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High Inflation, "Heterodox" Stabilization, and Fiscal Policy

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Abstract

In 1985-86, Argentina, Bolivia, Brazil, and Israel introduced stabilization programs aimed at drastic and immediate reductions in inflation. Besides traditional fiscal and monetary policies, the stabilization packages included a number of "heterodox" elements such as wage and price freezes, exchange rate pegging, and deindexation measures. This paper delineates the analytical relationship between the traditional and heterodox policies, discusses the role and impact of the heterodox policies in the programs, and examines in detail the role of traditional fiscal policy when coupled with heterodox policies and applied with the aim of moving quickly from very high to very low inflation.

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Contents

I. Introduction

The role of fiscal policy differs, depending on the economic circumstances in which it is undertaken, on the additional policy instruments used, and on the specific objectives it is trying to achieve. This paper examines the stabilization programs introduced by Argentina, Bolivia, Brazil, and Israel between July 1985 and March 1986, when hyperinflation was an imminent threat for each of these economies, so that a primary policy aim had to be the attainment of a quick and drastic reduction in inflation.

These stabilization programs are interesting from a fiscal point of view, not only because the behavior of fiscal variables under very high inflation differs from fiscal responses under a regime of stable prices, but also because the packages contained some innovative elements, which themselves affected the role that fiscal policy was called upon to play.

The programs were considered innovative for two reasons. First, they created major discontinuities in the trends of the main macroeconomic variables, rather than following the gradual adjustment paths of traditional stabilization packages. For this reason, they have usually been referred to as "shock" programs. Second, in most cases they included a number of incomes policy elements such as wage and price freezes, together with exchange rate pegging and deindexation measures. These components have been characterized as "heterodox", compared with the "orthodox" emphasis on demand management through fiscal and monetary instruments. However, in practice, traditional "fundamental" policies, mainly in the monetary and fiscal areas, formed the bulk of each program. In fact, the designers of the shock programs considered the combination of heterodox and fundamental (demand management) policies crucial to the success of the programs.

The objective of this paper is to make the analytical aspects of the design of these programs explicit, so that the relationship between the traditional and innovative elements of the programs is highlighted, with particular emphasis on the place of fiscal policy.

The paper contains three main sections. The first substantive section (Section II) discusses briefly the economic rationale for the policy measures in a representative shock program by putting them in the perspective of recent theories of inflation determination. Section III provides a taxonomic description of the aims and measures of the shock programs, and in particular the specific contribution of the heterodox elements; and Section IV describes in detail the role played by fiscal policy, the interactions between inflation and budgetary policies, and the feedbacks between the heterodox and the fiscal elements of the programs, in order to throw light on the appropriate role of fiscal

instruments in the design of a strategy to stem hyperinflationary pressures. 1/

II. Analytical Underpinnings of the Shock Programs

1. Inertia, credibility, and the money supply

Although the designers of the shock programs started with different aims, policy constraints, and country characteristics, their approaches to the inflation problem were similar. The general view was that, once inflation reaches a very high rate, two different kinds of variables become important in its generation and perpetuation. First, as recognized in traditional adjustment programs, demand pressures on domestic prices arising from excess absorption are a crucial determinant of inflation. This implies that fundamental variables must be restricted; demand-management policies, therefore, have a central role to play in the shock programs. Second, and less traditionally, inflation is also considered to be strongly influenced by inertial forces, which are determined mainly by expectational variables. Inflationary expectations (either informal or institutionalized into indexation schemes) tend to be self-fulfilling, as individuals behave consistently with their predictions about inflation. Given a history of high inflation, and the expectation that the inflation pattern will be difficult to break, the existence of inertia in response to an actual change in policy regime greatly reduces the flexibility of economic policy, slows the speed of reaction to policy change, and so increases the costs of adjustment. The heterodox elements of the shock programs were an attempt to break the inertial process by severing the link between yesterday's and today's inflation.

The relationship between inertial forces and demand management policies operates in two directions. On the one hand, it must be recognized that inertial forces cannot be translated into effective price increases unless monetary policy is accommodating. In traditional models of inflation, the money supply is a truly discretionary policy variable and, therefore, inertial inflation cannot play a permanent role. If a government decides to stop increasing the money supply, incipient inflation, arising from expectations or from higher demand, will not be realized, because people will not have the liquidity to bid up the general price level (though relative prices may change as demand shifts).

1/ In many cases, available data were not specific enough to quantify the issues discussed in this paper. The issues are included, however, both because of their conceptual importance and because of the large body of qualitative evidence which supports their significance in the context of the shock programs.

It is obvious, however, from the many failed attempts of stabilization in Argentina, Bolivia, Brazil, and Israel, that in reality the process of money creation may be subject to many pressures, and may be propelled by the inflationary process itself. The impetus to increase the money supply may come, therefore, from outside the realm of the monetary authorities. In particular, monetary policy is rarely completely independent of fiscal policy. If this is the case, a restrictive monetary policy will be difficult to implement, unless the fiscal forces or other outside influences which affect money creation are controlled. Furthermore, if the monetary authorities attempt to cut the money supply (or reduce its rate of growth) without complementary decisions in other sectors of the economy, the adjustment of these other sectors to less liquidity may be haphazard and painful.

While monetary control can vitiate the influence of inertia on the price level, on the other hand, the presence of inertia may reduce the effectiveness of traditional demand management policies. The argument is as follows: one thesis of the rational expectations school 1/ says that inflation can be stopped abruptly, with low transition costs, if the government implements drastic fiscal and monetary policies which are consistent with price stability. However, in order to be effective, these policies must be credible--the public must be convinced that fiscal and monetary restraint will be maintained for a long time. Unfortunately, there is no simple way in which the government can convince the public that its policies will be sustained. If, for example, the public does not believe that the government can persist in the enforcement of tight policies, for fear of high unemployment, then their inflationary expectations will remain entrenched. Faced with this situation, the government will not be inclined to adopt tight policies at all, and, since high inflation will persist, the public's expectations will have proved to be self-justifying or "rational."

Among the reasons the public may not accept the government's announced long-term disinflationary targets is that in countries with a long history of inflation and failures of disinflationary policies, there exists a deep-rooted pessimism about the government's ability to control inflation. This causes considerable downward rigidity in basic, longer term, inflationary expectations. These basic inflationary expectations are, in addition to institutional mechanisms, the forces behind the concept of "expectational inflationary inertia" and make the use of a monetary and fiscal squeeze as the basic disinflationary instrument very costly. To avoid the large costs in terms of employment and output that arise from the combination of monetary restraint and inflationary inertia, the "heterodox" stabilization packages augmented demand management with temporary incomes policies including initial price freezes.

1/ See, for example, Sargent (1982).

The question is, of course, what ensures that the expectational inertia will be dislodged by the package of wage-price-exchange-rate freezes? Certainly, there is no guarantee that incomes policy will reduce the basic level of inflationary expectations, but there are two considerations which indicate that it could. First, provided that the proper adjustments in the fundamentals (such as the current account of the balance of payments and the budget deficit) have been carried out, the imposition of a price (and exchange rate) freeze can help the government demonstrate that the economy can effectively function without inflation and without any stresses in the strategic areas--such as the current account of the balance of payments or the debt-income ratio. As a result of this demonstration effect, individual agents may come to accept the state of low inflation as a realistic possibility.

Second, as long as the government combines incomes policy with a fixed exchange rate, there is an explicit or implicit commitment not to resort to inflation to achieve other objectives (through, for instance, eroding the real wage to make the economy more competitive). When the fundamentals are consistent, this commitment may be credible and may carry over to the period when controls are lifted.

To summarize, program designers augmented traditional demand management theories by considering that the money supply is usually accommodating and that it might be forced to accommodate not only demand pressures created by an elevated level of absorption but also demand pressures created by individuals who behaved "as if" absorption was high, even when that was not presently the case. Given the added cost that these "inertial" demand pressures implied for the implementation of traditional stabilization programs (a cost which some felt to have explained the failure of traditional stabilization programs in the past), it was important to add "transitional" policies which would change expectational and indexation-induced inflation without a prolonged lagged adjustment period.

2. Inflation-tax financing of the fiscal deficit

Although there are many plausible mechanisms through which monetary expansion is generated by the inflation process itself, 1/ one central

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1/ Monetary policy is quite likely to be accommodating in high inflation because: (i) there may be no formal policy of restricting credit to the private sector, even though the authorities have decided to impose fiscal restraint; or (ii) even if the monetary authorities desire to reduce private sector credit concommitantly with public sector credit, they will face strong resistance. Pressures will come, for example, from firms who have granted wage increases consistent with high inflation and who will face difficulties and, ultimately, bankruptcy if they do not get access to the credit which would enable them to pay these increases.

variable behind money supply growth is the fiscal deficit. 1/ One way of describing somewhat simplistically the relationship between inflation, the deficit, and the money supply is in terms of the so-called inflation tax model.

When the desired level of the deficit cannot be financed by debt issue, the government will generally finance it by money creation. The real deficit is thus financed by changes in the real value of the debt and inflation-tax revenue on the holding of real money balances. However, the demand for real money balances falls as inflation rises. In other words, the base of the inflation tax is eroded as the tax rate rises. Hence, if the government wishes to maintain a given real deficit regardless of the inflation rate, it will have to generate the inflation tax necessary to finance that deficit through higher and higher rates of nominal money growth as the inflation rate grew. This model of inflation has the implication that countries may face a maximum sustainable fiscal deficit (indicated by D* in Figure 1), given their private sectors' willingness to hold other types of government debt. If the government tries to finance a deficit higher than the maximum, the money supply will always exceed money demand, so that the necessary inflation tax revenue will not be forthcoming. If the government persists in printing money, inflation will get higher and higher without the government's control of real resources being increased. In these circumstances, hyperinflation will be a strong possibility. 2/

Under this hypothesis, then, there is an absolute limit to government's deficit financing. This limit is determined by the attainment of a sort of "threshold" inflation rate. If accelerating

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1/ There are clearly many other sources of monetary growth that do not originate in fiscal deficits. A detailed examination of the working of monetary policy instruments and of the evolution of monetary and reserve aggregate is needed to complete a theory of monetary hyperinflation. This, however, goes beyond the scope of this paper. On this subject, see, for example, Calvo and Fernandez (1983). They analyze the possibility of affecting the steady-state level of inflation, at a given budget deficit, by means of monetary management, mainly changes in the reserve ratio of commercial banks.

2/ In perfect foresight models, a sufficient condition for the emergence of hyperinflation would be an exogenous, nonmarginal shock to push it past the threshold level at which the deficit becomes unsustainable. In models which include any element of inertia, either from expectations or from any other structural rigidity in the economy, hyperinflation can be induced without an exogenous shock.

inflation were then to be observed in the economy, adjusting the money supply would not allow the government to maintain its real deficit. 1/

A second implication of this hypothesis is that, for the more plausible shapes of the money demand schedule, the same deficit could be observed at a high inflation rate as with a low inflation rate. 2/ (In Figure 1, the deficit is the same at π_o (D_o) and π_1(D_1).) At the high inflation rate, (π_1), the deficit would be financed "inefficiently." Hence, in economies experiencing very high levels of inflation, an effective money-demand increasing policy might allow the government to maintain the size of its present deficit while reducing inflation. Given the dependence of money demand on inflationary expectations and general confidence in the economy, the policy problem is to find the combination of expectation-changing policies sufficient to create the jump from the "high inflation trap" where real money demand is low to the "efficiently" financed deficit where money holdings are higher. If it were indeed possible for the government to maintain its deficit, and hence its real level of absorption, and still bring down the inflation rate through expectational policies, a more general question would then become relevant: might it not be possible to reduce the inflation rate without cutting real output? In the shock program countries, the search for ways to cut inflation while minimizing output loss became very important and gave a rationale for the implementation of policies, such as price freezes and exchange rate fixing, which were considered necessary to insure a transition from one equilibrium level of inflation to another. 3/

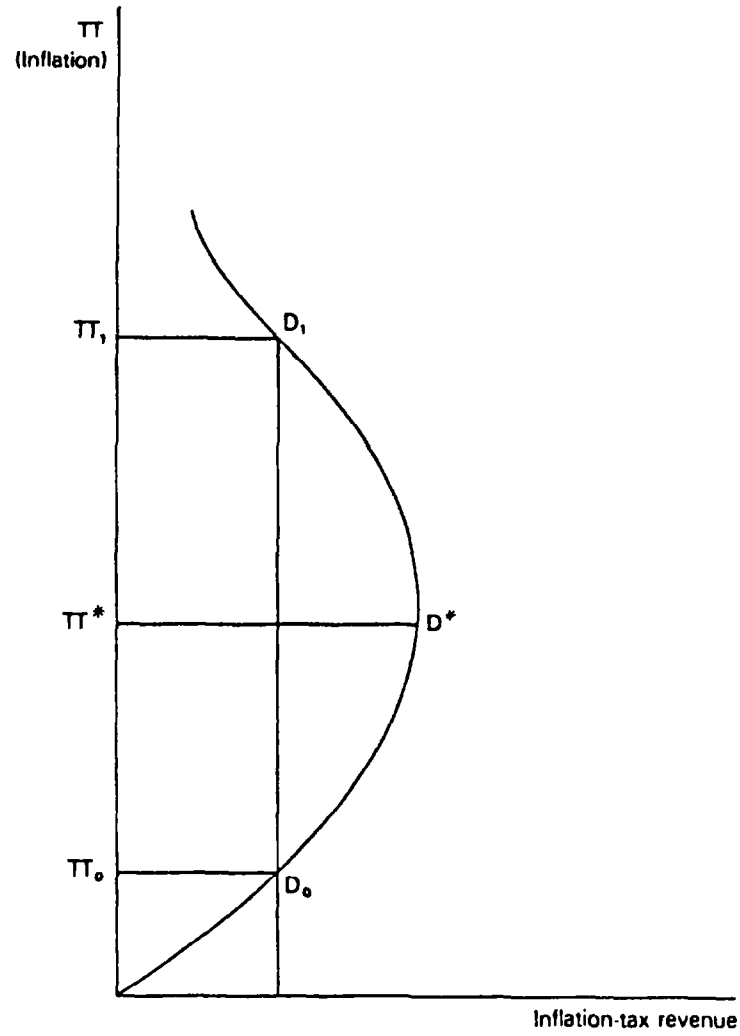
1/ This is strictly correct in the steady state. Calvo (1978) and Barro and Gordon (1981) have developed models where the government can continue to extract resources even at very high rates of inflation. In their models, when inflationary expectations, formed rationally in the light of the government's revenue objectives, are given at each date, the government can generate more revenue if it selects a rate of monetary expansion greater than that expected by the public. The public then anticipates this change and revises its expectations, but the government can choose an even higher rate of monetary growth, and so on. Such a process can result in infinite rates of monetary expansion and inflation, and there is no equilibrium.

2/ This exposition does not take into account the inverse relationship between normal taxes and inflation-tax financing which has been pointed out by Tanzi (1977). This relationship, and its implications, will be discussed in Section IV.

3/ Bruno and Fischer (1985) commented that "The existence of a high inflation trap suggests that it may be possible to reduce the inflation rate in a high inflation economy by policies typically regarded as unsound, such as fixing the exchange rate, or freezing nominal wages or prices, in an attempt to make the transition from a high to a low inflation steady-state."

FIGURE 1

LIMITATIONS TO INFLATION-TAX REVENUE



D_0 : An "efficiently financed" deficit

D_1 : The same deficit, "inefficiently financed"

D^* : The maximum sustainable deficit

III. The Terms of the Shock Programs

Despite substantial differences in specific policies from country to country, the twin concerns of government credibility and inflationary financing of the fiscal deficit structures described in Section II may be seen as the framework within which shock programs were designed. This framework also provides a rationale for the general features which were common to the various programs, and a consistent classification for the different categories of measures adopted as part of the disinflation strategy.

1. General features

The first common feature of the programs was the aim of the authorities to bring down inflation drastically and immediately. This must be seen in the context of their historical record--the failures of previous attempts to slow inflation gradually and the low degree of credibility given to the announcement of further stabilization schemes.

A second common feature is their high degree of comprehensiveness, encompassing policies directed at most of the more important macroeconomic variables. The need perceived for a comprehensive plan was largely dictated by the objective of bringing down inflation immediately. A partial approach could result in serious distortions which might endanger the entire plan in the short term and damage the country's growth potential over the medium term; for example, if wage policy were excluded from the plan, a rise in real wages (in terms of tradable goods) would lead to a balance of payments crisis. However, the need for comprehensiveness was also dictated by the perception of inflation determination. If inflation is generated by both excess absorption and inertial forces, a successful plan cannot confine itself to the adjustment of the key macroeconomic variables such as the current account or public debt ratios but should include nominal policies which address expectations. On the other hand, a successful program cannot deal only with inflationary inertia when the fiscal stance and other fundamental variables are incompatible with low inflation levels and with sustainable growth.

The third common feature of the programs was the attempted synchronization of the heterodox policies, especially the synchronization of the exchange rate and of wage policies with the price freeze. Such a precise coordination in the timing of the policy measures when inflation is stopped at a high speed was viewed as essential to avoid serious distortions in relative prices in the initial stages of the program.

2. A classification of shock program measures

The elements of a broadly defined or "representative" shock program can be grouped into three different types: (a) preparatory reforms; (b) expectation-adjusting policies; and (c) demand-management

policies. A short account of the type of measures in each category is provided here.

a. Preparatory reforms

These were implemented prior to the formal launching of the plan and included equilibrating adjustments in key relative prices (goods prices, wages, the exchange rate, the interest rate, etc.) and, in some cases, structural reforms in fiscal, monetary, and other key policy areas.

The need to resort to some pre-equilibration mechanisms arises from the perception that the creation of large discontinuities in inflation through the administrative control of nominal variables, including wage and price freezes, may exacerbate existing disequilibria in one or more markets. If markets are in disequilibrium at the time their prices are frozen, then pressures to equilibrate will be manifested through quantity adjustments, besides continued price pressures. Hence, a logical corollary policy to the freezes contained in the shock programs would be prior attempts to equilibrate goods, factor, and asset markets, so that legislation would merely validate and publicize the underlying economic reality, rather than trying to force an unrealistic alignment of markets.

It should be mentioned that a clear trade-off was perceived between equilibrating and not equilibrating prices prior to the program. Upward price adjustments at the beginning of the program would indeed hamper the decline of inflation and, thus, erode the credibility of the program. On the other hand, if prior equilibration did not take place, price freezes would soon come under strain as disequilibrium corrective price pressures emerged. In addition, freezing prices out of equilibrium could tend to perpetuate any distortions that might follow disinflation. Moreover, if the disequilibrium price freeze were maintained for a significant length of time, they would create serious damage to the country's ability to grow through response to economic incentives.

b. Expectation-adjusting policies

Expectation-adjusting policies were "impact" measures--where the effect of the policy was to be felt immediately after the policy announcement was made. Their objective was to attack directly the inertial component of inflation by creating a hiatus between past and present inflation and, in this manner, dampen future expected inflation. Two types of measures in this category could be distinguished:

(1) Temporary "shock" measures

Some shock measures were designed to be transitional. They were to lead a frontal and direct attack on inertia by abrupt changes in

expectations. Measures of this sort included freezes of key prices and were designed to create large discontinuities with the previous policy regime and to assault basically all relative prices: (i) domestic prices, (ii) the exchange rate, (iii) wages, (iv) returns to forward contracts, and (v) returns to financial assets. In cases where indexation mechanisms had institutionalized the inflation link, these types of policies could include the direct (e.g., legislated) break in the indexation system. Furthermore, in all of the shock programs, the announcement of the program was itself considered important in affecting expectations. Thus, in each country the policy packages were announced formally and en bloc by the authorities.

(2) Impact measures on fundamental variables

Other shock measures were designed to break inertia by adopting policies which would generate a confident and sustained conviction that future government actions would be consistent with lower inflation rates. Since expectations are usually rooted in the actual behavior of fundamental variables, the shock measures included: (i) very large immediate (in some cases one-time or temporary) adjustments in fiscal variables; 1/ and (ii) announcements of future radical changes in these variables.

Immediate impact measures differed from traditional demand-management policies because of one or more of the following characteristics: they were expected to have an immediate impact on the fiscal deficit, domestic credit, the trade balance, etc.; they were large in size relative to more permanent, sustainable demand-management policies; and, given their once-and-for-all nature, or the detrimental effects that they could have in the long run, they were expected to be temporary.

Announcements of future reforms were intended to affect fundamental variables in the longer run. Their immediate impact lay in the credibility lent by their announcement of the government's intentions to sustain the changed policy regime.

c. Traditional demand-management policies

In tandem with the impact measures, more conventional policies were also used to alleviate demand pressures. They included mainly deficit reduction and credit restraint, and were expected to have the traditional gradual impact on the economy.

1/ The main fundamental impact measures were the introduction of forced savings schemes, which substituted for other tax revenue in the short run. These forced savings schemes became strongly identified with the popular conception of the nature of a shock program.

3. Some remarks on the heterodox elements of the programs

Of the various categories of policies incorporated in the shock programs, the high-visibility impact or expectation-adjusting policies have given rise to most debate. Some impact policies are fiscal in nature and will be discussed in the next section. Others, including direct controls and various deindexation mechanisms, were intended to correct recalcitrant inflationary expectations without having a major effect on traditional fiscal and other demand-management variables. As will be discussed later, even when impact policies are intended to alter expectations rather than the "fundamentals," they are normally associated with budgetary costs and reductions in activity and, therefore, it would be misleading to represent such policies as capable of reducing inflation without cost to the real side of the economy. But, in addition to the indirect cost of impact policies, questions may be asked about the specific role which these policies have actually played. Without an understanding of their mechanisms, it is not feasible to assess the extent to which the shock programs actually departed from traditional stabilization packages.

The assumptions underlying the inclusion of policies to attack inertia in most of the stabilization programs were: (a) that inflationary expectations take time to adjust and may prolong inflation beyond the point where underlying fundamental variables no longer warrant price increases; and (b) that inflationary expectations can only be affected in the short term by impact policies, including price and wage controls. However, even if (a) is a correct description of reality, it is possible that expectations could change rapidly in response to drastic and credible changes in fiscal and monetary variables, without the need to resort to additional impact measures as assumed by (b). Moreover, even when impact policies are deemed to be an essential component of the stabilization package, it is important to consider their costs and the complications involved in their implementation.

a. Price controls

Price controls have been among the more prominent impact policies used. While there is little disagreement with the notion that, without fundamental adjustments, price controls cannot alter the underlying inflationary pressures in the economy, it has become apparent as well that the implementation of price and wage controls at disequilibrium levels makes them untenable, increases their distortionary effects, and thus hinders economic growth. Moreover, if the controls are not expected to be sustainable, people will move out of money and nominal assets into goods at an accelerated rate, thus exacerbating the inflationary pressure on the price level and making the expectation of inflation and rupture of the price controls self-fulfilling.

In addition, price controls may be associated with output losses arising from the large discontinuities, the administrative

complications, and the uncertainties that wage and price freezes create in the economy, in which case the loss of output will be larger than the output loss to be expected at the outset of a program without incomes policies.

The types of costs that arise from price controls may well have a direct fiscal component. Even if prices are, and remain, at equilibrium, the administrative (and in some cases political) costs to government of controlling prices directly are significant. If prices start from a disequilibrium position, either the government or the private sector will have to bear the cost of the discrepancy between quantities supplied and demanded. When the government bears the cost, through increasing producer subsidies, for example, the price of the good has only been controlled in a very narrow sense and the operation has a clear fiscal cost.

(It should be noted that, no matter how carefully prices are aligned in equilibrium at the beginning of a program, only rarely that equilibrium will remain relevant as soon as the program goes into effect. The idea of setting equilibrium prices in one regime, initiating a program which has as its main aim a drastic, sudden, and complete change in that regime, and expecting prices to be invariant to the change, makes sense only in a world where not only inflation but also any reduction in the government deficit, any change in the exchange and interest rate, any change in the labor and financial markets, are all completely neutral with respect to the structure of relative commodity prices. More generally, the only type of growth that would be compatible with such a policy regime would be completely technologically neutral (a condition more restrictive than most theoretical assumptions about growth and very unlikely to be achievable in practice.))

A specific problem associated with freezing prices out of equilibrium relates to public sector tariffs. If they are fixed at a disequilibrium level at the outset of the program, this implies the emergence of a subsidy on public services. The price freeze not only ensures that this subsidy is perpetuated but may also lead to the gradual substitution out of high-priced goods and into government services. Inasmuch as this takes place, it exacerbates subsidy payments due from the government.

In general, any subsidy element in prices which remains during a freeze will tend to worsen the budget deficit and/or the financial situation of public enterprises. This, in turn, represents an expansionary fiscal policy, and this expansionary policy increases both demand pressures and expected inflation. 1/ If, on the other hand, the subsidy is not recognized in the government budget but, instead, must be borne by private sector producers, shortages will occur which will also have detrimental effects on inflationary expectations and the

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1/ This is shown by Chu and Feltenstein (1978) to have happened in Argentina during the 1970s.

credibility of the government's policy stance. Hence, the use of a disequilibrium set of prices lowers the probability that a price freeze can be sustained, besides substantially raising its cost and its impact on the budget.

When the economy is at full employment, the ability of price controls to suppress inflation may be weakened further. Controls may be more costly and less effective than in conditions of excess capacity because supply constraints become apparent almost straight away and, so, all the extra pressure from increased subsidies and transfers has to be repressed through the price freeze at a high and increasing cost. Relatively slack conditions, therefore, make the price freezes less likely to be broken and less costly to administer.

The contribution of sectoral excess supplies was apparent in both of the seemingly well-managed price freezes in Israel and Argentina, where excess supplies (a) permitted the price freeze to work, and (b) reduced the costs associated with its removal. 1/ However, it is possible that the creation of excess supplies may be achieved only at the expense of the program goals of minimum output loss and reactivation of long-term growth. For instance, it has been suggested that the maintenance of a very high interest rate immediately after the introduction of a shock program will encourage the running down of inventories and, thus, alleviate prior supply constraints. 2/ The corollary to a policy of interest rates, however, is that investment will be depressed, even to the extent that total production may fall, creating sizable output losses.

In practice, high ex post real interest rates appeared in most of the shock program countries, but these arose either because financial risks and expectations did not abate or as a consequence of the restrictions on financing the public sector through credit creation, coupled with the impact of a higher money demand when inflation fell. In other words, given its other policies which affected the interest rate, the government had very limited scope for an independent interest rate policy as a way of controlling the amount of slack in goods markets and, thus, phasing out the price freeze.

b. Deindexation schemes

Another issue to which the shock programs attached great importance was the removal of formal indexation. According to the theory of inertial inflation, one of the main culprits in prolonging inflation after underlying real causes of price pressure are removed is the widespread indexation of the economy. The indexation mechanisms have two components: a mechanical link between past inflation and present price increases and an expectational component, whereby indexation schemes minimize the variance of expected future incomes in such a way

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1/ See Blejer and Liviatan (1987).
2/ See Blejer and Liviatan (1987).

that individuals do not anticipate large discontinuities in their permanent income and in the consumption power that the income provides. Therefore, for a deindexation scheme to be successful it would have to, on the one hand, create an abrupt discontinuity between past and present price increases and, on the other, generate changes in expected permanent income significant enough to make individuals alter their consumption patterns.

The effort to deindex the economy in the context of the programs may be analyzed by looking separately at the labor and capital markets. It can be said, in both cases, that the amount of deindexation which actually took place, despite the prominence accorded to it in the programs, was minimal.

Regarding wages, the so-called "deindexation schemes" did not result in any long-run change in the expectations of individuals about the level of their permanent income which might have changed their consumption and savings patterns, nor did they bring about any structural change in the system and in the mechanics of wage formation. Although wages were frozen in all the countries except Bolivia, the public was, in general, given to understand that the freeze was a short-term measure and that former levels of real wages could be restored, if not by legislation, through the bargaining process. In fact, it could be said that, in some cases, there was a refinement in the protection with which the indexation mechanisms offset the cost of inflation on incomes. 1/ In theory, the price freeze itself would have accomplished the same end as the deindexation schemes. If the freeze had succeeded in abruptly cutting inflation, from then on the relevant inflation rate to be taken into account in the indexation equations would have been correspondingly less important. This is, in fact, what happened. The price freeze dampened the inflationary spiral. However, if inflation should increase again, for any exogenous reason, the same inflation growth as before could occur in each country, given that the wage indexation mechanisms, although slightly changed in some cases, essentially remain in place.

Analogously, there was very little deindexation of financial assets. In Argentina, there were no formal deindexation announcements concerning financial assets although the application of the conversion scale to financial contracts was regarded as a deindexation measure, sufficient on its own to accomplish deindexation. In Israel, the indexation of long-term financial assets was not disrupted. The only substantive change was the prohibition of foreign exchange-linked deposits with maturities of less than one year. Likewise, in Brazil, the only deindexation that was enforced was on financial instruments of less than one year's maturity. While a year's standstill was imposed on

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1/ In Israel, for example, since October 1985 formal indexation of wages has been restored and its degree has even been enhanced: cost-of-living adjustments of 80 percent will henceforth be paid after cumulative CPI increases reach 4 percent, or every three months.

the indexation of longer term assets, this pause would be costless to asset holders (unless they tried prematurely to liquidate their assets) because long-term assets could be indexed to a new government bond which, by design, would be fully adjusted for inflation.

Comparable to the case of wages, the most important program element in the treatment of financial assets was the breaking of the link between past inflation and present asset returns. This took place in Argentina and Brazil through the conversion table applied to financial contracts, which attempted to eliminate the expected (but, because of the price freeze, unrealized) inflation component of the contracts. This prevented potentially large real transfers of income from debtors to creditors, thus avoiding dissatisfaction which could have undermined the price freeze in the same way that fulfilling past wage contracts at the expense of profits could have. As in the case of wages, the disruption was a purely temporary though politically important phenomenon, and the crucial characteristic of an indexation scheme, i.e., the ability to index wealth to inflation, remains substantively unchanged.

In summary, wage and asset-return freezes and conversion tables cannot be seen as true deindexation schemes. They did not create any lasting structural change in the ability of the economy to prevent the re-emergence of inflation. In that respect, the importance accorded them by the designers of the shock programs (relative to fiscal and monetary policy) may be considered to have been overstated. On the other hand, given the use of the other "impact" measures, a necessary role did emerge for them in legitimizing the use of incomes policies and price freezes by validating the legislated disruptions in wage and price trends and, thus, in cutting inertia.

IV. Fiscal Policy and High Inflation

In the shock programs, by far the greater part of adjustment of fundamental variables was attempted through fiscal policy. Performance under the programs highlighted the fact that high inflation and the implementation of shock stabilization measures have some particular implications for fiscal policy, which are analyzed in this section.

The traditional conclusion that cutting the fiscal deficit leads to reductions in inflation is supported by the inflationary-financing model: as deficits are assumed to be financed by the inflation tax, a smaller deficit will "require" less inflation. However, the optimal fiscal policy to bring down very high inflation may be different from fiscal policy in an economy with a stable price level, because it will be complicated by the interrelationships and feedbacks between fiscal policy and inflation, as well as by the possible existence of inertial inflation, in which the stance of fiscal policy plays a less direct role.

A number of these issues are discussed here, with particular focus on the following five aspects: (1) the size of the deficit may itself be a function of the inflation rate; (2) different fiscal policies may affect inflation in different ways, so that success in reducing inflation through cutting the deficit will be dependent on the specific type of policy used to reduce excess government absorption; (3) different fiscal policies have different effects on aggregate demand and on output, so that the optimal fiscal package should tend to attain the necessary reduction in absorption while minimizing output losses; (4) the composition of economic activity, and specifically the financial system, is not invariant to inflation, which suggests that tax bases may not be inflation-neutral; and (5) even if inflation is not reduced, attempts to do so through impact policies may affect the budget.

1. The effects of inflation on the budget

While the size of the fiscal deficit affects inflation because of inflation-tax requirements, the other methods of financing the deficit are not invariant to inflation. This weakens the neat hypothesized dichotomy between inertial and demand-driven inflation because, if the higher is inflationary financing, the lower are traditional revenues, then reducing the inflation rate may allow a higher level of public spending to be sustained (financed by a recovery in traditional revenues), even if all fiscal policies remain unchanged. As Tanzi (1978) has shown, the net gain from inflation-tax revenue, in terms of ability to finance a fiscal deficit, is much lower when the loss in traditional revenues is taken into account than if inflation tax is calculated in isolation. In the long run, the economy's growth potential may be far higher without inflation (as compared with its potential in an inflationary environment) than is usually recognized.

The calculation of the low-inflation budget corresponding to a given set of policies in a country suffering from high inflation is complicated by the fact that almost every element of the budget is affected by inflation, but with different elasticities. If the elasticity of government expenditure with respect to increases in nominal income is greater than the nominal income elasticity of government revenue, then the real deficit will rise with inflation, faster than the simple real money balances model would predict. 1/ Likewise, reductions in inflation may generate unexpected gains or losses in revenues and expenditures.

On the expenditure side, the inclusion of nominal government interest payments in the deficit hugely magnifies the percentage increase in interest payments relative to the increase in other

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1/ This is one explanation of why countries tend to find themselves at the high-equilibrium inflation trap, rather than at an inflation level corresponding to an efficiently financed deficit. The presence of inflation-endogenous elements in the budget makes the deficit likely to overshoot the low-level equilibrium.

expenditure and in revenue as the inflation rate rises. This effect is particularly marked when most of the debt is not indexed and nominal interest rates are flexible. 1/

On the revenue side, it can be shown that the real value of tax collections falls when inflation is high, because of the inevitable lag between the time when the tax legally falls due and its date of collection (and because of other elements of the tax system). 2/ Bracket-creep in progressive income tax schedules would offset some of the collection lag-induced decline, but countries with high inflation quickly develop indexed tax systems, which protect taxpayers against the effect of inflation on their real tax obligations. (Besides, income taxes have tended to be less important in the shock program countries than in industrial countries.)

In order to minimize the negative impact of inflation on the budget, revenue buoyancy should be maximized and administrative lags minimized. If taxes and other instruments are to grow in line with nominal income, regressive schedules should be avoided, as should specific tax rates. Negotiated values applied to imports or domestic goods subject to excises can also lead to large losses of buoyancy as inflation increases. The same is true of public sector tariffs, which are often the most difficult prices in the economy to index fully. Furthermore, utility bills are often paid far less frequently than other obligations. Subsidies also tend to emerge on central bank interest rates, and these, too, contribute to the public sector deficit, whether or not the subsidy is made explicit in public sector accounts.

Lags in revenue collection are usually not balanced by lags in expenditure. It has often been said that the government is more efficient in indexing its obligations than its assets. For instance, attempts to lag payment of the public sector wage bill may cut this month's inflation, but probably at the cost of making deindexation much less acceptable to public servants if the government later decides to implement an adjustment program.

In the initial phases of the programs, the "passive" reductions in the deficit as inflation fell were very striking. In Brazil, the drop in inflation reduced the public sector borrowing requirement from 27 percent of GDP in 1985 to an estimated 10 percent in 1986, 3/ with nearly 18 percentage points of this arising from the reduction in indexed debt service. The Argentine deficit also fell significantly,

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1/ It could be argued, however, that because the inflation component of interest is not income but rather amortization, the impact on demand of interest payments that reflect inflation is much lower than the impact of other expenditure components (see Tanzi, Blejer, and Teijeiro (1987)).

2/ See Tanzi (1977).

3/ Before further fiscal reforms were implemented in November of that year.

and while the drop also partly reflected a fall in monetary correction payments, the impact of the automatic effect on revenue recovery associated with the slowdown of inflation was particularly striking in that country. 1/

It is, on the other hand, ironic to note that the revenue gain associated with the slowing down of inflation is less, the more perfectly the fiscal system has adapted to inflation prior to the shock program (by minimizing collection lags, etc.). The Brazilian tax reform of December 1985 provided a good example of the possible post-inflation costs of having succeeded in adapting to inflation. The tax reform included a reduction in withholding to facilitate the indexing of tax liabilities which, in turn, was designed to improve real revenues. However, the reduction in withholding implied that lags in collecting revenue were lengthened. Under high inflation, because of the impact of indexing tax liabilities, apparently the gains from the reduction in withholding had exceeded the losses; under low inflation, only the losses from the longer collection lag remained. Moreover, when inflation is high, it may pay the government to introduce complex administrative systems with much policing and high penalties in order to minimize losses from lagged payments. Once inflation falls to reasonable levels, however, these systems may be inappropriate and cost more than they earn for the government, given that the cost of any delay has dropped. 2/

2. Tax rate increases versus cuts in government activity

In practice, cutting deficits tends very often to affect the level of prices. Hence, restrictive fiscal measures in situations whose price stability is a central goal must be chosen with special care. In inertial systems where inflationary spirals are fueled by formal and informal indexation, deficit cutting through relative price realignments (such as increases in indirect tax rates, the reduction of government subsidies, or the raising of public sector fees and tariffs) may impart an upward push to inflation which more than offsets any gradual alleviation in price pressures through budget contraction. If the government wants to cut the deficit through revenue measures, it will

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1/ The characterization of this increase in revenue as "automatic" does not carry the implication that it should not be counted when evaluating the fiscal effort undertaken as part of the programs. The increased real revenue represented a cost to the private sector and, in that sense, is not qualitatively different from an increase in revenue generated by higher tax rates.

2/ The tendency of high inflation to generate complex administrative and regulatory structures will damage a country's ability to return to growth after the shock program, unless there is a concomitant liberalization of the system. Such liberalization was ignored in shock programs other than in Bolivia (except for the structural fiscal measures discussed in the next section) but might be important for sustaining the programs' success in the long term.

thus be important to remove or relax indexation mechanisms beforehand. On the other hand, while inflation persists, individuals will be wary of permitting the government to remove these "insurance systems" which prevent their wealth from being eroded. Hence, simultaneous implementation of tax changes and indexation-removal schemes may be crucial to the success of either policy. This is an additional reason why, in the shock programs, the "synchronization" of policies discussed in the previous section played an important role.

If indexation schemes cannot be cancelled, it is likely that reducing the deficit through reduction in real government activity, such as cuts in expenditure on wages or goods and services, will be more successful in inducing a quick fall in inflation than will tax, tariff, or subsidy adjustments. It is also probable that cuts in transfers affect inflation only with a lag if transfer recipients have slowly adapting expectations or if they perceive the transfer cut as temporary: their demand will not fall immediately by the full extent of the cut in their current income.

However, cuts in government activity may be regarded as undesirable since they may create political difficulties by placing the full burden of adjustment on a few people (civil servants and government suppliers). In addition, governments may not be convinced that the level of absorption is too high or unsustainable. 1/ If inflation is inertial (in the sense that it could be reduced without reducing the sustainable deficit), then cuts in government activity could be inappropriate. (This issue is discussed in detail in the next subsection.)

In the recent shock programs, the major instruments for reduction of the fiscal deficit were rate increases and subsidy cuts, rather than reductions in government activity. It was considered that the importance of fiscal contraction in bringing down prices, through whatever method, outweighed any negative impact of the rate increases on the price level. Moreover, it was also claimed that severe rate increases at the outset of a program could actually mitigate inflationary expectations since they reduce the government's need to implement further price shocks in the future, in addition to preempting relative price distortions, as discussed above.

The experience of the shock programs suggests that large rate changes may be undertaken with relatively small effects on the price

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1/ None of the countries discussed was considered to be at full employment and, thus, government demand was viewed as a crucial component of effective aggregate demand.

index. 1/ This suggests that, empirically, governments need not be overconcerned with using price-related instruments to cut the fiscal deficit, despite the arguments outlined above. 2/

3. Minimizing output losses--fiscal policy implications

One of the most consuming concerns in the shock programs was the desire to avoid recession during the period of adjustment. As discussed earlier, it was believed that output losses could be avoided inasmuch as inflation was inertial, that is, could be reduced without cuts in aggregate demand. Ideally, expectations would be changed without any change in the government deficit. In reality, however, even if inflation was purely inertial, temporary deficit cuts were seen as efficacious ways of changing people's expectations, raising their confidence in economic management and increasing their demand for money. 3/ Implicit in this belief was the idea that the improvement in private sector expectations would lead to a surge in activity which would offset the decline in government absorption. In general, tax and price-changing policies have a smaller multiplier effect on aggregate demand than the government direct expenditure multiplier; this would suggest that deficit cuts implemented with the objective of changing expectations rather than purely cutting total absorption should be effected by changes in prices rather than government activity. It is also possible that policies which affect prices are more costlessly reversible than those which involve reductions in staff and in maintenance, so that rate changes are more suited to temporary deficit cuts. Those characteristics of price-realigning fiscal policies,

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1/ In Brazil, for example, compulsory levies of 25 to 30 percent on cars, gasoline, and alcohol were introduced in July 1986. Following these steps, the authorities modified the index used to measure official inflation in order to purge the index from the impact of the levies. For July and August, inflation was 5.3 percent in the "unpurged" version, and 2.9 percent in the "purged" version of the index. Likewise, at the outset of the program in Bolivia, where the price of gasoline rose by 750 percent and domestic prices of other publicly provided goods and services were raised to reflect the 93 percent devaluation, the inflation rate in the month following the start of the program was 56 percent--10 percentage points lower than the 66 percent rate of the month leading into the program. (All the figures represent monthly averages.)

2/ This conclusion is probably valid even though part of the explanation for the insignificant impact on prices could be problems with the way the price indices were constructed.

3/ Many economists have suggested that the long-run sustainable deficit would probably have to be overshot during a shock program, not only in order to convince people of the government's determination to switch to conservative fiscal management but also in order to generate excess supplies in the economy which would allow price freezes to be maintained. (See Blejer and Liviatan (1987), and Dornbusch and Fischer (1986)).

together with evidence from the shock programs that the price adjustments provoke relatively little inflation suggest that, as a general rule, price-realigning fiscal policies are probably more efficient than deficit reduction through cuts in activity. However, though increases in taxes and prices may have a smaller impact on present growth than have cuts in government activity, it has been argued, with respect to minimizing output losses over the longer run, that they will depress long-term future growth by damaging incentives in the economy. 1/ If high marginal tax rates are inimical to growth, the tax base may deteriorate (relative to GDP if the high rates lead to shifts out of taxed activities, or in line with a fall in GDP if growth prospects are damaged). In other words, closing the short-run deficit may be done at the cost of increasing pressures on the long-run deficit. If the public perceives an inconsistency, the government's fiscal policy will not be credible, and inflationary expectations will not come down pari passu with short-run fiscal restrictions.

The extensive use of temporary fiscal measures has been a striking difference between the recent shock programs and more traditional adjustment programs. An explanation for this is that the emphasis in the shock programs on announcement effects and on quick results meant that, if deficit cuts were to be used to reduce inertial inflation, they would have to be large and to generate a very rapid inflow of real resources to the government. The need for an up-front and large collection of revenue is almost by definition too extreme to be sustained without large output losses, and there is usually the presumption that extreme measures will be replaced later by gradual policies on either the revenue or the expenditure side. In other words, the reduction in permanent income is expected to be much smaller than the immediate effect on current income. This presumption itself, however, ensures that the public accepts much larger temporary policies and much larger temporary deficit cuts than it would any permanent change, and therefore allows expectations to be affected more quickly.

Temporary overshooting of fiscal adjustment may also give the government room to implement long-run, growth- (and possibly revenue-) enhancing structural changes which are costly in the short run. An example of this in the context of the programs were the cuts in government employment, which reduced long-run labor costs but necessitated immediate funds for relocation and redundancy payments.

The largest temporary measures in the programs were the forced saving schemes. In conception, these were designed to have no effect whatsoever on permanent incomes. It should be noted in this context that the impact of forced saving schemes on the government's long-run financing gap is more or less invariant to whether or not the government pays back the forced loan. If the loan is repaid, government expenditure will rise by that amount in the year the repayment takes place. On the other hand, repayment creates credibility in the loan as

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1/ Liviatan (1986).

an asset, and permits the government to refinance the loan. If the loan is not repaid, present government expenditure is lower, but the government will find it more difficult to raise revenue through such a scheme again. In both cases, the net impact on the financing gap could be the same.

While temporary fiscal measures have immediate effects which cannot be sustained, structural fiscal measures which improve future fiscal management will sustain the long-run fiscal balance but may have no immediate revenue impact. Such measures (such as the announcement of tax reforms in Argentina and Bolivia, and of civil service reform in Israel) are included in shock programs because of the support they supposedly give government credibility--in other words, they have a pure, though temporary, announcement effect. Their value depends on how plausible they are, ex ante (so that their announcement will have some impact), and on how soon they actually begin to be carried out. If the policies are not implemented, government credibility is eroded; there is a "reverse announcement effect" in the sense that, because the policy was introduced with much publicity, government failure to implement it will be more noticeable than if it had never been promised, and future promises will be received with less confidence.

A related reason to include announcements of future fiscal policies in a shock program is that they minimize the loss of future output by providing guidelines for long-range private sector decisions. In particular, private investment may depend on future as well as present rates of interest, so that government's projected credit use over the life of a planned investment may affect that investment decision.

4. Growth of the financial system under inflation and its tax implications

A feature of many tax systems in high-inflation countries is their relatively high reliance on financial transactions as a tax base. This occurs for two reasons. First, the financial system tends to grow as a share of GDP as the country adapts successfully to inflation. The financial structure gets larger and more sophisticated as, in order to preserve the national currency as the unit of account, more complicated financial transactions are developed which incorporate indexation mechanisms to capture changes in nominal values more perfectly. Hence, the share of income and profits taxes, etc., from the financial sector may grow disproportionately with inflation. 1/ Secondly, as inflation rises, the government's traditional inflation tax base, money, is

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1/ The growth of the financial sector with the increase in the rate of inflation is likely to reach a limit. If hyperinflation develops, a shift out of the national currency as the unit of account will take place and an extreme shortening in the length of contracts will be observed. The process is generally accompanied by extensive financial disintermediation.

shrinking. The logical alternative tax bases are the money substitutes which have become attractive as inflation hedges.

If the volume of financial transactions is indeed affected by the inflationary process, it could also be expected that a fall in the rate of inflation will reduce the relative size of the sector. In particular, the demand for money-substitutes tends to fall drastically as inflation disappears, as their properties as inflation-hedges become less valuable. It is therefore likely that, following rapid disinflation, the financial tax bases will shrink, both on asset transactions and on incomes. 1/ Revenue losses on income taxes will be exacerbated if banks may offset losses that they may incur against their tax obligations.

This effect was observed in practice. In the countries which introduced shock programs, the financial sector fell into difficulties as inflation dropped. In Brazil, for example, the private banking system shed 140,000 workers in the first weeks of the program. Brazil also suffered revenue losses in consequence of the tax reform implemented just before the Cruzado Plan. Financial system taxes were adjusted in the reform, with relatively higher rates being placed on inflation-hedging assets and transactions (such as Stock Exchange trading) which helped maintain nominal values, and relatively lower rates on assets that were not so elastic to inflation. These reforms meant that, when inflation fell, the private sector's shift in assets created a permanent revenue loss.

The public financial sector, in particular, may be expected to be vulnerable to the large inflation cut observed during the initial phase of a successful shock program. Public banks will be worse off than their private sector counterparts, if they are not free to shed labor. Also, public bank portfolios tend to be in longer term and less tradable assets (particularly in development banks) so that portfolios can only react with long lags to large changes in inflation. In the interim, the profitability, and indeed the viability, of the public financial sector may be endangered.

While inflation may affect the financial sector, government management and regulation of asset markets may have an effect on the rate of inflation. Given an excess money supply, pressures on the prices of domestic goods will be higher the fewer the domestic and foreign assets in which individuals are permitted to hold wealth. Limitations on the type of assets and on the available composition of private portfolios may arise because capital markets are relatively unsophisticated. However, government regulations such as exchange

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1/ The validity of this argument hinges on the type of interest rate policy followed since changes in relative interest rates could affect, in different ways, the relative size of the various segments of the financial system, thus affecting differentially the asset income tax base.

restrictions and institutionally set interest rates also shrink portfolio options, and may thereby exacerbate inflation.

5. The interrelationship of fiscal and impact policies in the shock programs

Regardless of the degree of success of impact policies in reducing inflation, they themselves may be expensive for the budget. For instance, the cost of implementing a price freeze may be substantial. If public utility prices are frozen at low rates, the budget will suffer. If prices are frozen with an element of government subsidy in them, the subsidy will be perpetuated, and if they happen to be frozen at low disequilibrium rates relative to other goods, the aggregate subsidy will increase as individuals substitute into the relatively cheaper subsidized good.

Other labor policies of the government may also be expensive. For example, redundancy payments and pension, social security or health scheme pay-offs make the costs of laying off public servants quite high in terms of a single year's deficit.

If successful adjustment generates a sudden improvement in the balance of payments, which leads to a drop in revenue from trade taxes, this loss must also be factored into post-program revenue projections. In Argentina, for example, the shortfall in 1985 revenue due to external restraint was estimated at half a percentage point of GDP.

V. Conclusions

The experience of Argentina, Bolivia, and Israel under the recent shock programs offers two sets of insights: first, concerning the innovative elements of the packages and, second, about fiscal policy in the presence of high inflation and unorthodox strategies for curbing it. It is certainly true that these programs, and in particular their so-called heterodox components, have succeeded in catching public imagination and mobilizing public support, at least in the short run, for the implementation of policies that usually result in significant costs during the period of adjustment. Public confidence in the government and in its policies is such a crucial element in restoring stability and in attaining a successful level of economic management, recovery, and growth, that the innovations of these programs cannot be dismissed lightly.

However, it is difficult to make stronger claims about the virtues of shock programs based on the recent evidence. Although direct controls and freezes can attain a very dramatic and immediate fall in the rate of inflation, it has not proven possible to reduce inflation for more than a short period of time by impact policies alone. In fact, there are strong indications that the size and quality of adjustment in fundamental variables was the most compelling catalyst to inflation

cuts, possibly through their impact on expectations as well as their direct impact on excess absorption. Likewise, it is becoming more and more clear that pure expectational policies cannot play a decisive and independent role in actually changing deep-rooted public perceptions and bring down inflation without imposing real losses to the economy.

Furthermore, freezes, controls, and incomes policies are not costless. They entail administrative and political costs, as well as economic costs in terms of shortages, bottlenecks, losses of efficiency and, possibly, damage to long-run growth potential, particularly when prices are frozen out of equilibrium. Moreover, they may also have a fiscal cost by causing the budget to deteriorate, thus eroding the authorities' ability to adjust successfully the fundamental variables. When evaluating the benefits of these policies, it is important to consider these implicit and explicit costs.

It is not simple to provide a sound operational content to the assumptions on which the use of impact policies has been based, particularly the concept of inertial inflation as an independent source of price pressures. It is, in fact, possible that the inertial component of inflation is not separable from the "real" component, so that, though price freezes are actually working to remove some inertia in inflation, their influence cannot be perceived unless a fundamental adjustment is taking place at the same time. More generally, given their direct and indirect dependence on the reduction of excess absorption, as well as the danger they entail that a country's long-run growth potential will be compromised, the shock programs have not revealed any practical or significant painless way of cutting inflation.

On the other hand, however, we are not left with the result that traditional demand-management policies function exactly as economists had always believed in adjusting the price level. In particular, the conduct and effects of fiscal policy in high-inflation countries, by themselves or in the context of shock programs, may differ from the conventional analysis. Fiscal management becomes more difficult in that policymakers must take into account additional complications arising from the persistence of the inflationary process and from the transition from high to lower inflationary levels. Among these, we have discussed the fact that the high-inflation deficit is not the same as the low-inflation deficit; that the optimal tax base under high inflation may disappear as inflation drops; and that administrative mechanisms which are cost-effective under high inflation may appear too cumbersome under lower inflation rates.

Some of the general intuitions embodied in the shock programs may also provide important lessons for fiscal policy. Large temporary fiscal measures may play a valuable role in adjustment, as may announcements of future changes in fiscal regimes. On the other hand, some accepted beliefs about fiscal policy do not seem to have been supported in practice. For example, deficit reduction through tax and

rates increases was not shown to generate significantly higher inflation than deficit adjustment through cuts in activity.

In sum, from the evidence at hand at this point, it could be said that, while shock programs have heightened our awareness that the manipulation of expectations may significantly affect the outcome of an adjustment program, expectation-changing policies are not a substitute for fundamental adjustment through an appropriate fiscal and monetary stance, but may only be successful in conjunction with traditional demand-management policies. The implementation of those policies, unfortunately, is not as straightforward in the presence of expectation-changing policies as in the traditional case; and the success of the policies, when they are called upon to ward off the threat of hyperinflation, is more difficult to ensure than when inflation is not an important determinant of the behavior of fiscal variables.

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