertainty as to whether, on balance, public investment raises or lowers private investment. In broad terms, public sector investment can displace scarce physical and financial resources that would otherwise be available to the private sector, or if it produces marketable output that competes with private output. Furthermore, the financing of public sector investment, whether through taxes, bonds, or inflation, can lower private sector real wealth and real income and thereby depress private capital formation.

At the same time, public investment to maintain or expand infrastructure and the provision of public goods can also be complementary to private investment. Public investment of this type can raise the overall productivity of capital, stimulate private output by increasing the demand for inputs and ancillary services, and augment overall resource availability by expanding aggregate output and domestic savings. Ultimately, the effect of public investment will depend on the relative strengths of the crowding-out and crowding-in phenomena.

In a recent study, Blejer and Khan (1984) utilize this distinction between infrastructural and other types of public investment in a model of private investment applied to 24 developing countries. They find, for example, that a $1 increase in real infrastructural public investment would increase real private investment by about $0.25, while a $1 increase in other forms of public investment would reduce real private investment by some $0.30. Given the limited amount of available evidence, the issue of whether a contractionary fiscal policy taking the form of a cut in real public sector investment will reduce or expand private capital formation is certainly far from settled. Although the direction of the effect may be uncertain, the Blejer-Khan results indicate that by varying the level and composition of public investment, the government can alter the rate of private investment and influence the growth rate of the economy over the longer term.

Exchange Rate Policy

Devaluation is a key policy measure in any stabilization plan because the imbalances that require adjustment frequently result from a loss of international competitiveness caused by an overvalued currency. Furthermore, to ease the balance of payments constraint resources need to be shifted towards the production of tradeables (exports and import substitutes). Devaluation, or more precisely a depreciation of the *real* exchange rate, raises the relative price of tradeables to non-tradeables, and thus works towards obtaining the desired shift. However, it is probably fair to say that of the three main policy measures in a stabilization programme, devaluation is perhaps the one that generates the most controversy. One extreme criticism is that devaluation not only fails to improve the current account of the balance of payments, but also induces stagflation in the process, Taylor (1981). What then is the evidence on the contractionary effects of devaluation?

Devaluation, in the terminology of Johnson (1958), is simultaneously an expenditure-reducing and expenditure-switching policy, and thus has effects on both aggregate demand and aggregate supply. The basic demand- and supply-side aspects of devaluation have been discussed extensively in the literature.[3] Consider a situation in which excess real domestic demand is reflected in a current account deficit. A devaluation increases the price of tradeable goods to non-tradeable goods in the domestic economy. On the demand side, the effect of a devaluation on domestic absorption is unambiguously negative: the main demand-side effects are a reduction in private sector real wealth and expenditure, owing to the impact of the rise in the overall price level on the real value of private sector financial assets, and on real wages and other factor incomes whose nominal values do not rise proportionately with the devaluation. For these reasons, devaluation decreases domestic demand and, looked at from the point of view of current absorption, would be contractionary.

From the supply side, however, devaluation would tend to increase production. If the prices of domestic factors rise less than proportionately to the domestic-currency price of final output in the short run, devaluation will have a stimulative effect on aggregate supply. Thus both the aggregate demand and aggregate supply effects of a devaluation work towards reducing excess demand in the economy and the current account deficit. Whether total output rises or falls during the process depends on whether the contractionary effects on absorption are outweighed by the supply-stimulating aspects of devaluation. This depends, among other things, on the relative sizes of the price elasticities of imports and exports and on the relative shares of tradeable and non-tradeable goods in total production. As a general rule, output will decline if the trade elasticities are small and the structure of production is weighted more towards tradeables than towards non-tradeables.[4]

[3] See, for example, Dornbusch (1981).
[4] See Cooper (1971), Dornbusch (1981), and Guitian (1976).

There have been a number of arguments put forward to support the view that devaluation will, on balance, exert an overall adverse effect on growth. For example, Diaz-Alejandro (1965) argues that devaluation redistributes income to groups with a relatively low marginal propensity to consume and that the consequent reduction in aggregate domestic demand has a depressing effect on domestic supply, which more than offsets the increase in the country's exports. Devaluation would also increase the domestic-currency price of imported inputs, and if the demand for them is inelastic, total production would decline, Krugman and Taylor (1978). Production could also fall if wages rose more than proportionately than the change in the exchange rate, or if domestic firms have significant foreign liabilities whose domestic-currency value would increase with the devaluation, thereby creating a "liquidity squeeze" for these firms.

Keeping in mind these various possibilities, however, it would normally be expected that, as long as devaluation succeeds in altering the real exchange rate by raising product prices in domestic currency relative to factor incomes, it should exert a stimulative effect to the extent that the short-run marginal cost curves of the relevant industries are upward sloping. Naturally, the longer a real exchange rate persists, the larger would be the gains.[5] In addition, if the wealth and distributional effects stimulate saving and investment, a long-run gain of increased potential output will also be realized.

To assess whether devaluation is contractionary or not, Khan and Knight (1985) use a representative set of models and calculate the effects of a 10 percent devaluation on the rate of growth of output in the first year. The results are fairly diverse, indicating an effect that ranges from -1.4 to over 4 percent, with the dispersion depending primarily on the underlying values of the supply-price elasticities. The average elasticity of output growth to a change in the exchange rate is about 0.15. This would indicate that in general the positive supply effects are larger than the negative demand effects, and that contrary to the assertions made in the literature, devaluation in developing countries is expansionary rather than contractionary. Of course, the use of averages does mask individual-country responses to devaluation. Consequently, one has to be cautious in generalizing from this result.

The basic conclusion that follows from this analysis is that the direction and magnitude of the growth effects of exchange rate changes depend crucially on such issues as the extent and duration of the real exchange rate change, the structure of production, and the responses of trade flows to relative price changes. Since devaluation is designed to affect the sectoral distribution of resources, it may not be completely costless to some sectors. On the other hand, there is no strong empirical

[5] For a discussion of the factors that determine the effects of a nominal devaluation on the real exchange rate see Khan and Lizondo (1987).

evidence to support the proposition that devaluation necessarily reduces the growth of output even in the short term.

IV. STRUCTURAL POLICIES AND ECONOMIC GROWTH

Structural policies can take many forms depending on the nature of the economy and the types of problems it faces. They can, however, be divided into two broad groups. First, there are policies designed to increase current output by improving the efficiency with which factors of production, namely capital and labour, are utilized and allocated among competing uses. This category includes measures to reduce distortions caused by price rigidities, monopolies, taxes, subsidies, and trade controls. Second, there are policies that are designed to raise the long-run rate of growth of productive capacity of the economy. Under this heading would fall incentives to raise domestic and foreign saving and domestic investment. Both types of structural policies are aimed at raising current and future output of the economy rather than at controlling aggregate demand and immediate improvement of the external payments imbalance. In this section, we will discuss the effects on economic growth of efficiency-increasing and capacity-improving policies.

Efficiency-increasing Policies

Generally speaking, distortions tend to be micro-economic and country specific. Consequently, it is difficult to provide overall empirical judgements on the effects that the removal of these distortions will have. Nevertheless, there are two sources of inefficiency of macro-economic significance that have become more important in recent years, and on which some empirical evidence does exist. One is the inefficiency caused by artificial barriers to foreign trade. Tariffs, quotas, and other restrictions on trade reduce the level of trade and specialization and tend to foster import-substituting industries that lack the efficiency and flexibility of firms continuously exposed to international competition. Several studies, notably by Balassa (1982) and Krueger *et al.* (1981), have shown that countries with outward-looking strategies have fared better in terms of growth, employment, and adjustment to external shocks than those that have followed a more inward-looking approach. The outward-oriented strategies have been characterized primarily by incentives for domestic production to export their goods or to compete with imports. Empirical estimates of the type provided by Balassa (1978), for example, indicate that a ten percent increase in the growth rate of the volume of exports would raise economic growth by 1-2 percentage points.

A second source of inefficiency in some developing countries is the distortion associated with price controls. In the interests of subsidizing agricultural products to consumers, governments often fix the prices of agricultural commodities at levels below those prevailing in world markets. Such policies have a powerful adverse

effect on the level and allocation of agricultural production. Empirical evidence suggests that increasing producer prices will stimulate output, particularly in the longer term. For example, Bond (1983) has shown that the price responsiveness of primary commodities lies within the range of 0.3 to 1.3, with certain commodities having surprisingly high values.[6]

Capacity-improvingPolicies

The rate at which an economy's capacity can be expanded depends, among other things, on the division of current real output between consumption and investment, as well as on the nature and quality of the capital stock being added.[7] For this objective to be achieved the appropriate structural policies are those that favour investment and savings, which in turn would raise the long-run growth rate of the economy.

Savings Policies

Because investment in developing countries is largely constrained by a shortage of capital, policies to promote public and private savings have a special role in adjustment programmes that emphasize an increase in growth. For the public sector such policies should aim to improve the fiscal position; in the case of private savings the focus has mainly been on interest rate policies.

Empirical work on savings behaviour in developing countries, and particularly between private savings and interest rates, has been handicapped by lack of accurate data. For example, savings data, as a rule, are calculated as a residual item, either by taking the difference between GNP and consumption expenditure, or by subtracting the current account deficit (less net factor income from abroad) from gross domestic investment. In both cases the data on aggregate total or domestic savings can be subject to substantial measurement errors. Furthermore, nominal interest rates in developing countries are often regulated by the government so that they exhibit little or no variation for extended periods. These data-related factors have certainly inhibited the use of standard empirical methods in analyzing savings behaviour.

Recently, however, estimation of the effects of interest rate changes on savings has improved modestly, as researchers have turned their attention to the relationship between real savings and real interest rates. From a theoretical perspective, this is clearly a more sensible approach and has, in addition, the practical advantage that while nominal interest rates may be relatively constant over time, real interest rates can fluctuate widely as inflation rates vary. Fry (1984), for example, finds that for a pooled sample of 14 Asian countries the coefficient measuring the effects of the

[6]Bond (1983) reports that for cocoa the price elasticity of supply is 0.8, for coffee 1.3 and for rubber 1.0.

[7]See Krueger (1986) and Sen (1983).

real interest rate on savings was between 0.05 and 0.08. This would imply that a 10 percent increase in the real interest rate would, other things equal, raise the ratio of savings to GNP by a little less than 1 percent. These results have been supported for Latin American countries as well.[8]

Aside from the issue of the responsiveness of domestic saving, appropriate exchange rate and interest rate policies can influence capital inflows to the country. The resulting increase in foreign savings, whether through capital inflows, remittances and other foreign transfers, can be far in excess of what would be implied by estimated interest rate elasticities. For example, the relaxation of interest rate ceilings in countries such as Argentina, Chile, Korea, and Uruguay was followed by a rapid rise in foreign savings, and thus in total savings.

Investment Policies

Despite the weight put on private investment in the adjustment process, there is still much uncertainty regarding the factors that influence investment decisions in developing countries. A large gap exists between the theoretical literature on investment and the models that have been specified and tested for developing countries. The standard models have to be adapted for the structural features of developing countries – the absence of well-functioning financial markets, the relatively large size of government in the investment process, distortions created by foreign exchange controls, wage rigidities – and the adaptation has not been easy. Consequently, there are very few empirical studies available on the subject. We have some evidence on the effects of government policies and the rate of private investment (Section III), particularly on the role of credit and public sector investment, but there is as yet virtually nothing on how structural policies can influence the quality of investment. Until such time that evidence is forthcoming, it is difficult to be conclusive on the links between structural policies and the level of investment.

Assuming that investment is successfully increased, what impact would it have on growth? This question can be addressed by formulating a growth model in which the rate of growth of output is related to increases in the various factors of production – such as the capital stock (of both domestic and foreign origin) and the labour force, as well as technical progress and the use of imported inputs – and then estimating the resulting model with either time-series or cross-section data.[9]

The expected positive relation between economic growth and investment in developing countries has been documented in a number of studies. The estimated

[8] See McDonald (1983).

[9] A simpler approximation is to relate the change in output only to investment, that is, calculating the incremental capital-output ratio (ICOR). The value of the ICOR can then be utilized to determine the effects of changes in investment on the change in output. This method, primarily because of its simplicity, has come to be widely used, although the assumptions underlying it are quite restrictive.

effects of a change in the ratio of investment to income on the rate of growth of real output are surprisingly similar across these studies, despite differences in the samples of countries and periods of estimation. On average, the various estimates indicate that a 1 percent increase in the investment-income ratio would, other things being equal, raise the overall growth rate by about 0.2 percentage points.

V. CONCLUSIONS

The view that orthodox stabilization programmes that rely on monetary and fiscal restraint coupled with devaluation impose serious costs on the economy, particularly by reducing growth, employment, and living standards, has been voiced in many quarters. Consequently, critics of such programmes have argued that more attention should be paid to developing alternative, less costly, approaches to stabilization. The recent interest in "heterodox" programmes that put more stress on price and wage freezes to eliminate inflation, and on tax and subsidy schemes in foreign trade in place of devaluation, is evidence of the dissatisfaction with orthodox packages.

This paper attempted to assess the validity of the criticisms of stabilization by reviewing the empirical evidence on the effects of orthodox policies on the rate of economic growth in developing countries. Several conclusions emerged from this examination. First, while the size of the effect varies, tighter monetary and credit policies will result in a fall in the growth rate in the first year after they are implemented. Furthermore, if monetary and credit restraint take the form of a reduction in the flow of credit to the private sector, the empirical evidence shows that private capital formation and possibly the long-run rate of growth would be affected. Second, there is no clear empirical relation between growth and fiscal policy. Since there are close institutional links between monetary and fiscal policies in developing countries, once monetary variables are taken into account, most studies have found it difficult to measure the independent role of fiscal policy. Finally, such empirical evidence as is currently available demonstrates that devaluation would, on balance, have an expansionary rather than contractionary effect on domestic output. This result has an important bearing on the use of exchange rate policy in developing countries, and is in direct conflict with those who dismiss the role of devaluation as a means of improving international competitiveness and raising the production of tradeable goods because of the supposed recessionary effects of such a policy.

The deflationary effect of stabilization policies can further be minimized if the standard demand-mangement policies and exchange rate policy are supplemented by structural, or supply-side, policies. A concern that arises in the design of a comprehensive adjustment programme is how much emphasis should be placed on structural policies relative to demand-side policies. As the need for a stabilization programme typically reflects excess demand, all programmes must involve some

degree of restraint of aggregate domestic demand. This does not mean, however, that adjustment should be based exclusively on reducing absorption. The imbalance could in principle also be eliminated through expanding domestic supply. However, a major difficulty with structural policies is that they often act with significant delay. For example, investment programmes to raise the rate of growth of capacity output take time to come to fruition. Steps to create improved incentives for production and exports by eliminating distortions in relative prices are also slow to exert beneficial effects, particularly if labour and capital are not very mobile among different activities. In general, to achieve a viable balance of payments, a lower rate of inflation, and improved growth performance, demand-side and structural policies would have to be used in combination. The policy package must be designed to reduce the level of aggregate domestic demand and simultaneously to cause a shift in its composition and toward fixed capital formation. If this can be done, both the current rate of economic growth as well as future growth rate could be protected while inflation and the external payments problems were being addressed.

REFERENCES

Balassa, Bela (1978). "Exports and Economic Growth: Further Evidence". *Journal of Development Economics*. Vol. 5, No. 2. pp. 181–189.

Balassa, Bela (1982). "Structural Adjustment Policies in Developing Economies". *World Development*. Vol. 10, No. 1. pp. 23–28.

Blejer, Mario I., and Mohsin S. Khan (1984). "Government Policy and Private Investment in Developing Countries". IMF Staff Papers. Vol. 31, No. 2. pp. 379–403.

Bond, Marian E. (1983). "Agricultural Response to Prices in Sub-Saharan Africa". IMF Staff Papers. Vol. 30, No. 4. pp. 703–726.

Cooper, Richard N. (1971). *Currency Devaluation in Developing Countries*. Essays in International Finance No. 86. Princeton University.

Diaz-Alejandro, Carlos F. (1965). *Exchange Rate Devaluation in a Semi-Industrialized Economy: The Experience of Argentina 1955–1961*. Cambridge.

Diaz-Alejandro, Carlos F. (1984). "IMF Conditionality: What Kind?". *PIDE Tidings*. Islamabad: Pakistan Institute of Development Economics. pp. 7–9.

Dornbusch, Rudiger, and Stanley Fischer (1981). *Open Economy Macroeconomics*. New York: McGraw-Hill.

Frenkel, Jacob A., and Harry G. Johnson (eds.) (1976). *The Monetary Approach to the Balance of Payments*. University of Toronto Press.

Fry, Maxwell J. (1984). "Savings, Investment, Growth and the Terms of Trade in Asia". (Unpublished)

Guitian, Manuel (1976). "The Effects of Changes in the Exchange Rate on Output, Prices, and the Balance of Payments". *Journal of International Economics*. Vol. 6, No. 1. pp. 65–74.

Hanson, James A. (1980). "The Short-Run Relation Between Growth and Inflation in Latin America". *American Economic Review*. Vol. 70, No. 5. pp. 972–989.

International Monetary Fund (1977). *The Monetary Approach to the Balance of Payments*. Washington, D.C.

Johnson, Harry G. (1958). "Towards a General Theory of the Balance of Payments". *International Trade and Economic Growth*. London: George Allen and Unwin Ltd. pp. 153–168.

Khan, Mohsin S., and Malcolm D. Knight (1985). *Fund Supported Adjustment Programs and Economic Growth*. IMF Occasional Paper No. 41. Washington, D.C.

Khan, Mohsin S., and J. Saul Lizondo (1987). "Devaluation and the Real Exchange Rate". *World Bank Economic Review*. Vol. 1, No. 2.

Killick, Tony (ed.) (1984). *The Quest for Economic Stabilization: The IMF and the Third World*. London: Heineman Educational Books.

Krueger, Anne O. (1986). "Aid in the Development Process". *World Bank Research Observer*. Vol. 1, No. 1. pp. 57–78.

Krueger, Anne O. *et al.* (eds.) (1981). *Trade and Employment in Developing Countries*. Vol. 1. Individual Studies. Chicago: National Bureau of Economic Research.

Krugman, Paul, and Lance Taylor (1978). "Contractionary Effects of Devaluation" *Journal of International Economics*. Vol. 8, No. 3. pp. 445-456.

McDonald, Donogh (1983). "The Determinants of Saving Behavior in Latin America". (Unpublished)

Sen, Amartya K. (1983). "Development: Which Way Now?". *Economic Journal*. Vol. 93, No. 372. pp. 745–762.

Taylor, Lance (1981). "IS/LM in the Tropics: Diagrammatics of the New Structuralist Macro Critique". In W. R. Cline and S. Weintraub (eds.), *Economic Stabilization in Developing Countries*. Washington, D.C.: Brookings. pp. 465–502.

Comments on "Stabilization and Economic Growth in Developing Countries"

Adjustment policies can be of the *stabilization* type which makes use of tightening credit, devaluation and fiscal measures; and/or of the *structural* type, which can rely on various measures, put emphasis on the supply side, and supposedly take longer time before their effects are realized.

Adjustment policies are sometimes not enthusiastically viewed by governments of developing countries. One of the arguments is that adjustment policies may have an undesirable impact on economic growth. The purpose of the paper by Dr Mohsin S. Khan is to examine available evidence on the economic growth effects of adjustment policies: first, of the stabilization type and second, when supplemented by structural measures. In doing so, the author relies on his empirical results and those obtained by others.

To facilitate our comments, it is useful to summarize the results of Khan in a schematic form, as done below. Khan describes the need for adjustment programmes as being associated with high inflation and adverse balance of payments. Alternative

A Schematic Presentation of the Empirical Evidence as found in M. S. Khan's Paper

Need for Adjustment Programmes for Countries with						
Higher Inflation			Adverse Balance of Payments			
Stabilization Policies			**Structural Policies**			
Instrument	→	impact	Instrument	→	via	→ impact
* less credit	→	lower growth	* outward looking strategies	→	higher exports	→ higher growth
* devaluation	→	higher growth	* lower food subsidies	→	commodity output	→ higher growth
* fiscal/spending	→	?? growth	* higher interest	→	higher savings	→ higher growth
* fiscal/taxes	→	?? growth	* unidentified measures	→	higher investment	→ higher grow

instruments and their growth effects are sketched under the block of stabilization policies i.e. the author cites empiricial evidence to the effect that credit restriction leads to lower growth etc.; and similarly, for the block of structural policies.

Khan mentions two indicators for characterizing a situation requiring adjustment: high inflation and adverse balance of payments. Although defining criteria for identifying candidate countries for adjustment policies is not the immediate concern of Khan, a few elaborations on this issue may be necessary. An analogy can be made with the situation of a patient: the nature and degree of sickness of a patient are supposed to determine the kind and amount of medicine. A discussion of repercussions cannot be made independently from the diagnosis and the treatment.

In this respect, several questions may be asked. How high should the rate of inflation be? Which indicators to use in defining an adverse balance of payments and which limits of these indicators should be taken in identifying an adverse situation? Should one consider other symptoms such as the relative size of the budgetary deficit, or the relative share of components which finance the deficit i.e. foreign versus domestic debt and therein commercial banks *vis-á-vis* non-commercial sources of financing?

In evaluating recent experiences with stabilization policies in particular countries, it is also relevant to know the causes behind a high inflation, an adverse balance of payments or a heavy budgetary deficit, and the particular economic environment in which the stabilization policies have taken place. In fact, the most logical way of evaluation, but hardly implementable, is to compare economic growth for one and the same country, with and without stabilization policies. In view of the above, a case by case evaluation should be preferred to a pooling of empirical evidence from a large variety of countries with differing circumstances, which the author does.

In his impact assessment of stabilization policies, Khan devotes remarkably little attention to the growth impact of fiscal policy, the argument being that there is little evidence on that. Recent computations of social accounting matrices have added an important tool of analysis for studying the growth (and redistribution effects) of fiscal transfers, contraction and expansion, cf. in this review, the paper by S. I. Cohen. There, it is shown that for Pakistan, an additional tax on private incomes will reduce growth by x %, but that when the additional tax is spent back via government – hence, keeping the budget deficit unchanged – the growth effect will be (x+y) %. To the extent that the fiscal stabilization policies would re-allocate purchasing power from private to public institutions, positive growth effects may be expected. Recommended fiscal measures in the framework of stabilization policies are usually in the opposite direction, but they do not seem to be as well-documented as in the case of monetary policy and devaluations.

On the growth impact of monetary policy, two inconsistent pieces of empirical evidence may need reconciliation. "A reduction in credit by 10 percent leads

to a reduction in economic growth by 1 percent Khan and Knight (1985), ... and the real credit elasticity of investment is estimated to be between .05 and .15, or an average of .1 (according to few existing studies)". The above statements suggest that real credit elasticities of both growth and investment are .1, which is not possible.

On the growth impact of devaluation, the author points to opposite results but by taking *average* of countries, the growth impact is found positive. A word of caution may be made here, especially in relation to what was mentioned above on the desirability of a case by case assessment instead of a pooling of countries. M. S. Khan would, I hope, agree that individual countries, in negotiating devaluation, would not readily accept that the average situation – whatever that may mean – holds for their particular circumstances.

Turning to structural policies, a fundamental issue is whether these policies should be approached in the way the author does. At some moment, structural policies cease to be adjustment policies and would rather belong to development policies. Many development economists may have a fundamental difficulty with labelling structural policies as part of adjustment policies in a situation in which the country concerned has an explicitly formulated development plan and development policy. It is essential to look at adjustment policies – if they arise – as complementary to development plans, and not as substitutes for development plans.

M. S. Khan's summary of evidence on structural policies is less comprehensive. This is very understandable in view of the large scale of possible measures and interactions. One can observe also that the evidence which Khan lists on the desirability of outward looking strategies and lower food subsidies is more than a decade old and is fairly well-known. Nevertheless, in many discussions of this evidence it is forgotten that what has become true of Korea, Taiwan, Singapore and Hong Kong would not have become true if all the developing countries would have engaged in export promotion or subsidy cuts. The size of the foreign importing market (together with the domestic purchasing power) is not unlimited. A full scale export promotion policy of the third world – in the face of foreign protection – would have resulted in a tremendous and detrimental competition.

Finally, it may be pointed out that higher interest rates would not only lead to higher savings but would also lower investment. Khan does not discuss the total effect of higher interest rates on growth. Also in his discussion of the effect of a higher investment on growth, M. S. Khan states that "on the average the various estimates indicate that a 1 percent increase in the investment-income ratio would, other things being equal, raise the overall growth rate by about 0.2 percentage points". The figures imply an incremental capital-output ratio of 5.0, which is much higher than what the average of available estimates indicate.

To conclude, we should express our deep appreciation for the manner and depth in which the author has presented evidence on the growth impact of stabilization policies. This may encourage others to study the income distribution effects of

stabilization policies along the same lines. That the commentator and the author happen to differ on the roles to be assigned to stabilization policies versus structuralist policies, should be seen in the light of an old duel between two endangering, but as yet, not endangered species!

Erasmus University,
Rotterdam, Netherlands

Suleiman I. Cohen

Comments on "Stabilization and Economic Growth in Developing Countries"

In his excellent paper the author briefly reviews the controversy regarding stabilization and economic growth in 'developing countries' and arrives at certain conclusions on the basis of some empirical data. He leaves little to be added to his superb presentation. Nevertheless, I venture to restate his discussion (as I understand it) in slightly different terms, in the hope that further insights may be provided by a 'fresh look' at the problem.

The problem addressed, roughly speaking, is that not only in aggregate should the economy be in general equilibrium, but also sectorially in the foreign and domestic domains. 'Stabilization' is the process of regaining this 'fine-structured' general equilibrium. A policy package for this 'stabilization' is the devaluation of the local currency along with monetary and fiscal restraints. Critics of this package claim that it entails unacceptable 'economic costs'. On analysing some empirical data (1985), (1986) the author concludes that, whereas there are definitely adverse short-term effects on the growth of the economy, it is not clear whether the long-term effects act in a similar manner.

Though I can sympathise with the author's desire for brevity, a presentation of the data and analysis on which he based his conclusions would have been appreciated. Not that I have any doubts about the soundness of his analysis, but the data and analysis would have helped to further clarify the statements. For example, where he concludes that "empirical evidence . . . is consistent with the view that devaluation would, on balance, have an expansionary rather than a contractionary effect on domestic output" he could mean that: (a) the data seems to show some trend but the 'scatter' of the data precludes any firm conclusion; or (b) there *is* a slight significant positive effect, but it may not be due to devaluation. If, at least, the standard deviation (or some equivalent) were given the sense would become clear.

The author makes it clear that the 'economic costs' he is concerned with relate only to growth. The critics of the policy package may be concerned with social welfare. Thus, where the author says that the "decline of living standards . . . should not be regarded as a 'cost' of the stabilization programme", his critics and he may be talking at cross purposes. What he regards as "absorption . . . merely . . . being

brought into line with available resources" could (in extreme cases) push a sizeable portion of the population below the barest level of subsistence.

The 'fine structured' general equilibrium has two degrees of freedom, which I shall illustrate by an analogy. In the context of general equilibrium, one degree of freedom may be illustrated by a car (representing the economy) moving along a road (representing the equilibrium path). If the car goes off the road, a force applied orthogonal to the road (the policy instrument) can bring it back. Two degrees of freedom may be illustrated by an aeroplane moving on some course. If it goes off-course, two orthogonal forces, one up-down and the second left-right, are required. It is not clear whether the new general equilibrium will be stable (in the sense of stability of the equilibrium and not of 'stabilization' as used in the paper). If it is not stable the policy package would have to be used periodically. That may not be acceptable. It is, therefore, necessary to answer the question "what, if any, conditions are required to ensure stability?".

Let me now address another question: "How could the critics be answered?". In effect, the policy package amounts to 'tightening the belt' to restore the balance of payments. The problem is that the 'belt is tightened' equally for the entire population: for the rich who can afford to do so and the poor who cannot. Some measures for redistribution of the burden of 'belt tightening' is required. Any such measures would affect the policy package. It is not clear whether the new package would be "consistent with growth" or not. Nor is it clear how it would effect the stability of the equilibrium. However, it does seem clear to me that the problem cannot be ignored if the package is to be acceptable to the bulk of the population of an *underdeveloped* country.

REFERENCES

Khan, Mohsin S., and Malcolm D. Knight (1985). "Fund Supported Adjustment Programs and Economic Growth". IMF Occasional Paper No. 41. Washington, D.C.

Khan, Mohsin S., and J. Saul Lizondo (1987). "Devaluation, Fiscal Deficits, and the Real Exchange Rate". *World Bank Economic Review*. Vol. 1, No. 2.

Quaid-i-Azam University,
Islamabad

Asghar Qadir