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# WHEN DO HETERODOX STABILIZATION PROGRAMS WORK?

## *Lessons from Experience*

Miguel A. Kiguel  
Nissan Liviatan

*What advantages and disadvantages does the heterodox strategy offer to stabilization programs in countries with chronic high inflation? Heterodox stabilization programs, in our definition, are those that support orthodox policies—that is, tight fiscal policy and a fixed exchange rate—with the initial, temporary use of incomes policies—that is, price and wage controls. This evaluation, based on several heterodox programs, successful and unsuccessful, from the 1960s and 1980s in Latin American countries and Israel, affords four principal lessons:*

- *The rapid reduction in inflation at the beginning of heterodox programs (which usually comes about at small cost) is the easy part; the problem is to maintain price stability over time.*
- *Incomes policies in heterodox stabilization programs are justified only in countries with high chronic inflation, where persistent inflation is more pervasive and problematic.*
- *There is a case for a bigger fiscal adjustment in heterodox than in orthodox programs because of the risk that a program with price controls may be misperceived as a populist device for achieving price stability without adjusting.*
- *The failure of a heterodox program is more likely to destabilize inflation than is the failure of an orthodox program.*

Orthodox methods of checking inflation in countries with chronic high inflation have encountered formidable obstacles. Disinflation is usually slow, and its costs in terms of unemployment are high. Heterodox tactics were devised to surmount these difficulties.

### Heterodox Programs: What Are They?

The epithet “heterodox” has been rather loosely used by economists to describe types of stabilization program. The term means different things to different people. Bruno and others (1988), for example, include in their sample of heterodox programs experiments as diverse as the Austral Plan, the Cruzado Plan, and the Israeli program of 1985; Ocampo (1987) includes the Peruvian populist experiment of 1985 in his study of heterodox programs.

In our view, a heterodox stabilization program is one whose main objective is to achieve rapid and sustained disinflation. The design of the program combines tight fiscal and financial policies and a fixed exchange rate (the orthodox part) with the temporary use of price and wage controls (typically in the form of a freeze). The controls are a *temporary* device to bring inflation down rapidly and to cushion some of the unemployment costs; once the controls have served their purpose, they are dismantled over time, and the program proceeds along orthodox lines. Typically the exchange rate becomes the main nominal anchor in the second stage.<sup>1</sup>

Orthodox programs are those that primarily rely on tight fiscal and monetary policies to bring down inflation, and do not include incomes policies. Some of them (exchange-rate-based stabilizations) use a fixed or preannounced exchange rate; others (money-based stabilizations) rely on tight money and a floating exchange rate. Since most orthodox exchange-rate-based programs are preceded by a money-based stabilization stage—in which tight money is relied on for stopping inflation (for instance, in Chile and Argentina in the mid-1970s)—the main difference between orthodox and heterodox programs is the strategy for stopping inflation in the first stage. Inflation comes down slowly under orthodox programs and rapidly under heterodox.

Only two recent programs satisfy our definition of heterodox: the Israeli program of 1985 and the Mexican Pacto de Solidaridad of 1987–88 (figure 1a). Both programs used incomes policies initially to achieve a rapid reduction in inflation; in both cases the exchange rate was the main nominal anchor and was fixed at the beginning; and both maintained the fiscal adjustment throughout. Both programs succeeded in keeping inflation down for an extended period. The extent of the controls differed between the two countries: in Israel, for example, controls were economywide, whereas in Mexico the government allowed a large number of prices to be freely determined. But these differences were of degree and not of substance: the philosophy was the same. The Israeli program is analyzed in detail by Bruno and Pitterman (1988), Bruno and

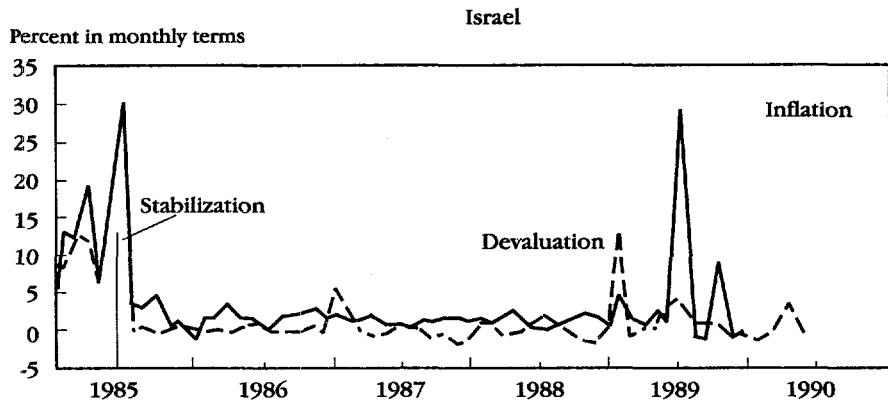
Meridor (1991), and Liviatan (1988, 1990), and the Mexican program by Ortiz (1991); see also Kiguel and Liviatan (1989).

Outside this strict definition, we include in the discussion several other programs that embody the heterodox approach to a greater or lesser extent.

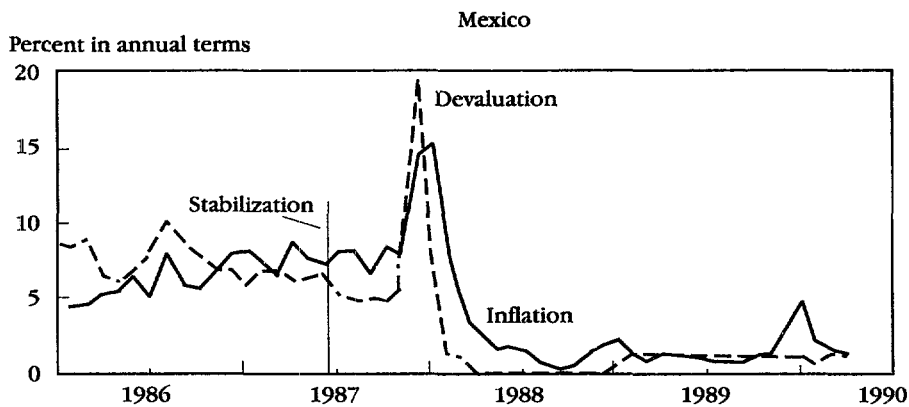
Brazil implemented an important and quite successful stabilization program based on incomes policies in the mid-1960s (figure 1b). Unlike the later stabilization of the 1980s—the Cruzado Plan—the program of the 1960s paid due attention to the fiscal accounts. In addition, the earlier program differed from the later because controls were introduced gradually and were mostly voluntary and because the initial reductions in inflation were not as spectacular. (The program is discussed in more detail in Simonsen 1974 and Cardoso and Fishlow 1990, among others.)

**Figure 1. Inflation, Devaluation, and Attempts to Stabilize**

**1a. Two Heterodox Experiments: Israel (1985) and Mexico (1987)**



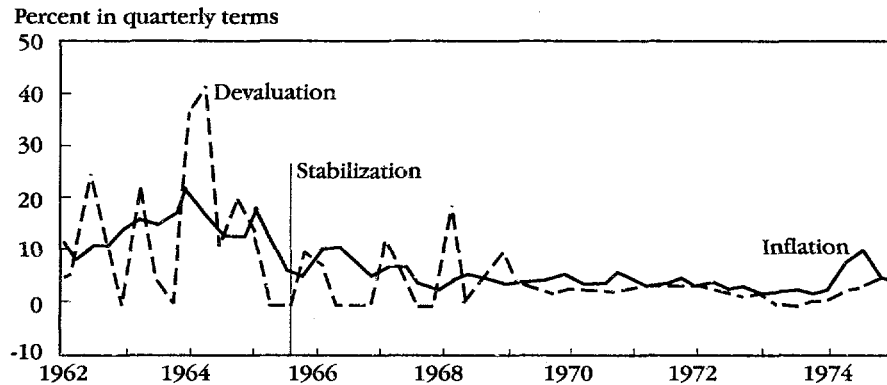
Source: IMF (various years).



Source: Data from Banco de Mexico.

**Figure 1. Inflation, Devaluation, and Attempts to Stabilize (continued)**

**1b. Brazil (1965)**



Source: IMF (various years).

Some programs started out heterodox and addressed the budget deficit at the beginning, but later changed course and relaxed the fiscal stance. These programs are included in our study because they illustrate the similarities between macroeconomic developments during the early stage in those programs that persist and those that do not. Within the latter category (which we call non-persistent heterodox programs) we include two programs of the 1960s (the Argentine 1967 program under Finance Minister Adalberto Krieger Vasena and the Uruguayan program of 1968) and the 1985 Austral Plan in Argentina (see figure 1c).

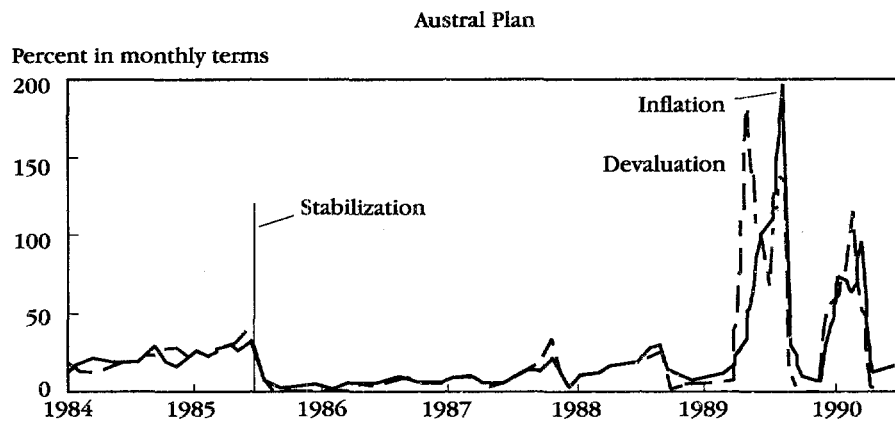
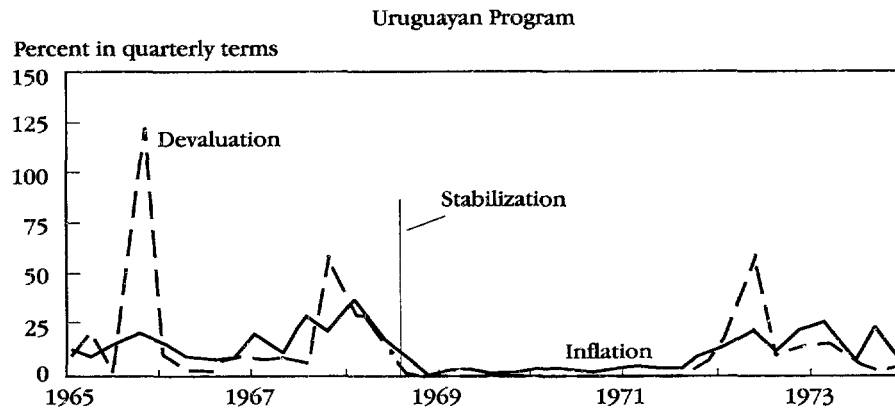
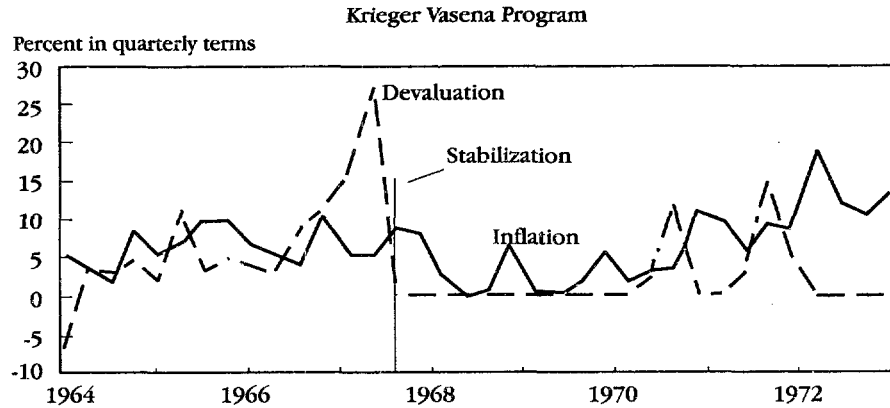
Finally, we look at two populist programs: the Cruzado Plan in Brazil in the 1980s and the Peruvian program of 1985 (figure 1d) (see Dornbusch and Edwards 1989 for a more extensive discussion). These so-called stabilization programs used price and wage controls and a fixed exchange rate to stop inflation but ignored the fiscal side completely. Indeed, many populist programs combined controls with expansionary fiscal and monetary policies and with increases in real wages, with disastrous macroeconomic consequences. These programs are included to compare their evolution with the very different outcomes of the nonpersistent heterodox programs.

### Problems with Orthodox Strategies

The heterodox approach has generally been adopted to confront the inflationary rigidities that are characteristic of countries with chronic high inflation. Kiguel and Liviatan document the difficulties in their discussion (1988) of

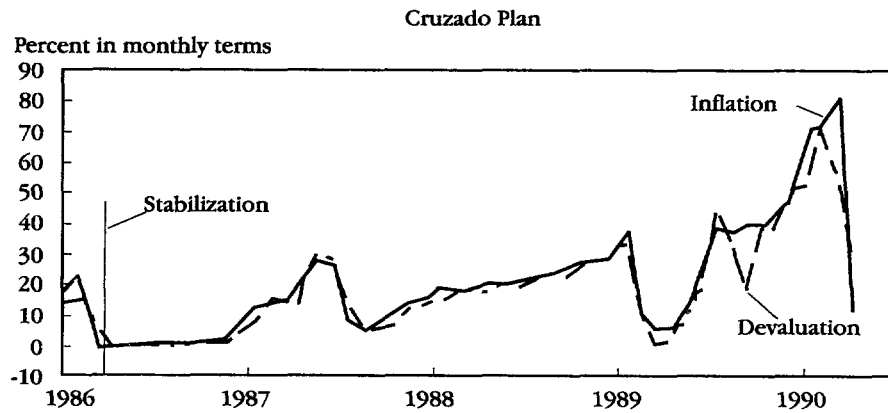
**Figure 1. Inflation, Devaluation, and Attempts to Stabilize**  
(continued)

1c. Nonpersistent Heterodox Programs: The Krieger Vasena Program (Argentina, 1967), the Uruguayan Program (1968), and the Austral Plan (Argentina, 1985)

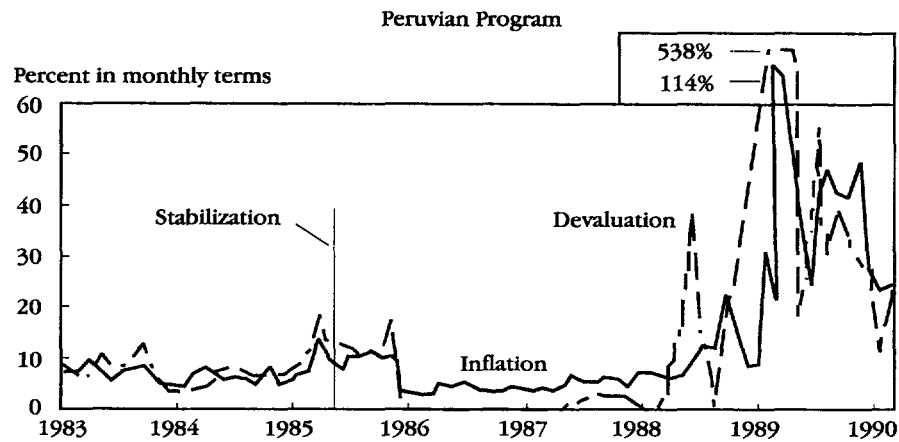


**Figure 1. Inflation, Devaluation, and Attempts to Stabilize (continued)**

**1d. Two Populist Programs: The Cruzado Plan (Brazil, 1986) and the Peruvian Program (1985)**



Source: Conjuntura Economica (Fundação Getulio Vargas).



Source: IMF (various years).

various orthodox stabilization programs. The slow and often small reductions in inflation are common both to programs that used money and to those that used the exchange rate as the main nominal anchor. Paradoxically, in some cases, a reduction in the budget deficit was accompanied by a permanent increase in inflation.

## *The Mexican Experience*

The Mexican experience before the Pacto (1987) is a good example of the frustration with orthodox programs characteristic of countries that eventually opt for the heterodox strategy. Table 1 summarizes the main macroeconomic developments in Mexico in the 1980s. The fiscal accounts were corrected early and impressively; the deficit in the operational balance (11 percent of gross domestic product [GDP] in 1981) was virtually eliminated by 1983.<sup>2</sup> But the drastic reduction in the deficit was accompanied by large devaluations that pushed inflation up from 28 percent in 1981 to 100 percent in 1983. In an attempt to reduce inflation, the policy shifted in 1984 to using the exchange rate as the nominal anchor. This strategy had only moderate and temporary effects in reducing inflation (although the fiscal accounts remained sound). In fact, inflation rose again in 1986 when the exchange rate rule was abandoned and replaced by a policy of aggressive devaluations to deal with the plunge in oil prices. The acceleration of inflation continued in 1987, a year in which the government ran a surplus in its operational balance.

The Mexican experience makes it clear that a correction in the budget deficit—although necessary—is not sufficient to bring down inflation. A budget surplus might not be enough for the purpose. A well-designed stabilization program needs to balance the correction in the fundamentals with a policy to manage the nominal anchors. In Mexico, however, the success was meager even when the exchange rate was used as nominal anchor, especially because the nominal anchor proved weak when the economy faced an adverse external shock.

The failure of various orthodox strategies to control inflation in the aftermath of the debt crisis is perhaps the main reason Mexico finally decided to follow the heterodox approach. The Mexicans adopted this course reluctantly, sharing many of the concerns about the use of controls raised by critics of these programs. Nevertheless, encouraged by the success of the Israeli program, they finally decided to try the heterodox alternative.

## *The Nature and Causes of Inflationary Rigidities*

The difficulties experienced by Mexico are characteristic of countries with chronic inflation. In these countries inflation tends to display rigidities (or inertia), as has been widely discussed (see, for example, Dornbusch and Simonsen 1987; Tobin 1987, chap. 29). For our purposes it is useful to distinguish two types of rigidities. A first type, which we will call institutional, is a consequence of backward indexation, staggered contracts, and the like (see, for example, Fischer 1977, 1983; Taylor 1979; Lopez and Bacha 1983).

A second “expectational” rigidity arises from lack of conviction on the part of the populace that the government can bring down inflation in the long term. Past failures to adjust and maintain the fiscal balance as required to support

Table 1. Macroeconomic Indicators for Mexico, 1980–89

Indicator	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<i>1. Inflation, devaluation, and interest (percent in annual terms)</i>										
a. CPI inflation	26.3	28.0	58.9	101.9	65.5	57.7	86.2	131.8	114.2	20.0
b. Official devaluation	0.9	6.5	130.2	112.9	39.7	53.2	137.9	123.5	64.7	8.2
c. Interest rate on loans*	20.7	28.6	40.4	56.6	51.1	56.1	80.9	86.7	67.6	20.5
d. CPI inflation (Dec. to Dec.)	29.8	28.7	98.9	80.8	59.2	63.7	105.7	159.2	51.7	19.7
e. Official devaluation (Dec. to Dec.)	2.2	12.6	268.3	49.1	33.8	93.0	148.5	139.3	11.5	16.3
<i>2. Monetary statistics (percent)</i>										
a. M1 as share of GDP	11.2	10.8	10.9	8.4	8.1	7.6	7.3	6.5	5.6	6.2
b. M3 as share of GDP	30.1	33.6	37.4	33.2	33.7	31.2	35.9	37.8	31.4	34.5
c. Seigniorage – M1†	2.7	2.7	4.2	2.4	3.0	2.5	2.9	3.5	2.1	1.0
d. Change in M1	33.4	33.3	54.1	41.4	62.3	53.8	72.1	129.7	58.1	40.1
e. Change in M3	45.6	53.7	78.6	61.4	70.4	46.7	100.2	159.4	69.0	49.3
f. Monetary base	41.1	45.1	90.4	58.1	54.1	17.5	47.7	70.3	42.3	10.6
g. Consolidated monetary system domestic credit‡	39.0	48.8	100.9	56.4	51.2	69.2	101.0	104.2	—	—
h. Central bank domestic credit§	37.0	43.5	157.6	41.7	31.1	49.0	61.3	13.7	—	—
<i>3. Aggregate demand (percentage of GDP at current prices)</i>										
a. Private consumption	65.1	64.4	61.6	60.9	63.1	64.5	68.5	65.6	70.0	69.7
b. Public consumption	10.0	10.7	10.5	8.8	9.2	9.2	9.0	8.7	8.5	9.0
c. Investment	24.8	26.4	22.9	17.5	18.0	21.2	18.7	18.6	19.2	20.0
d. Exports	10.7	10.4	15.3	19.0	17.4	15.4	17.2	19.7	16.0	16.2
<i>4. Economic activity (percentage change in real terms)</i>										
a. GDP growth	8.3	7.9	-0.6	-5.3	3.7	2.8	2.0	1.4	1.1	2.9
b. Unemployment	4.5	4.2	4.1	6.7	6.0	4.8	4.3	3.9	3.6	—
c. Private consumption	7.5	7.4	-2.5	-5.4	3.3	4.2	-1.4	-0.9	1.9	5.1
d. Public consumption	9.5	10.3	2.0	2.7	6.6	-2.3	0.1	-0.5	-0.9	-1.0
e. Investment	14.9	16.2	-16.8	-28.3	6.4	8.2	-12.0	-0.7	—	—
f. Exports	6.1	11.6	21.8	13.6	5.7	-4.0	1.5	12.2	—	—



Table 1. Continued

5. Relative price indices (1980=100)										
a. Real wage	100.0	109.5	105.7	72.7	67.2	70.0	64.7	63.0	62.0	63.3
b. Real exchange rate	100.0	84.2	115.2	123.7	102.5	98.5	145.1	157.5	130.3	118.4
c. Terms of trade	100.0	106.5	103.2	96.5	97.2	96.3	63.8	—	—	—
6. External sector (millions of U.S. dollars)										
a. Trade balance	-2,830.0	-4,099.0	6,795.0	13,762.0	12,941.0	8,451.0	4,599.0	8,433.3	1,754.3	-662.8
(i) Exports	16,066.0	19,938.0	21,230.0	22,312.0	24,196.0	21,663.0	16,031.0	20,656.2	20,657.6	22,746.9
(ii) Imports	18,896.0	24,037.0	14,435.0	8,550.0	11,255.0	13,212.0	11,432.0	12,222.9	18,903.4	23,409.7
b. Current account balance	-8,162.0	-13,899.0	-6,218.0	5,419.0	4,238.5	1,236.7	-1,672.7	3,966.5	-2,442.6	-5,449.4
c. Current account (percentage of GDP)	-4.4	-5.8	-3.7	3.8	2.5	0.7	-1.3	2.7	-1.6	-2.5
d. Change in international reserves	1,151.0	1,012.0	3,188.0	-3,117.0	-3,384.0	2,423.0	-132.0	6,929.4	-7,127.0	271.5
7. Public sector (percentage of GDP)										
a. Total expenditure	33.5	39.7	44.5	41.0	39.3	39.9	45.3	45.5	41.3	35.9
b. Expenditure excluding interest payments	30.0	34.7	36.3	28.6	27.4	28.4	28.7	25.8	24.5	22.7
c. Total revenue	26.9	26.7	28.9	32.9	32.2	31.2	30.3	30.6	29.8	30.5
d. Total deficit	6.6	13.0	15.6	8.1	7.1	8.7	15.0	14.9	11.5	5.4
e. Operational deficit	5.6	11.7	8.3	1.3	0.6	1.0	1.8	-2.0	4.5	1.7
f. Primary deficit#	3.1	8.0	7.4	-4.3	-4.8	-3.3	-2.2	-5.0	-5.9	-8.3
g. Domestic public debt	8.6	10.7	12.6	16.5	18.0	16.6	26.4	22.2	20.5	25.0
h. Foreign public debt	18.8	20.0	38.9	43.0	36.8	37.0	59.9	67.2	48.9	41.8

CPI, consumer price index.

— Not available.

\* Interest rate on loans is the average cost of funds compounded annually.

† Seigniorage =  $M1(t) - M1(t-1) / GDP(t)$ .

‡ Consolidated monetary system domestic credit is line 32 in IMF (various years).

§ Central bank domestic credit is total claims on the government and private sector less government deposits.

|| Real wage is the purchasing power in relation to the overall consumer price index.

# Primary deficit = 7(b)-7(c).

Source: Banco de Mexico except:

2(e,f), 6(a,d) IMF (various years)

4(b) CEPAL (Comisión Económica para América Latina y el Caribe)

4(c,d,e,f) World Bank, National Accounts Data Base

5(a) Mexico National Minimum Salary Commission

5(c), 7(e) World Bank

7(f,g) Banco de Mexico 1987

1985-89 REC 1990

low inflation are one obvious reason for this credibility problem; a second, less understood source of mistrust is the suspicion that the government might deviate from the announced targets for the nominal anchor—the exchange rate or monetary rules—if wages and prices increase beyond the target level. The government's nonfiscal objectives (such as maintaining full employment or external balance) could, in a discretionary regime, lead it to accept increases in inflation to avoid higher real wages, or to step up the rate of devaluation to avoid overvaluation of the domestic currency. (The use of inflation to achieve nonfiscal objectives is analyzed in detail in the literature on policy games; see Barro and Gordon 1983a and 1983b, among others.)

### **How Does the Heterodox Strategy Address These Problems?**

What, in theory, are the virtues of the heterodox approach? The prevailing view in the literature (see, for example, Bruno and others 1988; Ocampo 1987; Alberro and Ibarra 1987; Blejer and Cheasty 1988; Heymann 1987; Cardoso and Dornbusch 1987; Fischer 1987; Solimano 1990) is that (1) price and wage controls can be useful to support disinflation initially when the inflation process displays inertia, (2) the initial costs of bringing down inflation in this way are usually small compared with those in orthodox programs, and (3) the success of a heterodox program in the longer term primarily depends on maintaining the fiscal adjustment (the orthodox part) throughout. But these studies provide only a partial evaluation of heterodox programs because they concentrate on the initial stage of the programs—the first or at best the second year. With this relatively short-term horizon, the evaluations have overlooked some of the longer-term consequences.

From the medium- or long-term perspective, the first question to be answered is: how, if at all, does the early and rapid reduction of inflation through controls on wages and prices enhance the prospects for stabilization? We argue that the controls in the first phase can improve the fiscal accounts by reversing the fall in government revenue that usually accompanies an increase in inflation (the Olivera-Tanzi effect), and that the initial period of low inflation gives the government a grace period in which to prove its commitment to eliminating the budget deficit in a sustainable way.

Second, what costs are entailed for later developments? A significant potential cost, in our view, is the damage that the use of controls to avoid recession in the first stage of disinflation may do to the credibility of the government in the longer term. Will a government unwilling to accept the costs of bringing down inflation through orthodox methods be willing to accept these costs, and any difficulties associated with their deferment, later on?

Incomes policies are controversial. Economists are skeptical about their use in stabilization partly because of their frequent misuse in populist programs to

bring down inflation while avoiding any adjustment in the fundamentals (see Dornbusch and Edwards 1989), and partly because they may distort the allocation of resources. In fact, many economists would argue that sustained elimination of the budget deficit is sufficient to bring down inflation; whether or not controls are used is irrelevant. The empirical evidence, however, shows that reducing the budget deficit is necessary but not sufficient for bringing down inflation in the short or even in the medium run. Price and wage controls are not necessarily the solution, but in some circumstances heterodox programs may be the right way to go.

### *Dealing with Institutional Rigidities*

Incomes policies are included in heterodox programs to overcome the rigidities in inflation. Their usefulness largely depends on the causes of the rigidities. And they are not necessarily the most effective instrument to deal with this problem, because the long-term costs of their inclusion in programs could well exceed the short-term benefits reaped from overcoming the rigidities early on.

When rigidity is ascribed principally to backward indexation—as in Brazil—an initial realignment of prices (to get the “right” set of relative prices) and wages accompanied by the elimination of indexation is all that is needed. A three- or four-month freeze of prices and wages is certainly not required to break this cycle. Once the right relative prices are in place and indexation is eliminated, any persistence of inflation must be attributable to other sources.

But it is very hard to determine the right set of relative prices—even harder in low-inflation economies, where nominal contracts are long and staggered, than in high-inflation economies, where contracts are short and highly synchronized. There are examples of programs in low-inflation economies (such as the Krieger Vasena program in the 1960s in Argentina) that used fairly sophisticated rules to avoid disparities in real wages across sectors, but the ensuing complications and misjudgments may outweigh the gains. The case for using incomes policies in low-inflation economies is weak.

A stronger case can be made for using incomes policies in high-inflation economies, where decisions on prices and wages are synchronized and the risk that a freeze would create large disparities in relative prices and wages is correspondingly lower. A legitimate question is why an orthodox shock would not be equally or more effective, particularly given its proven efficacy in stopping hyperinflation. The answer is that there are other factors generating persistence of inflation, mainly lack of credibility in the program, that are more acute when tackling chronic high inflation than when hyperinflation is the target (see Kiguel and Liviatan 1988).

The problem of lack of credibility cannot be solved by a short wage-price freeze and a simple formula that gets relative prices right. Expectations wield a strong influence over inflation. Setting prices and wages involves making predictions about future inflation that cannot simply be based on past inflation:

in forming their expectations about inflation, agents look at the whole history of inflation in the country—particularly such aspects as the outcome of previous stabilization attempts (generally dismal) and the way in which inflation was affected by external shocks. Governments need time to prove their commitment to sustaining a stabilization program. In heterodox programs the initial freeze lasts about six months. This indicates that the main motivation for the use of incomes policies is to deal with credibility problems rather than institutional factors (such as backward indexation).

### *Dealing with Expectational Rigidities*

FISCAL ASPECTS. When private agents have little faith in an announced fiscal adjustment, they will set prices accordingly. Their pessimistic expectations are thus likely to maintain the momentum of inflation, leading to overvaluation, current account deficits, and other difficulties. Incomes policies may then usefully be introduced to counter the costs of these repercussions (see Persson and van Wijnbergen 1989). Since it takes time to demonstrate the commitment to fiscal adjustment, the controls will need to be in place longer than would be needed for dealing with institutional rigidities. Ideally, by the time controls are removed, the durability and extent of fiscal adjustment should be clearer.

In the more successful programs the fiscal situation improved during the period of price controls. In the Israeli program the fiscal deficit turned into a surplus. A crucial move was the abandonment of a large, sacred aviation project—the Lavy—a measure that few thought politically feasible. The experience in Mexico is somewhat different because the fiscal adjustment was largely complete before the program was launched. Nevertheless, the government introduced additional tax measures and continued its efforts to restructure the public sector through privatization. In the successful Brazilian program of the 1960s the fiscal accounts likewise improved during the period of controls.

In the nonpersistent programs, the period of controls was not used to advantage. In the Austral Plan, for example, the initial improvement in the fiscal and quasi-fiscal accounts (that is, the operational balance of the central bank) was not sustained. To the contrary, initially the total budget deficit as a share of GDP was reduced from about 10 percent in the first half of 1985 to 2.5 percent in the second. This trend began to be reversed in the first half of 1986 (in the first quarter, the deficit exceeded 4 percent of GDP), and by 1987 the deficit already exceeded 6 percent. Although the fiscal deficit remained much smaller than before the Austral Plan, the reluctance to deal with the budget deficit once and for all perhaps reflected a corresponding reluctance to fight inflation persistently. The same deterioration of the fiscal accounts during the period of controls occurred in the Argentine and Uruguayan programs of the 1960s.

NOMINAL ASPECTS. Sound fiscal policies in the initial stage are essential to building credibility on the fiscal side, but they are of little help in establishing credibility on the nominal side. Because the nominal anchor (the exchange rate) can easily be maintained for a short time, especially when prices and wages are frozen, the private sector has no guarantee that the government will continue to defend it in the face of adverse expectations once price controls are lifted. In other words, the controls postpone the establishment of credibility on the nominal side: the government can demonstrate its commitment to the nominal anchor only once prices are freely determined.

The key to the credibility of the nominal anchor is whether the government will maintain its rules for it if confronted by persistent inflation arising from adverse expectations. Increases in prices and wages do not necessarily take place because private agents expect the initial improvement in the fiscal accounts to be reversed. Such increases could equally occur because producers, who set nominal prices in advance for fixed periods, fear that these prices might be eroded through an unannounced devaluation in order to increase employment or improve the balance of payments—a justifiable anxiety, because this was precisely the strategy used in the past to deal with adverse external shocks (for example, in Brazil and Mexico in 1982–84). The problem is generally exacerbated because it is difficult to know in advance when and how much the government is willing to compromise in order to reduce the costs of disinflation.

The perception that the government might deviate from the announced target for the nominal exchange rate was perhaps most clear during the Pacto in Mexico. The policy adopted there was to announce the values of future exchange rates for a period of about six months. When the period was about to expire, a new rule was announced for the next half year. Nominal interest rates have nevertheless remained very high—certainly above international levels—reflecting the perceived risk that the government would deviate from the announced exchange rate policy. This expectation was probably not directly related to a fiscal problem (since the operational budget deficit remained small, and the surplus in the primary fiscal balance was sustained), but rather reflected skepticism that the exchange rate rule could be maintained in the face of persistent deterioration in the current account of the balance of payments (see table 1). (This deterioration in the current account is characteristic of exchange rate stabilizations; see Kiguel and Liviatan forthcoming)<sup>3</sup>

Far from solving the credibility problem with regard to nominal anchors, incomes policies could exacerbate it. The early use of controls could be read by the private sector as a signal that the government is not willing to stick to the rules for the nominal anchors (for instance, to the exchange rate rule) if confronted with adverse expectations. This type of credibility problem requires that the government demonstrate its willingness to absorb the costs—overvaluation and recession—associated with defending the nominal anchors.

## How Effective Is the Heterodox Strategy?

A feature common to all the programs considered above is that, regardless of whether they effect any fiscal adjustment, inflation comes to a halt almost immediately. Figure 1 illustrates that this phenomenon is observed in serious programs (such as those in Israel and Mexico), nonpersistent programs (the Austral Plan, the Krieger Vasena program, and the Uruguayan program of 1968), and populist programs (the Cruzado Plan and the Peruvian program of 1985).

The initial effect on inflation therefore has nothing to say about the sustainability of the stabilization; the indications must be sought in other macroeconomic variables. Populist programs are easy to recognize because of the expansionary monetary and fiscal policy and unusually large increases in real wages (detailed in Dornbusch and Edwards 1989). Persistent and nonpersistent programs are harder to distinguish, as Blejer and Liviatan (1987) illustrate in their comparison of the outcomes during the first year of the stabilization programs in Argentina and Israel of 1985. Within that time frame they conclude that “the programs were similar in their designs and their effects” (p. 409). The similarities, which were especially strong during the first three quarters of the two programs, include policy variables such as the budget deficit and the nominal exchange rate and endogenous variables such as real money balances, interest rates, real wages, the real exchange rate, the premium for the black market exchange rate, unemployment, industrial production, and the trade balance. Likewise, both the Krieger Vasena program in Argentina and the Uruguayan program of 1968, which were eventually abandoned, started in a very promising way and remained sound for a relatively long time (about two years). Both seemed to have a reasonable chance of success initially, and the outcomes were very similar to the more successful Brazilian program of the 1960s. Although the differences between persistent and nonpersistent programs become clearer over time, it is not always easy to distinguish them in the early stages.

That governments abandon programs despite the quite substantial costs of failure is puzzling. It may be that policymakers underestimate the costs of disinflation and abandon the programs once they recognize their mistake. Or political support for stabilization may be substantial when inflation is high but evaporate once specific groups are hurt by policies—such as budget cuts—introduced to maintain price stability.

The uncertainty about whether a program will be sustained exacts a cost. Agents will always consider failure possible to some extent—a credibility problem that will be reflected in high interest rates or overvaluation of the domestic currency. Both Israel and Mexico have faced a real appreciation during the stabilization process. They have also faced high real interest rates for a protracted period.

## *Advantages of the Heterodox Controls*

One potential advantage of the heterodox strategy over the money-based orthodox strategy is that the initial costs of reducing inflation are low. Other benefits are the gains from reversing the Olivera-Tanzi effect, the improvement of fiscal credibility, and the possibility of adding momentum to the program as a whole.

**LOW INITIAL COSTS.** The relatively small initial costs of bringing down inflation in heterodox programs contrast with those of money-based orthodox stabilization programs such as the Chilean program of the mid-1970s. The costs in that program came early on in the form of a deep recession and massive unemployment. (See Edwards and Edwards 1987 and Corbo and Solimano 1991 for a description of this program.)

In heterodox programs the costs of stopping inflation usually appear later. The first stage, when tight controls are in place and inflation falls at little or no cost in terms of unemployment, is the easy part. The problems start when controls are relaxed, and the appreciation of the domestic currency leads to a deep recession, to a loss of competitiveness that hurts the export sector, and to the high interest rates necessary to maintain attractive rates of return on domestic assets to avoid capital flight.

The difficulties for disinflation arise because the overvaluation that took place during the expansionary period needs to be corrected without losing control of the main nominal anchor: the exchange rate. A large devaluation could restore competitiveness but might erode confidence in the government's determination to sustain the stabilization program. Such a devaluation could be held to indicate that the government is not prepared to pay the price of overvaluation and would rather accept rekindled inflation.

Both of the successful heterodox programs of the 1980s experienced overvaluation. Both have continued to use the exchange rate as the nominal anchor, but neither the Israeli device of unannounced step devaluations to avoid further appreciation nor Mexico's preannounced crawling peg has successfully solved the problem of overvaluation.

**REVERSING THE OLIVERA-TANZI EFFECT.** With regard to fiscal matters, heterodox programs can derive advantages from the Olivera-Tanzi effect working in reverse—a consideration particularly important in countries where inflation is high. These gains are hard to quantify: in Israel they were estimated to be about 1.5 percent of GDP; under the Austral Plan at about 2 percent of GDP. There were additional gains, especially in the Austral Plan, from raising prices for public enterprises at the outset to levels that greatly improved the finances of these firms.

Though potentially important, the benefit from a reversed Olivera-Tanzi effect should be treated with caution because it is not a true signal of the fiscal

effort. A program that relies solely on this effect for fiscal improvement is likely to fail, since the deficit will remain low only if the government succeeds in keeping inflation down. Any shock that destabilizes inflation will increase the deficit, making the inflation process self-sustained. Furthermore, to the extent that public sector enterprise prices are not adjusted during the period of controls, their finances will deteriorate. The gains from the reversed Olivera-Tanzi effect should therefore play a relatively small part in the fiscal adjustment. In Israel, for example, the effect was responsible for approximately a quarter of the improvement in the fiscal accounts; in Mexico its impact was negligible. In the Austral Plan, by contrast, much of the improvement in the fiscal accounts came from the reversed Olivera-Tanzi effect, in conjunction with the increased prices in public sector enterprises.

**IMPROVED FISCAL CREDIBILITY.** The initial fall in inflation can help establish fiscal credibility in two ways. First, as mentioned earlier, the government can use the freeze to prevent a persistence in domestic inflation (due to lack of credibility) that would lead to distortions in relative prices, while it performs the fiscal adjustment. Second, low inflation makes it easier in practice to calculate the size of the budget deficit and in this sense it can make this process more transparent (see Tanzi 1989). It is hard to know the size of the budget deficit when inflation is high—for one thing, there is more room for using accounting tricks to mask the true state of the fiscal accounts. Sharon (1990) argues that in Israel the reduction in inflation was instrumental in keeping track of what was happening in the fiscal accounts. High inflation also complicates calculation of real interest rates, since these depend on the choice of the deflator (which could be the actual or the expected rate of inflation).

**ADDING MOMENTUM TO THE PROGRAM.** A fourth possible advantage of the heterodox approach is that the initial fall in inflation might spur the introduction of additional measures to strengthen the program. Spending cuts or tax increases may be harder to accept while inflation remains high than when they are seen to support a reduction in inflation that has already taken place. Support for the Alfonsín government during the first months of the Austral Plan, for example, was widespread enough to sustain intensified fiscal reform. The government failed to seize this opportunity however, perhaps because it thought that the initial fall in inflation could be maintained without further action.

The experience of the Austral Plan indicates that the quick reduction in inflation could work in one of two ways: it could help advance the adjustment if the government is determined to undertake it, but it could equally postpone adjustment if the early, transitory success is taken as evidence that stabilization is there to stay.



## *Disadvantages of the Heterodox Controls*

The criticisms most commonly advanced of the heterodox strategy are that (1) the controls could become a substitute for fiscal adjustment; (2) the controls could lead to misallocation of resources; (3) once in place, the controls are difficult to remove; and (4) it is particularly difficult to assess progress.

**SUBSTITUTING FOR FISCAL ADJUSTMENT.** The initial improvement in inflation and the small unemployment costs can create complacency about fiscal conditions, and this complacency may undermine the success of the program. Populist programs are a glaring example of the attempt to gain price stability without fiscal adjustment. In the Cruzado Plan and the Peruvian program the combination of controls with expansionary policies that created generalized excess demand for goods and services rapidly led to repressed inflation, widespread shortages, and the emergence of black markets. In the end, of course, prices exploded. In Peru this led to hyperinflation; in Brazil to an outburst in inflation that was checked by a new round of controls.

Fiscal overadjustment is helpful in underscoring the intentions of the government. The case for overadjustment is developed more fully in Rodrik (1989) in relation to trade liberalization programs. Because populist programs abuse controls, heterodox programs need to take a tighter fiscal stance to show that they mean business. In addition, the fiscal overadjustment supports a situation in which supplies must be excessive overall in order to avoid shortages during the period of controls. In practice, the differences between heterodox and populist programs became apparent shortly after the programs were launched. Key differences were the attitude toward real wages and toward the importance of fiscal (and sometimes monetary) policy, and the fact that generalized shortages were averted in heterodox programs. Persistent and nonpersistent programs were not distinguished in this way, because shortages did not arise in either of them, and real wages in both followed a similar course.

**MISALLOCATION OF RESOURCES.** In our view, this disadvantage of the heterodox strategy is less important than the others. The criticism that wage and price controls lead to misallocation of resources is valid for countries that use controls in the long term, but weaker for countries that adopt heterodox programs, which use controls only temporarily. In addition, in most heterodox programs (even the nonpersistent ones) controls were not rigorously imposed: although firms were not free to increase prices without prior government authorization, they were authorized to raise prices whenever it was clear that their prices were out of line with costs.

**TENACITY OF CONTROLS.** The criticism that controls are hard to remove once they are in place is valid for heterodox programs. It applies also more generally to programs that announce rules for nominal variables (especially the exchange

rate). Exchange-rate-based stabilizations typically fix the exchange rate for longer than was originally intended. The problem arises because a departure from the original rule could be interpreted as a signal that the government is abandoning its nominal policies. The outcome is a period of overvaluation, with its well-known costs. In programs that start with price controls the two problems go together. The Uruguayan program of 1968 provides useful insights in this respect (see Finch 1979; Viana 1988). The program, like other heterodox programs, started with a reduction in the budget deficit, a fixed exchange rate, and a price and wage freeze. The fiscal and external situations deteriorated over the years, and after some time it was clear that adjustments were needed in the program. These adjustments were postponed mainly because, with elections imminent, the authorities were reluctant to free prices and wages and devalue the exchange rate. Eventually and inevitably, the program collapsed with maxi-devaluations and record levels of inflation. The lesson is that even programs that appear to be heterodox early on may deviate from their original intent.

**DIFFICULTIES IN ASSESSING PROGRESS.** It is always hard to predict at the outset whether a stabilization program—orthodox or heterodox—will succeed. In Bolivia, for example, the orthodox stabilization of August 1985 that brought hyperinflation to a halt followed unsuccessful stabilization efforts that had not differed greatly. And even this successful program confronted a serious reversal toward the end of the year, when hyperinflation briefly reemerged.

The difficulty is compounded in heterodox programs by the fact that low inflation is maintained through controls. In the absence of prices determined in the markets, it is harder to discern whether the program is working because the fundamentals are in order and low inflation is there to stay, or because controls are in place. The answer has to wait until controls are removed and inflation finds its new equilibrium. In the meantime, the credibility problem is bigger in a heterodox program.

## **The Role of Controls: A Reassessment**

The role of controls in heterodox stabilization programs poses something of a puzzle. The fact that controls do not lead to shortages or marked distortions in relative prices could be taken as evidence that they are not binding—and if they are not binding, why are they needed? Before answering this question, it is useful to point out that programs in countries with chronic inflation that did not use controls have always failed to reduce inflation sharply in the short run. In contrast, the quick and drastic reduction in inflation observed in heterodox programs shows that controls played an important role.

In our view, controls in the initial stage in heterodox programs are a coordinating device in the movement to low inflation (see Dornbusch and Simonsen

1987). The literature on the inflation tax (for instance, Bruno 1989 and Bruno and Fischer 1990) provides a useful framework in which to analyze this issue. Consider an economy that initially is in a high-inflation equilibrium and at full employment, where expectations are being fulfilled and the government is using the revenue from money creation to finance its budget deficit. The Bruno and Fischer studies show that two equilibria can be consistent with the same budget deficit. If the economy is initially at the high-inflation equilibrium, controls could be used to move the economy to the low-inflation equilibrium—a move that does not require in principle any change in the budget deficit. Controls thus act as a coordinating mechanism: the announcement that controls are in place could be enough to reverse inflationary expectations, thus allowing the economy to remain in the low-inflation equilibrium. In this exercise shortages do not occur because there are no pressures that would create excess demand and the economy remains at full employment. The idea that controls worked in heterodox programs because they repressed inflation (as in populist programs) is largely misleading. Controls acted as a shock treatment, as a guideline for a prompt downward revision of inflationary expectations, and this was at least credible in the short run.

The analytical framework discussed above tells only part of the story because it assumes that once the initial difficulty—moving to the low-inflation equilibrium—is surmounted the economy will tend to stay at equilibrium. Bruno argues that the low-inflation equilibrium can be made stable in this way if it is supported by an appropriate fiscal adjustment. We know, however, that there is an additional difficulty in sustaining low inflation: the issue of the credibility of nominal anchors. The initial reduction in inflation is only the beginning; persistence is needed to sustain stabilization.

### **When Are Heterodox Programs Appropriate?**

Heterodox programs are appropriate in a limited number of cases. On the “not recommended” list are, first, countries with low inflation that suddenly experience an outburst of high inflation. Examples are Costa Rica and the Philippines in the early 1980s. Both countries traditionally had low inflation but experienced a short inflationary spiral following devaluations undertaken in response to the debt crisis. Generalized price and wage controls are not a good idea in such instances because inflation is correctly perceived to be temporary. The expectational component in the inflation process does not become important, and the episode can therefore be treated with orthodox remedies. The speed with which inflation was brought down in Costa Rica and the Philippines illustrates that this was indeed the right approach.

Hyperinflation is a second case in which the orthodox strategy is preferred. Because in these episodes inflation is explosive and does not display inertia, incomes policies are not necessary to restore price stability (see Kiguel and

Liviatan 1988). Finally, the orthodox approach is also preferable in economies in which inflation rates are low or moderate—somewhere between 20 percent and 40 percent. In these economies, generalized controls are unlikely to generate a large reduction in inflation principally because contracts are typically long and staggered, whereas in high-inflation economies they are short and highly synchronized. A freeze would leave great disparities in relative wages and prices, penalizing those with the oldest contracts. The problem is difficult to handle in practice, because so much information is required.<sup>4</sup>

The single situation in which the heterodox strategy may be useful, then, is in economies suffering from chronic high inflation, such as those that opted for this policy in the 1980s. There is a caveat, however: launching a heterodox program that is later abandoned can be dangerous—more costly, even, than simply postponing stabilization.

The failure of the Austral Plan and of other programs that relied on incomes policies, such as the Cruzado Plan, illustrates these risks (see figures 1c and 1d). In both, the failures were followed by a period of unstable inflation that ended up in hyperinflation (see Kiguel and Liviatan 1990b). These similarities were not accidental. In our view, the cycles of inflation and stabilization were the result of the repeated use of incomes policies as a stabilization instrument following the failure of the plans. The programs, in demonstrating that controls can effectively stop inflation in the short run, set the stage for the recurrent use of incomes policies. But once the private sector began to anticipate this policy, it started to inflate prices to forestall the damage a price freeze might do to profits. These reactions further destabilized inflation, leading ultimately to hyperinflation in both countries.

The traditional hyperinflations, such as those of Europe in the 1920s and more recently in Bolivia, were primarily a fiscal phenomenon; the hyperinflations in Argentina and Brazil in 1989 and 1990 are more directly attributable to the failure of the heterodox experiments. The outcomes differed as well: neither Argentina nor Brazil succeeded in stopping hyperinflation in its tracks, despite using the same kind of orthodox program (based on very tight monetary policy and a significant fiscal adjustment) that had succeeded in the traditional episodes.

Thus the heterodox era added a new chapter to the history of failed attempts to check inflation in Argentina and Brazil. The lesson is that the heterodox strategy offers a one-time opportunity which, if handled properly and perseveringly, could lead to lasting stability—though not without costs. Misused, the controls will impede rather than facilitate the task of stabilization.

## Notes

Miguel Kiguel is on the staff of the Country Economics Department of the World Bank; Nissan Liviatan is a professor of economics at the Hebrew University, Jerusalem. The authors are grateful to Jariya Charoenwattana for her valuable research assistance.

1. In disinflation programs, the path of a nominal variable, typically money or the exchange rate, is announced to influence the evolution of prices. This variable is the nominal anchor.

2. The primary balance is defined as the difference between total revenue and noninterest expenditure. The operational balance is the primary balance minus the real cost of servicing the public debt.
3. In Mexico the deterioration was perhaps larger because the stabilization program was accompanied by liberalization of international trade.
4. It is surprising that Tobin (1987) does not recognize these difficulties, and many of the other difficulties analyzed in this article, when he makes the case for incomes policies for the United States. The idea that there are costless ways of bringing down inflation is naive. Incomes policies hurt the reputation of the government and might indicate that it is not sufficiently determined to fight inflation.

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