

THE 1985 STABILIZATION FROM THE PERSPECTIVE OF THE 1990S¹

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The paper focuses on the perspectives of the 1985 stabilization that could not be envisaged at the time by its planners, led by Michael Bruno. One of these aspects is the extension of the disinflation process over many years. It turned out that the dramatic reduction of inflation in 1985 was only a first step in a long-term process. The paper analyzes the reasons for the slow process of disinflation. We view the inflation and disinflation process in the context of chronic high-inflation economies which failed to disinflate in the 1970s and the 1980s but succeeded in the 1990s. This success has to be viewed in the context of the process of globalization which prevailed in the 1990s and the growing recognition of the advantages of market-oriented regimes. We also distinguish between the short-term measures of stopping inflation (like the heterodox features of the stabilization program) and the long-term process of securing price stability. We conclude with some remarks concerning the changes which could have been made—with the benefit of hindsight—in the 1985 program

1. INTRODUCTION

It is generally agreed that the 1985 Economic Stabilization Program (ESP) was the most important macroeconomic policy package ever implemented in Israel. Its success in bringing down inflation from triple-digit figures to moderate levels has been extensively analyzed in previous research in Israel and abroad, and there is not much that we would like to add here about the design and implementation of the program. We note however that even now, twelve years after the program, the Israeli economy is still struggling very hard to reduce inflation to OECD levels, a fact that would perhaps surprise the planners of the initial program. It is also evident that the policies that have been implemented in recent years to deal with inflation differ in many respects from the policies which were the cornerstone of the 1985 program.

The fact that the task of stabilizing inflation has not been completed (see Figure 1) is reflected in recent government decisions that explicitly aim at further disinflation in the near future. The government's decision about the inflation target for 1997 (set at between 7 and 10 percent) included a forward-looking objective of reducing the rate of inflation to the OECD average by 2001. In addition, the recent policy decision about the inflation target for 1998 indicated the objective of a continued gradual decrease in the rate of inflation with the aim of reaching the same price stability as in the industrial countries.

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In this paper we draw a distinction between the 1985 stabilization program and the longer-term disinflation process which is still ongoing. From a historical perspective, the role of the original program was to generate sharp disinflation from triple-digit figures to moderate inflation rates, without major macroeconomic imbalances and at as low a social cost as possible. While this task was accomplished successfully, this was only the first stage in a longer-term stabilization process.

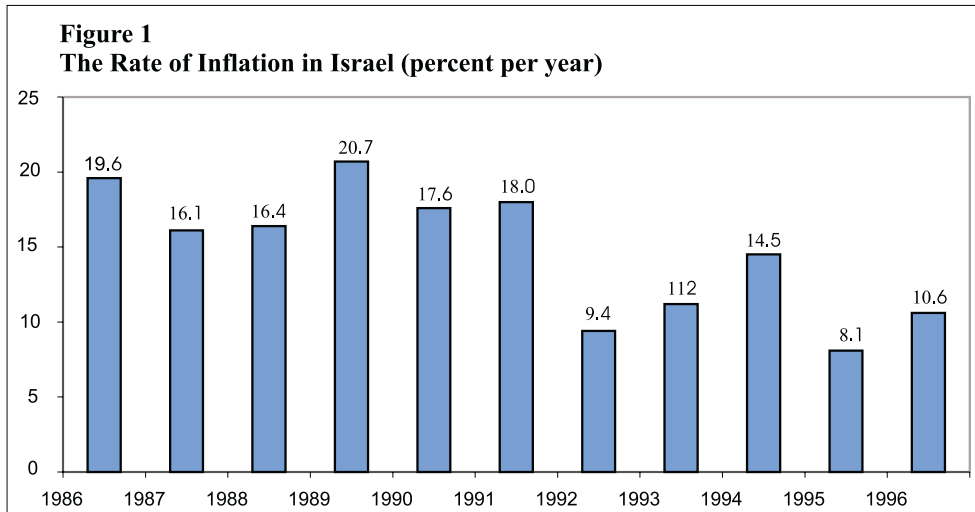
Michael Bruno was well aware of the above distinction. In his book he writes “In hindsight, the post-stabilization strategy, as it evolved over time, is no less important for success than the ingredients that went into the initial policy package.” (Bruno, 1993, p. 109).

This paper has two main objectives. First, to describe the characteristics of this long-term stabilization process, in which the 1985 program appears as the first stage. In particular, we deal with the causes for the protracted disinflation process, and analyze the modifications in the original program and the reasons for them. Second, we discuss how the new economic perspectives of the 1990s—such as globalization, increased international capital mobility, and the worldwide decline in the rate of inflation—can change our analysis of the main lessons that can be drawn from Israel’s stabilization strategy. With the benefit of hindsight, the analysis points to various elements that could be considered as key ingredients of any stabilization program for a typical middle-income economy in the 1990s, yet they were absent from Israel’s original 1985 program.

The analysis of the Israeli stabilization cannot be separated from the nature of the inflationary process that preceded it. Moreover, Israel’s inflation process was very similar to that of various Latin American economies, known collectively as the ‘chronic high inflation’ (CHI) phenomenon. Accordingly, we may gain a better perspective of Israel’s stabilization by comparing it with that of other CHI countries. Such a comparative approach was strongly advocated by Michael Bruno, who writes: “As experience accumulates one gets a better feel for the practical and theoretical intricacies of the adjustment and structural reform process in a greater variety of middle-income countries. Detailed case-studies are necessary building blocks, but they remain isolated unless an attempt is made to look for common elements without which no scientific edifice can be constructed. On the other hand, premature generalization in an area such as this can also lead one astray. Somehow one must try to strike a balance . . .” (Bruno, 1993, p. viii).

The perspective of the 1990s enables us to point out that the first half of the decade witnessed a dramatic development, in that it appears, with a high degree of certainty, that the historic era of CHI has been ended by a series of successful stabilization programs in Latin America. When Michael Bruno wrote his book on Israel’s stabilization this fact was not sufficiently clear. Here we intend to exploit this fundamental perspective on disinflation in Latin America (and in industrial countries) to gain additional insights into the Israel experience.

The paper is organized as follows: We first elucidate the distinction between the concepts of program vs. process. We then place pre-1985 Israel within the context of the CHI process. Subsequently, after discussing orthodox and heterodox stabilizations in Latin America, we discuss the 1985 program and stabilization process in Israel, and the main lessons from the heterodox approach. We then turn to some of the key policy modifications and economic developments in the course of the stabilization process, such as the gradual shift from an exchange-rate anchor to inflation targets, the prolonged nature of disinflation, and the



consumption boom and business cycle associated with stabilization. Next, in what we consider as a central contribution of the paper, we discuss how the fresh perspective of the 1990s affects the evaluation of the initial 1985 program and the process that followed. The paper ends with a brief concluding section.

2. STABILIZATION: A PROGRAM OR A PROCESS?

In this paper we stress the basic distinction between a disinflation program and a process. The usual treatment of disinflation in the literature relates to stabilization *programs*, which consist of a well-defined set of policies aimed at achieving a marked reduction in the rate of inflation (we leave aside, for the moment, the other objectives of stabilization). Initial programs are clearly the starting point and the necessary condition for starting a process of stabilization intended to produce long-term results according to the policy objectives. However, during the process of stabilization, circumstances such as external and internal shocks could lead to substantial adjustments and modifications and possibly even drastic changes to the initial program. As long as the stabilization process, and its fundamentals, goes on, these changes should not be seen as contradicting the initial program. Put differently, we suggest evaluating the results of stabilization as a process and not solely in terms of the initial program.

In some cases disinflation can be attained in one shot, as for example in the stabilization of hyperinflation (as described by Sargent, 1986). In this case it is the program that typically captures the key aspects of the stabilization. However, in other disinflation experiences we observe that the programs may change while the disinflation effort continues for many years. This is especially the case with the experiences of successful stabilizations in 'chronic inflation' economies (as in Chile, Israel, and Mexico).

Since we are dealing with practical aspects of stabilization, it is advisable to illustrate the above conceptual distinction in terms of concrete historical examples. Perhaps the best example

is the Chilean stabilization process, which started in 1974 and continues to this day. The process began with an orthodox program of tight fiscal and monetary policies which failed to reduce inflation to moderate levels (partly because of severe adverse terms of trade shocks).

The strategy was changed radically in 1978 when a system involving a preannounced exchange-rate depreciation path (known as the *Tablita*) was introduced. This culminated in a fully fixed exchange-rate regime, followed by a reduction in the rate of inflation to below 20 percent per annum. This program collapsed in 1982 in the wake of a dramatic balance-of-payments crisis and was superseded by a flexible exchange-rate regime which relied more heavily on tight fiscal policy and monetary restraint. The latter evolved over time into a crawling exchange-rate band, which was adjusted and made more flexible in recent years with the adoption of inflation targets. In the last few years Chilean inflation has entered the single-digit range, though still remaining higher than in industrial countries.

Thus, the Chilean stabilization can be viewed as a *process* involving a series of stabilization programs, which represent adaptation to changing domestic and external conditions (as described in detail in, e.g., Corbo and Fischer (1994). Although in the mid-1980s experts tended to regard the Chilean stabilization process as a failure (e.g., Edwards and Edwards, 1987, and Ramos, 1986), with the hindsight of the 1990s we know that the stabilization process was deepened with important disinflationary achievements. All along, the process was based on some sound fundamental principles; these included responsible fiscal policies, as well as relentless efforts to reduce the role of the state, liberalize the economy and also deal effectively with the nominal side of the economy, including handling a banking crisis and abolishing formal wage indexation.

Another useful example is the Mexican stabilization program, which started with the Solidarity Pact of December 1987. The initial policy package relied on the exchange rate as a key nominal anchor and on incomes policies in the framework of a social pact (*Pacto*). Although the initial policy of a fixed exchange rate was later modified to an exchange-rate band which was widened over time, eventually this nominal exchange-rate commitment could not be maintained, and with the December 1994 crisis the peso was floated and the *Pacto* suspended. The shift to a float, moving away from a nominal exchange-rate commitment, represented a drastic change in the basic principles of the initial program. Yet it can be argued that the basic stabilization process is continuing. Since monetary and fiscal policy have not accommodated, and have in fact been tightened, the jump in the rate of inflation that was associated with a large devaluation upon shifting to a float has not stopped the long-term process. As in the case of Chile, the essentially sound fiscal and monetary fundamentals (the latter in the context of an inflation target regime) have so far enabled Mexico to weather the storm, and the rate of inflation is now declining every year.

In the case of Israel, the disinflation process has not displayed such drastic changes as in Chile or Mexico. Hence, any attempt to separate the 1985 program from the rest of the process is bound to be controversial. Yet we believe that the changes that followed the initial program have been so substantial that they warrant distinction from the 1985 policy program.

As in Chile, there has been a gradual shift in Israel towards increased nominal exchange-rate flexibility while at the same time monetary policy has shifted away from maintaining a tight nominal exchange-rate commitment to achieving government's official inflation targets and supporting a more flexible exchange-rate band (see Section 8 below). There have been

several stages in this process. First, toward the end of 1988 an exchange-rate band was adopted, and it was expected that there would be realignments of the band's parameters based on ex-post developments. In addition, the gradual dismantling of price controls was completed. These controls were certainly a feature of the initial stage, and played a part in the effort to break the wage-price inertia inherited from the high inflation regime. Then, in late 1991, after a sequence of exchange-rate realignments, when it became clear that domestic/foreign inflation-rate differentials tended to persist, the exchange-rate regime was changed to a crawling band whose width has been increased periodically over time. As in the Latin-American countries, the shift toward increased exchange-rate flexibility in Israel coincided with greater financial openness and further liberalization of capital flows.

These examples suggest some generalizations. First, the introduction of drastic changes to the initial program does not necessarily imply abandonment of the stabilization process. In fact these changes may be essential in order to ensure its continuation. A fixed exchange rate may be appropriate for the initial stage of a stabilization, when the main objective is to stop high inflation, but it may not be necessary for the later stages of the process. A shift to a more flexible exchange-rate regime at a later stage should not be seen as a failure of the program.

Similarly, a thorough evaluation of the results of a program—in terms of costs and benefits (or success or failure)—has to take into account features of the entire process. For example, evaluating a program in terms of its effects on the first 1–2 years may be misleading because of the shock-treatment elements; in addition, in the case of exchange-rate-based disinflations, there is the initial phenomenon of temporary consumption (and economic activity) booms. On the other hand, a program should be evaluated on the basis of its contribution to the robustness of the stabilization process as a whole, as reflected, e.g., in the extent to which the probability that the process will be reversed is reduced.

The second point is that, in contrast with the program, which is an ex-ante set of policy measures that can be easily identified, the process requires considerable time to work and is subject to unforeseen developments, shocks, and policy changes along the way. Consequently, it is difficult to evaluate the process in real time, and any such evaluation will depend on what has been achieved up to the point at which it is made. Again, one can mention as examples assessments in the mid-1980s that Chile's stabilization had failed, and similar views about Mexico's stabilization in the aftermath of the December 1994 crisis. With the benefit of hindsight we know that a broader historical perspective (up until the present day) has led to different conclusions.

3. ISRAEL AS PART OF THE CHRONIC HIGH INFLATION (CHI) PHENOMENON.

Our understanding of the Israeli process can be enhanced if we consider it against the background of the chronic high inflation (CHI) phenomenon which afflicted the big Latin-American economies (Argentina, Brazil, Chile, and later Peru and Mexico) and Israel after the second world war. The philosophy associated with chronic inflation and the institutions which it bred made it less amenable to disinflationary policies. The typical attitude of policymakers in the CHI economies was that it is possible to live with high inflation without jeopardizing financial stability and growth, by developing sophisticated indexation mechanisms

in the labor and capital markets as well as in the tax system. Undoubtedly, chronic inflation developed under a definite set of fundamentals: lack of fiscal discipline, high and rising wage demands, and strong degrees of monetary and exchange-rate accommodation. In some cases, these features could easily be classified as 'populist' policies.

The adoption of this regime can, of course, be traced to deep social, political and economic factors, which are beyond the scope of this paper. Suffice it to note that the consolidation of the chronic inflation regime in Israel occurred after the deterioration of the internal and external conditions following the energy crisis and the Yom Kippur War of 1973. The labor government, which came under severe internal pressure (and in fact lost the election in 1977), felt that it was in no position to fight the rise in inflation at the risk of unemployment, and chose to accommodate it in the same way as Brazil. From single-digit rates of inflation in the 1960s, the Israeli economy rapidly moved to an annual inflation rate of about 40 percent in 1974–75, about 80 percent in 1978, and triple-digit rates that reached about 400 percent at their peak in the mid-1980s. Basically, the implicit preference was for short-term considerations of avoiding unemployment over long-term monetary stability.

Be that as it may, the fact remains that within the framework of the CHI regime, living with high inflation seemed surprisingly easy. It is important to note that the functioning of this regime and its bleak long-term outlook were not understood in real time; it is ironic that the indexation devices introduced in Brazil in the late 1960s were acclaimed by some economists in the US.

However, in the advanced stages of the CHI regime it became increasingly clear to the countries concerned that in spite of the advanced indexation mechanisms, it was impossible to prevent inflation acceleration, leading eventually to hyper-inflationary outbursts (which render the indexation system ineffective) and financial instability. Even though the CHI economies handled these outbursts far better than traditionally low-inflation economies, such as Bolivia, it demonstrated that the regime was not viable on a long-term basis. This was reinforced by the fact that the advanced stages of the CHI regime were associated with protracted economic stagnation.

In the case of Israel, economic stagnation characterized the entire 1973-85 period where the economy behaved in the fashion typical of CHI economies. After 1983 the economy entered a phase of financial, and foreign-exchange crises which made it difficult for the government to go on borrowing internally in order to finance its large fiscal deficit.

The growing recognition of the non-viability of the CHI regime led to the emergence of stabilization efforts. A major difficulty in stabilizing CHI economies derived from the fact that advanced indexation mechanisms (the 'inflation mitigation technology') provided the option of postponing stabilization—and its costs—a little longer. Put differently, it is hard to generate a strong anti-inflation lobby in a highly indexed economy. This reduced the credibility of the commitment to the stabilization efforts.

In addition, the fact that the dynamics of inflation under the CHI regime were not well understood enabled opportunistic policymakers to try various gimmicks, which could reduce inflation in the short run at the cost of acceleration in the longer term. This led to the phenomenon of 'failed stabilizations' which preceded all the more serious stabilization attempts. These contributed to the learning process, which in turn fed back into the inflation and stabilization developments. Although each country learned to some extent from the experiences of the other CHI economies, each one had to make its own mistakes before it became convinced.

4. BACKGROUND: THE ORTHODOX STABILIZATIONS IN THE SOUTHERN CONE IN THE 1970s

In Latin America the stabilization attempts can be traced back to the 1960s, the most remarkable one being the 1964 stabilization program of the military regime in Brazil (Cardoso and Dornbusch, 1987); mention should also be made of the important stabilization of Krieger Vasena in Argentina in the late 1960s (De Pablo, 1972). For our purposes, it is more appropriate to start with the implications of the stabilizations undertaken by the military regimes in the Southern Cone of Latin America in the 1970s (see Ramos, 1986), the lessons of which influenced the approach to stabilization policies in the 1980s in all CHI economies, including Israel.

The stabilizations in the Southern Cone started in the wake of hyper-inflationary outbursts under the previous governments and used orthodox monetary and fiscal policies. On the nominal side, they had two distinct stages, the first based on tight money and the second on a pre-announced, declining exchange-rate depreciation path (the *Tablita*), which was abandoned following a balance-of-payments crisis in the early 1980s.

The main lessons from this experience for later stabilization programs were the following: (a) The pace of disinflation during the money-based stage was slower, and associated with a stronger recession, than in the exchange-rate-based stabilization (ERBS). Disappointment with the slow pace of progress during the first stage was in fact the reason for shifting to the ERBS. (b) The reason for the failure in Chile, which was the leading country in this experiment, was attributed largely to inflation inertia due in the main to backward-looking wage indexation which contributed to severe real appreciation in the short run. The latter was regarded as a basic reason for the balance-of-payments crisis, which was exacerbated by adverse external shocks. (c) Maintaining a fiscal balance (indeed Chile was running a surplus), though essential for stabilization, was not sufficient to prevent an external crisis when the nominal policies were misaligned. (d) Premature financial liberalization without sufficient supervision of the banking system was another major cause of the severity of the crisis.

5. THE HETERODOX STABILIZATIONS OF THE 1980s

The lessons learned from the failed stabilization attempts of the 1970s were reflected in the stabilization programs in CHI economies in the 1980s. The fact that the exchange-rate-based stabilization was not recessionary and was quite effective, at least initially, was clearly an attractive feature. The main problem with that strategy, in view of the Southern Cone conditions, was the danger of excessive real appreciation at impact due to backward-looking wage-setting, based on past inflation.

An obvious solution to this problem was the implementation of incomes policies to restrain wages. However, in order to secure the cooperation of labor in the imposition of wage constraints it was important, if not essential, to ensure that prices would be restrained; this led to price controls. Since the whole point of the controls was to enable a soft landing from high to low inflation, they had to be viewed as temporary. The critical and more permanent component in the program was of course the fiscal policy one. This was the basis of the 'heterodox' strategy, which swept the CHI economies in the second half of the 1980s.

6. THE 1985 PROGRAM AND THE STABILIZATION PROCESS IN ISRAEL

Although Israel did not undergo a Southern Cone-type stabilization it did go through a period of failed stabilizations which displayed some of its features. We note in particular the mini-*Tablita* policy of 1982–83, which culminated in a balance-of-payments-cum-banking crisis. In addition, its experience with wage and price controls, just prior to the July 1985 stabilization, showed that inflation could easily be stopped by incomes policies, but stabilization could not be sustained without eliminating the fiscal deficit. These lessons led to the ‘heterodox’ strategy, and it is difficult to disentangle the impact of the specific Israeli experience on its stabilization strategy from that of the Latin American lessons.

The 1985 program was basically a macroeconomic stabilization program; it did not intend to directly address issues of structural reforms and long-term growth, but macroeconomic stabilization was considered a necessary precondition for the implementation of these reforms and the eventual resumption of growth. The immediate goal of the program was to generate sharp disinflation and improve the balance of payments (a strategy that Michael Bruno liked to call ‘a two-pronged attack’); the separate treatment of these two objectives in the past was viewed as an impetus for inflation.

The strategy was based on the premise that macroeconomic stabilization cannot be confined to the fiscal deficit, but must also directly address the aspect of the nominal anchors. Accordingly, the policy measures were based on a “combination of a drastic cut in the deficit with the synchronized fixing of several nominal variables (the exchange rate, wages and bank credit)” [Bruno and Piterman (1988)]. As clearly stressed by Michael Bruno (1993), the political economy of a national coalition government provided the grounds for the very important phenomenon that he termed ‘therapy by consensus.’

The cut in the fiscal deficit was intended to serve a dual purpose—to reduce the current-account deficit in the balance of payments and provide credible support for the exchange-rate peg. However, in the presence of key backward-looking nominal variables this was considered insufficient to prevent extensive real exchange-rate appreciation and a rise in real wages as a result of the impact of lagged inflation (giving rise to what is known as inflation inertia). Hence, the indexation agreements were temporarily suspended, prices were (temporarily) frozen, and a path was set for nominal wages in the framework of a ‘social pact.’ In addition, bank credit was constrained.

The guiding principle was one of ‘multiple nominal anchors,’ maintaining that in sharp disinflation the pressure on any single anchor can be excessive. Note that the simultaneous fixing of a number of nominal variables at a given date does not necessarily represent equilibrium prices and wages in some markets, but this was considered to be a lower cost than that of the distortions associated with ignoring the inertial factor.

The extreme measures in the form of price and wage controls were viewed as temporary steps which would be dismantled as soon as the situation permitted. Bruno and Piterman (*op. cit.*) state that the time-span envisaged for the implementation of the program was one year. In practice, the decontrol process was completed around the end of 1987. However, in view of the adherence to a fixed (but adjustable) exchange-rate policy (against a basket of foreign currencies) until the end of 1988, and the gradual shift toward greater exchange-rate flexibility since then, there is a case for using the latter date as the dividing line separating the initial stabilization from the rest of the process.

The main changes in disinflation policies since 1987–88 have been in the nominal regime. These include the increased flexibility of the nominal exchange rate and the adoption of an inflation target regime (see below). From a monetary policy that was focused mainly on stabilizing capital flows and maintaining a tight nominal exchange-rate commitment, policy evolved into what is required to achieve the inflation targets set by government. These changes were supported by institutional reforms in the fiscal regime, increased liberalization, and the reduction of the role of government in the financial markets. Not much has been accomplished in the area of privatization and the reduction in the size of the public sector, which played a greater role in the disinflation process in other chronic inflation countries.

As a result, the current macroeconomic regime is quite different from the one which prevailed in the early years of the stabilization. However, there are some basic principles which guided the original program and have been maintained along the way. The most important principle was that of maintaining a satisfactory fiscal balance, even in the absence of major fiscal reforms. A clear expression of this principle was the requirement that the public debt should stop growing. Indeed, we can see that the ratio of debt to GDP declined substantially in the course of the stabilization process. An effort was also made to correct excessive deficits along the way.

The second principle was to avoid the surprise-inflation tactics which had characterized the high-inflation era. The occasional devaluations which took place in the early stabilization years were of an accommodative or corrective nature and an attempt was made to implement them in a cooperative way. Later on, the introduction of the crawling exchange-rate band and the gradual adjustment of publicly-controlled prices practically ruled out the possibility of eroding real wages and real money balances by price shocks. This contributed to reducing the inflationary bias in the economy.

The third element was the change in the ‘rules of the game.’ The traditional practice of financial bailouts by the government was minimized in the new regime. This became evident particularly during the period of tight monetary policy in the early years of stabilization which created severe financial stresses, especially for firms producing for the domestic market. This change of regime had a positive effect on the credibility of the government’s resolve to persist with the disinflation.

Perhaps the best summary of the combination of the first and third principles is embodied in the government’s approach to absorbing the influx of immigrants from the former Soviet Union in the early 1990s. The approach consisted of a market-based orientation, relying as little as possible on government subsidies and funds or employment in the public sector, and providing incentives for economically-motivated absorption via the private sector. Such an approach could emerge only under the conditions of the post-stabilization period, and not those that prevailed earlier.

The fourth element characterizing the process was the gradual shift towards increased flexibility of the nominal exchange-rate regime. Even though the policy in the early years was to adhere to the exchange rate as a nominal anchor, the government was careful to assert—as a sort of escape clause—that nominal wage pressures might oblige it to adjust the exchange rate. This rather flexible attitude made it possible to avoid falling into a *Tablita*-type crisis trap, as occurred in Chile or Mexico. In section 8 we focus on the main changes in monetary and exchange-rate policy during the process.

We conclude this section by discussing two main ‘surprises’ in the stabilization processes of Israel and some Latin-American economies: the prolonged nature of the disinflation process and the expansion of private-sector consumption and economic activity in the aftermath of stabilization programs.

Disinflation as a prolonged process

The protracted nature of the Israeli stabilization process is one of the surprises that beset policymakers. It was thought that if the elements of the initial program were put in place and fiscal discipline persisted, inflation would quickly come down to international levels. This was not the case, however; during the period from 1986 to 1991 the annual inflation rate remained consistently within the range of 16–20 percent. From 1992 until the present day the annual inflation rate has been in the neighborhood of about 10 percent. In view of the recent emphasis in economic theory on the role of credibility, and on credibility as a ‘stock’ that is built gradually, the prolonged stabilization process in a former CHI economy should not be very surprising.

A number of factors undermine the credibility of disinflation in the latter type of economy. First, the initial political support is for stopping high inflation and not necessarily for transition to low inflation; moderate inflation may be sufficient to satisfy the public in an economy with well-developed indexation mechanisms. Second, policymakers get most of their payoff from the reduction of inflation from high to moderate rather than from moderate to low. Third, CHI economies have ‘excess capacity’ in terms of indexation mechanisms, so that living with moderate inflation is easy, and making further progress at disinflation seems unnecessary. Fourth, there is empirical evidence to indicate that the social cost of the transition to low inflation is higher—and the benefits are smaller—than in stopping high inflation.

In the case of Israel, the credibility-enhancing elements included the persistence of responsible fiscal policies (with efforts to correct deviations), institutional reforms to ensure low fiscal deficits and that the central bank would not finance deficits (by law in 1985), the adoption of an inflation target regime, and the greater de facto independence of the Bank of Israel.

On the negative side we may note the frequent lack of consensus since 1985 between the Treasury and the Bank of Israel about the pace of disinflation (reflecting the same problem in society), the pace of nominal exchange rate depreciation, the lack of major fiscal reforms (as in Chile) to back up the disinflation process, the absence of a more active de-indexation policy and, finally, the absence of a tangible external payoff for disinflation, such as joining an economic bloc (e.g., the Maastricht convergence process in the European community), or other direct financial benefits, such as improving the credit rating and other Wall Street-type rewards.

Clearly, the declining world trend of inflation in the 1990s has helped the disinflation process in Israel, but it should be noted that Israel started its process in the mid-1980s under less favorable external conditions, which led to the entrenchment of moderate inflation. Ultimately, however, it was the decision of the policymakers not to attempt to reduce inflation further that has accounted for the persistence of higher inflation than in most industrial countries. The fact that the rate of inflation has remained at about 10 percent per year in recent years is closely related to the authorities’ decision to set inflation targets at a similar figure for that period.

Consumption and economic activity booms

One of the most surprising developments in the stabilizations process in Israel and other countries is the rapid rise in consumption and economic activity in the aftermath of the stabilization program. As shown by Easterly (1996), economic growth is often weaker before disinflation than afterwards. This may indicate that stabilizations are often implemented only when the output losses from inflation become sizable and some groups in society are willing to bear the costs of stopping high inflation.

We can illustrate the consumption boom in Israel with some figures. Prior to the program, i.e., between 1980 and 1984, total private consumption grew at an average annual rate of about 5 percent and consumption of durables at about 8 percent. The consumption boom began in the first quarter after the program (i.e., the last quarter of 1985), when total private consumption was up by 13 percent over the previous quarter. This was led by a sharp increase in the consumption of durable goods, which registered a 36 percent increase from the previous quarter. The year of 1986 is the most salient example of the consumption boom phenomenon. In that year private consumption rose by 15 percent (i.e., over 13 percent per capita), and consumption of durables increased by 50 percent. These figures clearly imply that the consumption boom applied to both durables and non-durables. The boom lasted for two-and-a-half years and came to a halt after the first quarter of 1988. In 1989 total private consumption remained unchanged from the level of the previous year.

To a greater extent, these developments in private consumption spending were reflected in fluctuations in economic activity. In the two years after the program, 1986–87, GDP growth was 5 percent per year—double the rate that prevailed in 1984. However, these trends were reversed in 1988–89, when the GDP growth rate slowed to about 2 percent per year, and manufacturing production declined by about 2.4 percent per year.

These facts represented a challenge to macroeconomic theory, which was accustomed to thinking of stabilization programs in terms of a Phillips Curve, positing that as the rate of inflation falls there will be a rise in the rate of unemployment and a decline in economic activity. These same ideas prompted the notion of a ‘sacrifice ratio’ that could be calculated for each disinflation. Yet, the first few years after the Israeli and other exchange-rate-based programs provided a ‘free lunch’ rather than a ‘sacrifice,’ as while inflation was being reduced economic activity accelerated. It was only once the temporary boom was over that some ‘sacrifice’ emerged in the form of increased unemployment and reduced growth, though some of these were related to structural factors.

Given this challenge, a number of hypotheses were developed in the literature to account for the boom. Foremost among these was the ‘temporariness’ hypothesis (Calvo, 1986), which claimed that economic agents did not believe that the stabilization would persist over time, hence giving rise to intertemporal speculation in consumption. This applied especially to traded goods, whose current prices were perceived to be relatively low in an intertemporal sense. Another important explanation was the permanent income hypothesis (Bruno and Meridor, 1991), which claimed that knowing that stabilization and fiscal discipline would persist, agents increased their expected permanent incomes due to expected tax reductions (in the light of future reductions in government spending) in the future. The initial increase in spending would tend to be concentrated in durables, thus causing a cycle (De Gregorio et. al.,

1992). Thus, several models have been constructed and calibrated in the literature, indicating for some realistic values of the parameters that a boom may follow the adoption of a stabilization program, as has in fact occurred.

7. LESSONS FROM THE HETERODOX STABILIZATIONS IN ISRAEL AND LATIN AMERICA

Comparing the Israeli program with the heterodox stabilizations of Latin America shows that the emphasis in the former on fiscal balance as the major pillar of the strategy was justified. Lack of a disciplined fiscal component in the Cruzado Plan in Brazil (1986) and lack of persistence with the fiscal effort in the Austral Plan in Argentina (1985) led to the collapse of these heterodox programs, while the Mexican stabilization of 1988, which was based on a tight fiscal stance, was sustained, as was the Israeli one.

However, the view that the incomes policy component of a heterodox strategy would be sufficient to prevent real exchange-rate appreciation proved to be wrong. Both Israel and Mexico experienced sharp real appreciation even though they succeeded, with very little immediate cost, in eliminating the institutional inertia inherent in wage contracts. While some of the appreciation may be connected with increased capital inflows (see below), an additional consideration in explaining the appreciation phenomenon is lack of credibility, which results in a weak downward response of the rate of inflation in the first stages of the program (relative to the pre-determined nominal exchange rate). In most cases the solution to the discrepancy between the authorities' true intentions and the public's perception of the temporary nature of stabilization has been to shift to some flexibility of the exchange-rate regime without giving in completely to adverse expectations, especially by consolidating a tighter fiscal policy stance. We believe Israel has implemented a realistic, 'middle-of-the-road' approach such as this with some success.

Another belief of some heterodox strategists, namely, that the use of incomes policies would enable stabilization without macroeconomic cost, was refuted by actual developments. This belief seemed to be confirmed in Israel and Mexico by the surge in economic activity following the stabilization. It turned out however, that in both countries the boom (led mainly by consumption) was followed by a recession: 1988–89 in Israel and 1992–94 in Mexico. The business-cycle phenomenon associated with exchange-rate-based stabilizations (ERBS) has been treated extensively in the literature, with explanations ranging from lack of credibility of the program's sustainability to an increase in consumption (especially a stock adjustment of durables) as a result of a rise in perceived permanent income (see below).

Note, however, that on average (over the cycle) the stabilization in both countries was not recessionary compared with the pre-stabilization performance. The macroeconomic cost is therefore associated with the excessive output variability induced by the programs. In this sense, the social cost is probably of secondary importance and seems to have justified the approach adopted by the planners.

Since the issue of establishing the credibility of the commitment to low inflation is critical in CHI economies, the question that arises is what can be done to hasten this process. Signaling theory suggests that one way of creating 'instant credibility' is by initially implementing very

drastic steps (comprehensive shock treatment) which will remove all doubt as regards the strength of the commitment. In practice, however, this is not feasible since every policy is potentially reversible in the future. This implies that the process of building up credibility has to be gradual. It is nevertheless true that the stabilization effort can be implemented with various degrees of intensity.

Israel's approach has been one of compromise in its nominal policies, with a fiscal strategy of signaling commitment to low deficits by repeating its adherence to this principle in practice, without introducing major reforms. This strategy made it necessary to demonstrate that deviations from this discipline would be corrected in reasonable time. Thus, as indicated above, when the fiscal deficit rose in the early 1990s in order to finance the absorption of the influx of immigrants from the former Soviet Union, the government introduced a law stipulating a path of declining deficits. As it later transpired, this law became an important fiscal institution in Israel.

To a considerable extent, Israel's strategy differed from the one adopted by Mexico in its 1988 stabilization, where the government carried out massive privatization and introduced other measures intended to signal the reduction of the government's economic role. It is quite likely that credibility in the Israeli disinflation could have been enhanced by a greater focusing more on privatization and reducing the size of the public sector. This will be discussed in greater detail below.

8. FROM A FIXED EXCHANGE RATE TO INFLATION TARGETS

Major changes have been made in monetary and exchange-rate policy during the stabilization process. Israel's high-inflation period featured strongly accommodative policies on the monetary and exchange-rate fronts. This high degree of accommodation—together with wage and budget accommodation policies—was behind the transformation of one-time price-level shocks into persistent jumps in the rate of inflation. It also supported the escalation of inflation to triple-digit figures towards the middle of the 1980s. Nominal exchange-rate accommodation was stopped in the context of the 1985 stabilization program, which assigned a key role to a fixed exchange rate as a central anchor of the nominal system.

Although the fixed exchange rate played a key role in the first phase of the disinflation process, quite soon—in the second half of the 1980s—it became clear to the authorities and the public at large that instead of being irrevocably fixed, the exchange rate was 'fixed-but-adjustable.' In particular, the fact that a substantial inflation differential—of more than 10 percent per year—persisted between Israel and its trading partners, and that the fundamentals (e.g., the behavior of public-sector wages) were not fully supportive of maintaining a fixed exchange rate, led to some loss of credibility of the exchange-rate regime, reflected in the build-up of devaluation expectations from time to time. In effect, there were several such devaluations, partly in response to speculative attacks based on the expectation that exchange-rate adjustment would represent a 'connection' to the erosion of domestic competitiveness which resulted from the combination of a fixed exchange rate and a persistent inflation differential.

The major change in Israel's nominal regime in the course of the stabilization process has been the gradual shift towards *greater nominal exchange-rate flexibility coupled with increased emphasis on directing monetary policy towards inflation targeting*.² As in other countries in similar circumstances, three major factors prompted the shift towards greater exchange-rate flexibility. First, in the absence of full support from fundamentals and a persistent inflation differential, the fixed-but-adjustable regime was losing credibility and was thus generating speculative waves in the foreign-exchange and financial markets. This had a detrimental effect on these markets and on economic performance. Second, the increase in Israel's international capital mobility and greater financial openness and liberalization made it more difficult for the central bank to defend a tight nominal exchange-rate commitment with limited foreign-exchange reserves. Third, over the years—e.g., in the inflation outburst episode of 1994—we have learned that although the nominal exchange rate is a key factor in the transmission of the inflation process, fixing the path of the nominal exchange rate cannot ensure that inflation is under control. These considerations led to the shift to a monetary policy based on inflation targeting. Overall, the shift in the focus of nominal policies is very similar to that in European countries, such as the UK, Spain, and Sweden, in moving from an exchange-rate anchor in the disinflation efforts of the late 1980s and early 1990s to inflation targets and increased exchange-rate flexibility in the aftermath of the 1992 European currency crisis.

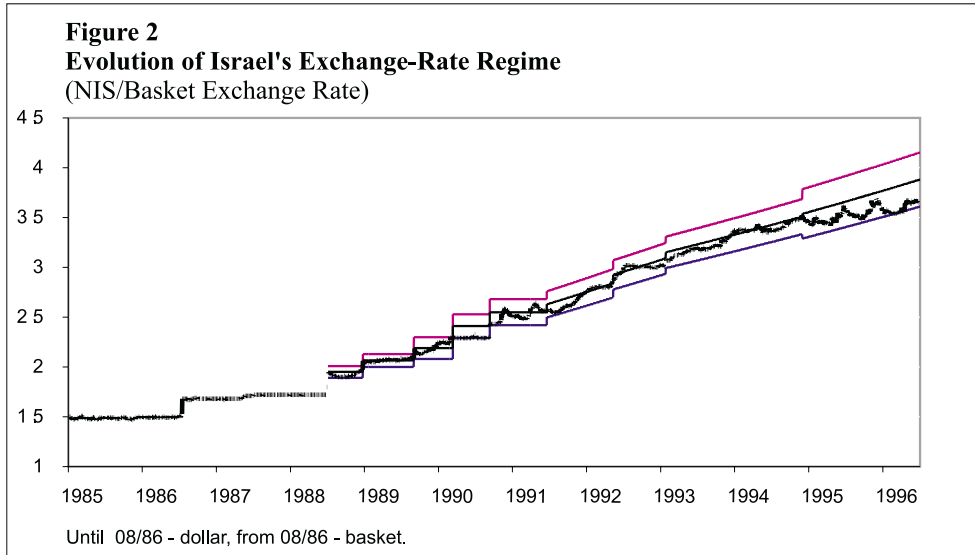
The move towards greater exchange-rate flexibility was gradual. In 1989 this first took the form of creating a (horizontal) exchange-rate band whose width was 6 percent. The band was later widened to 10 percent. In view of the persistent inflation differential, as well as speculative waves, there were four realignments (or devaluations) in 1989–91. Then, rather than realign the band at uncertain dates in response to speculative assaults, the authorities decided in late 1991 to shift to a crawling band, with the rate of the crawl equalling the difference between Israel's inflation target and a forecast of foreign inflation. The width of this band was gradually expanded from 10 percent to 14 percent, and more recently to close to 30 percent (see Figure 2).

With regard to monetary policy, until the end of 1991 the main operating rule for setting domestic interest rates was to sustain the nominal exchange-rate commitment by adjusting rates as a function of capital flows. That is, domestic interest rates were raised in periods of increased capital outflows (and of excess demand in the foreign exchange market), and lowered when capital inflows and international reserves accumulation enabled this. However, policy began to change in 1992, with the adoption of inflation targets, and especially in 1993–94, when they became the main focus of interest rate determination.³

As in other countries operating under inflation targeting (see e.g., Leiderman and Svensson, 1995), the explicit inflation target became the key nominal anchor in the economy and as such played two main roles. First, by providing a transparent guide to monetary policy, the commitment, discipline, and accountability of which could be judged by whether policy actions were taken to ensure that the target was achieved. Second, by serving as a coordination device in the wage- and price-setting process and in the formation of the public's inflation expectations. In an economy with a large public sector, as is the case in Israel, the credibility of the inflation

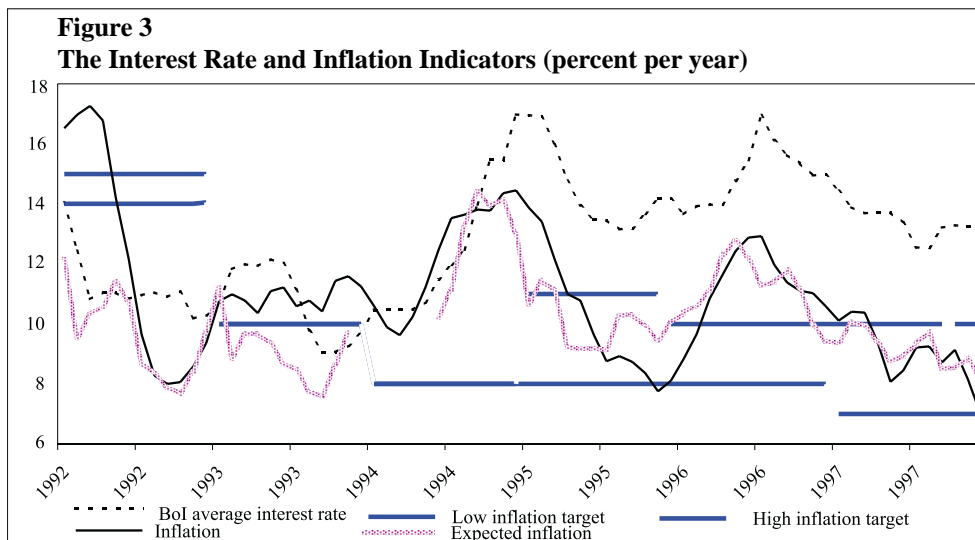
² On exchange-rate and monetary policy in Israel since the 1985 program, see Helpman, Leiderman, and Bufman (1994), Leiderman and Bufman (1996), and Bufman and Leiderman (1997).

³ On monetary policy under inflation targets in Israel, see Bufman, Leiderman and Sokoler (1995), and Bufman and Leiderman (1997).



target can be strengthened if the specific target chosen also serves as a coordination device in setting public-sector wages, or prices of public-sector utilities, and the price deflator used to translate real government spending into nominal government budget figures.

Accordingly, current monetary policy is oriented towards achieving the inflation target set by government—i.e., the range from 7 to 10 percent per year for both 1997 and 1998—while at the same time maintaining and supporting the crawling band for the NIS against a basket of foreign currencies. Monetary policy instruments are adjusted when discrepancies emerge between the central bank's forward-looking forecast of the rate of inflation in the relevant future and the inflation target; the evolution of the inflation rate, inflation targets, market-based inflation expectations, and the interest rate of central bank funds are shown in Figure 3.



To the extent that these adjustments lead to foreign-exchange market pressures on the limits of the exchange-rate band, sterilized intervention in the forex market is implemented in order to support and defend this band. As indicated by Bufman and Leiderman (1997), recent experience illustrates some of the difficulties that monetary policy has faced in recent years, and which can be summarized in the following two points. First, it is quite difficult at times (and even costly in terms of the quasi-fiscal costs of sterilization) to support two objectives (i.e., the inflation target and the exchange-rate band) with one instrument, i.e., the interest rate on central bank funds. In that context, a more clear ordering of priorities among the objectives (e.g., giving primacy to the inflation target over the nominal exchange-rate commitment) could help improve performance. Second, monetary policy has been severely overburdened in its attempt to achieve the official inflation targets, as other key factors such as fiscal policy, the state of the business cycle, and public-sector wage policy, have created strong inflationary pressures. Two salient episodes of overburdening occurred in late 1994 and in the first half of 1996, when inflation appeared to be escalating towards an annual rate of 15 percent. In both these cases monetary policy was tightened and the inflation rate returned to the target zone.

9. ISRAEL'S STABILIZATION FROM THE PERSPECTIVE OF THE 1990s

The developments of Israel's stabilization process, the changing world economic environment, and the successful stabilization of the CHI economies of Latin America in the 1990s provide us with a new perspective on the Israeli program and process and raise a number of fundamental questions about its strategy.

Was the heterodox strategy necessary?

The first question refers to the heterodox strategy. It turns out that the stabilizations of the 1990s in Latin America avoided the use of price controls, which were considered to be an indispensable component of the programs of the 1980s.

In spite of the absence of controls the real wage did not jump, and neither did the real exchange rate when it was pegged in the Convertibility Plan in Argentina and in the Real Plan in Brazil. Does this imply that the price controls in the 1985 program in Israel and in the Mexican program in 1988 were redundant? Not quite. It should be noted that the stabilizations in Argentina and Brazil took place after hyper-inflationary outbursts in Argentina and after the monthly inflation rate in Brazil approached 40 percent. In this environment, nominal contracts become very short so that the problem of misalignment of nominal variables is minimal. In this respect, the situation in the 1980s in Israel, and even more so in Mexico, was quite different since inflation rates were much lower.

The shortening of contracts cannot be the whole story, however. If the program is not credible, then an exchange-rate-based stabilization can cause a jump in real terms even in the absence of lags. This is where the consideration that the stabilization programs of the 1990s were far more credible than those of the 1980s, because of the declining worldwide trend in inflation, comes in. It should be recalled that in the mid-1980s Israel was a pioneer in sustainable disinflation in a world where the ability to stop chronic inflation was in doubt.

Another factor which enhanced the credibility of the programs of the 1990s, thus facilitating the avoidance of controls, was the fact that disinflation was part of a much wider package of reforms and liberalizations intended to shift the fundamentals of the economic regime towards an outward-looking market economy. This ‘packaging’ of the disinflation program was absent in the Israeli case.

All in all, the danger of misalignment of prices following the initial freeze of the nominal exchange rate was much greater in the 1980s in general, and in the Israeli program in particular.

Brazil’s specific strategy in stopping its extreme inflation without recourse to price controls deserves additional consideration. In the last few months before the exchange rate was pegged, in July 1994, in the framework of the Real Plan, Brazil introduced a ‘real value unit’ (URV), in terms of which most prices and contracts (including wage contracts) were stated. The URV served as a unit of account in real terms, and its price in terms of the means of payments (the ‘cruzeiro-real’) was published daily, amounting to daily indexation. This is akin to the well-known phenomenon in hyper-inflationary episodes where all prices are stated in dollar terms.

This system eliminates all backward-looking aspects, which are the source of institutional inertia, in principle enabling the transition to low inflation to be made without price controls. Does this mean that the URV-type device could have been applied instead of the heterodox strategy which dominated the stabilization programs of the 1980s? Was it simply lack of ingenuity which led the policymakers of the 1980s to disregard this option?

The idea of using a constant value unit (the dollar) as a preliminary stage of stabilization in the Israeli program was mentioned in the preliminary deliberations. It was argued, however, that the risk in this move was that it practically eliminated the nominal anchor of the monetary system, thus rendering it extremely vulnerable to hyper-inflationary outbursts. The use of the heterodox approach was considered to be the less risky option.

The currency-board alternative

Following the launch of the Convertibility plan in Argentina, the convergence to low inflation rates was remarkably rapid; after about two years the (annual) inflation rate crossed the single-digit line, two years later it reached the US rate, and approached a zero inflation rate in 1996. Compare this with the fact that it took Israel seven years to reach a ten percent inflation rate. This raises the hypothetical question of whether Israel could have shortened its route to low inflation by committing itself totally to a fixed exchange rate in the framework of a currency board, instead of a strategy of gradually increased flexibility?

While the rapid disinflation in Argentina is universally attributed to its ability to sustain the currency-board regime, note that Brazil’s road to single-digit inflation has not been longer than Argentina’s (inflation in Brazil is currently around 5 percent), even though the Real Plan adopted an adjustable exchange-rate band which is very similar to the one instituted by Israel in 1989–91. It seems that the general environment, as well as the expectation that inflation in Latin America was on its way out, played a major role in the disinflation processes of the 1990s, and both Brazil and Argentina benefited from this (see below). This view is supported by the observation that Brazil’s fundamentals actually deteriorated following the Real Plan—the fiscal and the current account deficits rose significantly (even though currently there is ample long-term finance for the latter).

Needless to say, Israel of the 1980s could not take advantage of the above externality. At the same time, the transition to very low inflation rates (between, say, zero and two percent) could have been quicker under a currency-board regime; this was not part of Israel's objectives, however.

As is generally known, in the absence of flexibility in the labor market and in fiscal policy, disinflation under a currency board can be associated with greater economic costs than other, more flexible, exchange-rate arrangements. Even if the currency-board system could have delivered quicker disinflation than the Israeli-Brazilian exchange-rate regime, it is unlikely that Israel could have lived with the kind of real appreciation that occurred in Argentina (33 percent in the CPI-based index from April 1991 through January 1994)⁴ and the rise in the unemployment rate (from 6.5 percent in 1991 to 17 percent in 1995). Although the rise in unemployment was due to some extent to structural reforms (and the increase in participation rates), much of it was probably related to the lack of fiscal- and labor-market flexibility. By contrast, the unemployment rate in Brazil was practically unaffected by the Real Plan, and real appreciation was much smaller than in Argentina; the same is true of the Israeli 1985 stabilization.

There is little doubt that the adoption of such an extreme disinflation stance by Argentina was influenced by the traumatic effects of the hyper-inflationary episode of 1989 and the very long period of economic deterioration during the CHI regime. In addition, the tight anti-inflationary policy was part of an equally tough comprehensive reform strategy which has led to a resumption of what appears to be sustainable growth. These conditions were not part of the background of the Israeli stabilization process. Indeed, when Israel encountered the hardships of attempting to maintain a fixed-but-adjustable exchange rate, in 1989–90, it enhanced the shift toward a more flexible approach.

This kind of imperfect credibility regarding the commitment to a fixed exchange rate has always been a problem in disinflation programs. However, this problem assumed new proportions with the globalization of capital markets (see below). The financial crisis which shook Argentina during the *Tequila* effect of 1995 and the need for IMF assistance, is a manifestation of the inherent vulnerability of a fixed exchange-rate regime in the absence of a lender of last resort in foreign exchange.

The money-based-stabilization alternative

The Peruvian stabilization of 1990 also differed from the Israeli one, though in the opposite direction to Argentina. Unlike all the stabilizations in CHI economies in the 1980s and 1990s, Peru implemented an orthodox money-based stabilization (MBS), and still succeeded in stopping extreme inflation, even generating an impressive growth record after a few years. Why was this strategy not used in the 1980s?

Note first that stopping a hyper-inflationary outburst, like Peru's in 1990, is not new in CHI; in the early 1970s both Chile and Argentina relied on this approach. It seems that the recessionary effect of a MBS is weaker when the duration of nominal contracts is minimized as a result of the extreme level of inflation. In addition, Peru's hyperinflation was associated, among other things, with the relaxation of widespread price controls, as was the case with the

⁴ Note that in spite of the fixed ER, in 1994 Argentina managed to reverse the trend of real depreciation.

stabilizations of Argentina and Chile in the 1970s. The above special circumstances were not relevant for Israel in the 1980s.

There is an additional aspect to the use of a MBS. Both experience and theory point to its initial recessionary effect. In fact, the experience of Peru suggests that the phenomenon of an initial boom followed by recession, as is characteristic of an exchange-rate-based stabilization, is reversed in the case of a MBS. Which of these time profiles is preferable must also be related to political-economic considerations. In the case of Israel it is doubtful whether a strategy of 'recession first' would have generated the consensus necessary for the stabilization program to work.

A fresh perspective on the stabilization-associated business cycle

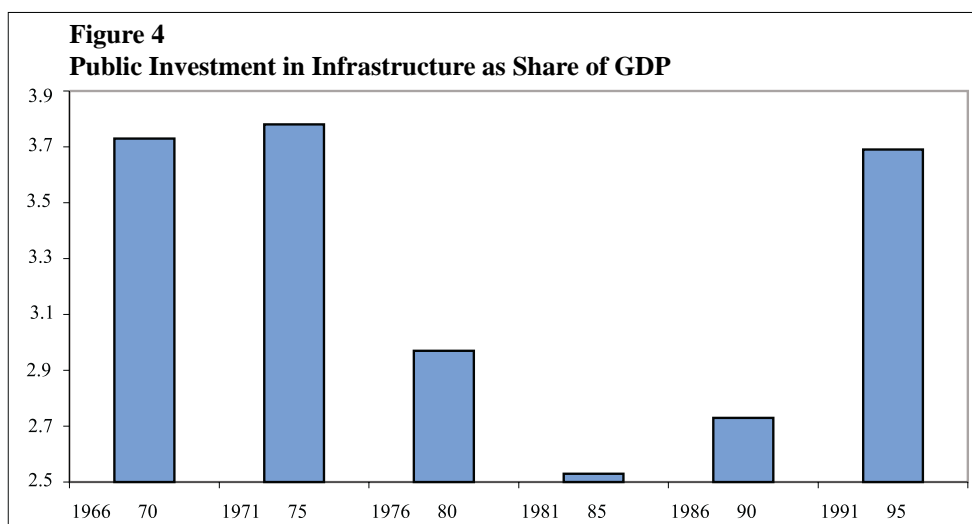
One of the most surprising developments of the Israeli stabilization program, to which we referred earlier, was the emergence of a consumption-based boom followed by a slowdown which started in the middle of 1987 and lasted for about two years. The boom was initially mistaken for the start of sustainable growth and hence did not give rise to a countercyclical policy in an attempt to dampen aggregate demand. Since then it has been observed that a consumption boom is characteristic of many stabilization attempts in CHI economies (though not necessarily in other economies), especially under heterodox programs.

These lessons appear to have been internalized by policymakers in Brazil in the Real Plan. Accordingly, they implemented appropriate monetary and fiscal policies aimed at dampening the transitory rise in aggregate demand during the post-stabilization cycle. On the monetary front this took the form of a tight-money policy at the initial stage, which was later on relaxed. As far as fiscal measures were concerned, Brazil imposed temporary restrictions on imports of goods and of short-term capital, which provided additional support for the dampening of the cycle. It seems that these policies helped to shorten the boom phase of the cycle to about one year, whereas in Israel it lasted for almost three years. With the benefit of hindsight, similar policies could have been applied in Israel in order to minimize the losses from cyclical variation.

Transition from stabilization to growth

While the initial approach in the 1985 program was 'first stabilize inflation, then deal with the transition to sustained growth,' new theoretical and empirical perspectives suggest the importance of internalizing some measures that could lead to a rapid transition from stabilization to growth already at the stage of the initial policy package. Disinflation in Israel was not accompanied by rapid transition to sustained growth. While the consumption boom at the initial stages of the 1985 stabilization program helped to maintain and even accelerate the level of economic activity, this was not sustained. In fact, a slowdown developed in 1988-89, and the growth rate fell to less than 2 percent per year. Underlying these developments were decreases in the growth rates of public- and private-sector investment, which made the transition to growth more difficult.

Recent theoretical and empirical work on endogenous growth has stressed the importance of public-sector investment, especially in the infrastructure, in generating positive spillovers



in the process. As shown in Figure 4, there has been a clear downward trend in the ratio of infrastructure investment to GDP in Israel, which in the 1980s was only about 50 percent of its level in the 1960s. Investment in the infrastructure picked up only in the 1990s, in response to the influx of immigrants from the former Soviet Union. Available econometric work—within a growth accounting framework—supports the notion that growth in public-sector capital has a positive, strong, and significant impact on output growth. These findings are borne out by the research undertaken by Bregman and Marom (1992), which is based on a pooling of time-series and cross-section data for Israel. Their results are quite similar to those of Aschauer (1989) for the United States.

The upshot of all this with respect to the stabilization process that began in 1985 is that as far as investment and growth are concerned, the initial conditions of the 1985 program were not strong. This was especially the case for the stock of public-sector capital, including infrastructure. Moreover, in the years after the initial program yet before the beginning of the immigration from the former Soviet Union there was no marked renewal of investment and growth. Although some of these developments were due to factors not necessarily related to the stabilization program, the program embodied no specific direct policy measures aimed at reversing this state of affairs. It was then argued that the reduction in inflation per se would lead to a reallocation of resources, away from the financial sector and back into the real sector, which would increase measured output and productivity.

We believe that the main lesson here is that, in countries where the initial conditions in terms of investment and growth are not strong (such as Israel in the mid-1980s), the adoption of policy measures aimed at increasing the stock of public-sector capital, especially infrastructure, right at the time of stabilization may well serve to enhance the transition from stabilization to growth. However, it should be emphasized that the real dilemma for policy here is how to find the resources for undertaking these activities without at the same time jeopardizing a key ingredient of stabilization: a reduction in the ratio of government spending to GDP and the budget deficit. Perhaps the resolution of this dilemma, to the extent that

substantial foreign aid is not available, is in a reorientation of government budget activities, with greater emphasis on restoring sustainable growth. In addition, some of the investment in infrastructures could be privatized.

Structural reforms, deregulation, and financial openness

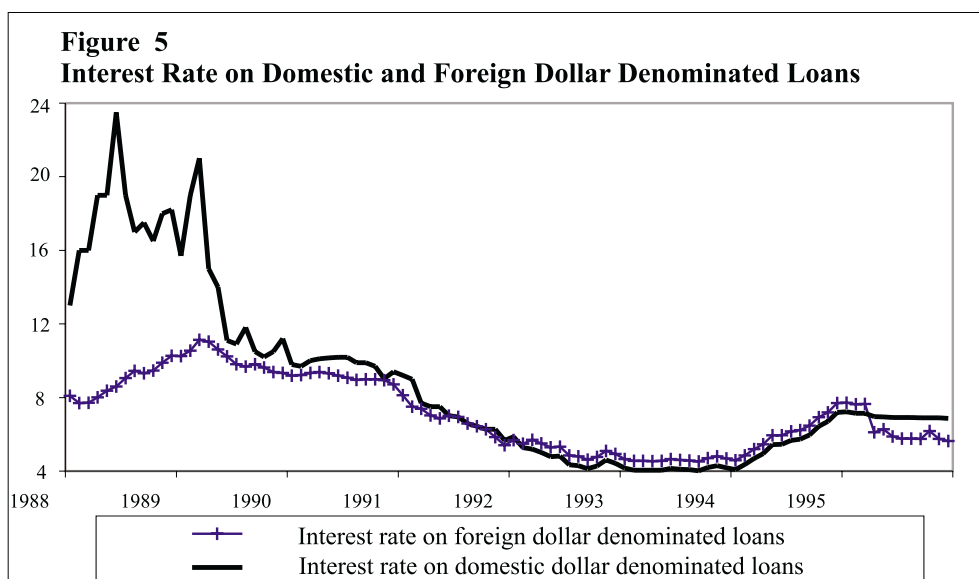
Although the initial policy package of the 1985 stabilization was an important step towards transforming the economic structure of Israel, other important measures—such as financial openness, privatization, and capital-market reform were delayed. Massive government intervention in financial markets had such adverse effects on the structure, efficiency, and performance of the capital and foreign exchange markets that there were strong reasons for comprehensive reform. Yet, it was only in 1987 that Israel embarked on a process of financial deregulation and reform. In contrast to the 1985 program, this process proceeded in a slow and gradual manner. No official statements were made about the exact policy measures and timetable for the liberalization. In fact, the process has not yet been completed and there remain further important reforms to be made.

Intervention in the capital and foreign-exchange markets before the second half of the 1980s had two main roles. First, to enable the public sector to mobilize the resources required for financing its large budget deficits. Accordingly, a set of administrative rules was imposed to ensure that a large proportion of private-sector savings would be channeled to the public sector—to either the Treasury or the central bank. One result of these measures was that government debt accounted for a large and growing share of the private sector's financial assets. Another result was that the capital market became highly segmented. A second role of intervention was to directly affect the allocation of resources within the private sector. Thus, measures were taken to promote investment and exports, which were defined as priority sectors. To achieve these objectives, various regulations were imposed. These included: (1) Compulsory investment by institutional investors, e.g., pension funds were required to hold 92 percent of their assets in government bonds. (2) Credit policy for allocative purposes, where exports and investment were defined as priority sectors for obtaining directed credit at special terms. (3) High reserve requirements; the reserve requirements on various types of local-currency deposits averaged 47 percent in 1977–87—a high figure by western standards. (4) Capital and foreign-exchange controls, with strict rules applying to capital inflows and outflows.

The sharp move toward fiscal discipline and disinflation in the mid 1980s was clearly a prerequisite for increasing financial openness and reform. It seems likely that the sequence of stabilization first, in 1985, and implementing financial reforms only thereafter had its roots in the failed financial and forex liberalization of the late 1970s. The lesson that stabilization must precede financial opening was also learned at about the same time—the late 1970s—from the experience of several Southern Cone countries in Latin America. For similar reasons as in Israel, these liberalization episodes had ended with capital flight, financial crises, and the reintroduction of capital controls.

The process of reform that began in the second half of 1987 had two main goals. First, to reduce government intervention and the segmentation of the capital market. Second, to stimulate competition and market-based mechanisms in capital-market allocations. As noted earlier, there was no announcement of a program of reforms with details about specific measures and planned dates of implementation. However, very important measures were undertaken,

including: (1) Reducing the degree of compulsory investment by institutional investors; (2) Abolishing directed credit (in 1990); (3) Substantially reducing banks' reserve requirements; (4) Removing many barriers to international mobility of capital; (5) Reorienting monetary policy towards achieving government's inflation targets. The results of these measures have been impressive. There has been a marked reduction in the degree of government intervention in the allocation of commercial banks' resources, as shown by a sharp rise in the relative importance of unrestricted bank deposits as a source of credit at the expense of a decline in directed credit and earmarked deposits. The most salient manifestation of the various reforms is the observed narrowing of various interest-rate spreads, such as the gap between the cost of foreign-currency-denominated borrowing at home and abroad (see Figure 5). This gap has decreased from 13 percent in annual terms in 1987 to 5 percent in 1989 and to less than 1 percent nowadays. There has also been an impressive narrowing of the interest-rate spread; i.e., the gap between borrowing and lending interest rates, which fell from 34 percentage points in 1987 to 14 percentage points in 1990, and less than 7 percentage points nowadays. In addition, there has been a reduction in the gaps between real interest rates on deposits, loans, and indexed government bonds.



While significant progress was achieved in the liberalization and reform of the capital and foreign-exchange markets, the process was slow and extremely gradual. Although all political parties agree that more reforms are needed, there are no strong political-economic incentives for policymakers to further deepen the reforms in the near future. The speed of liberalization is a controversial topic. Proponents of gradualism argue that this approach is justified in view of the strong potential opposition that various interest groups could have raised against a single and comprehensive package of reforms—opposition that could have led to the postponement or cancellation of liberalization. In addition, recent experience with currency crises may point to some advantages of a gradualist—even obstructionist—approach. On the

other hand, opponents of gradualism argue that the lack of an official commitment and of a timetable for financial liberalization has resulted in undesirable delays in the process.

The fresh perspective of the 1990s reveals that structural changes in the form of financial openness, liberalization, and privatization are key elements in transforming previous chronic inflation countries into modern and competitive economies, and that by themselves they can contribute to the stabilization and disinflation process. In Michael Bruno's own words: 'The new lesson that can be learned from the more recent experience is that macroeconomic adjustment can often not be achieved without at least some simultaneous structural reform steps' (Bruno, 1993, p. 274).

The need for fiscal institutions

As is known, substantial fiscal adjustment was key for the 1985 stabilization program and the process that ensued. From public-sector budget deficits averaging about 13 percent of GDP for the period 1980–84, the public sector considerably reduced its deficits after 1985 to figures that rarely exceeded 5 percent of GDP. Enhanced fiscal discipline resulted in a sharp reversal of the debt-to-GDP ratios from 1985 onward, as shown in Figure 6. Needless to say, such a reversal was a central element in building up the credibility of the anti-inflation policy plan.



While there is much that is commendable in these fiscal developments, for the most part they were the result of ad-hoc, year-to-year decisions, rather than a comprehensive long-term approach. One of the most important lessons learned from fiscal policy research in recent years is the great importance of long-term commitments for generating satisfactory fiscal outcomes, enhancing credibility, and restraining the budget actions of policymakers (and politicians). These commitments can take the form of long-term fiscal targets for the budget

deficit/GDP ratio the public-sector expenditure/GDP ratio, or even the evolution of the debt/GDP ratio over time. Clearly, the Maastricht convergence criteria embody, among other things, a set of such long-term fiscal commitments.

In the case of Israel, it was only in late 1991—in the context of fears that the absorption of the influx of immigrants from the former Soviet Union would lead to a permanent rise in government spending—that a forward-looking fiscal commitment was explicitly formulated in the form of the Budget Deficit Reduction Law. The law specified a pre-set path for the ratio of the budget deficit to GDP. In its current version, the law stipulates that the ratio of overall government budget deficit to GDP should not exceed 2.8 percent in 1997, 2.4 percent in 1998, 2 percent in 1999, 1.75 percent in 2000, and 1.5 percent in 2001.

Recent experience indicates that—especially in a world of high capital mobility, in which the financial and risk rating of the Israeli economy matters—this law has been instrumental in disciplining the various governments as regards their budgets. Undoubtedly, questions can be raised about some of the methodological aspects of the laws, such as e.g. whether it would be preferable to specify explicit limits on the expenditure/GDP ratio, the tax burden, or the debt/GDP ratio. From the point of view of stabilization, however, we believe that the fresh perspective of the 1990s shows that there is good reason to use the opportunity of the start of a stabilization program—such as Israel's in 1985—to strengthen the country's fiscal institutions in a way that formalizes fiscal policy commitments that are conducive to the whole disinflation effort. With the benefit of hindsight, it can be said that it would have been beneficial to include such fiscal-policy reforms in the 1985 stabilization.

The end of chronic inflation in the 1990s?

The 1990s witnessed unprecedented changes in the stabilization history of CHI economies in Latin America. To a great extent these changes were related to worldwide developments and therefore also affected Israel's stabilization in recent years. While Michael Bruno raised the question that appears in the title of this subsection in the early 1990s (especially after the implementation of the Convertibility Plan in Argentina), we believe that one of the outstanding lessons learned from the experience accumulated by the 1990s (i.e., so far) is that the era of CHI, under populist policies, has come to an end. The regimes of Argentina, Brazil and Peru, the bastions of CHI, fell one by one as a result of orthodox stabilization policies, with clear indications that there will be no return to the previous regime.

As noted earlier, a central factor which imparts credibility to the persistence of these stabilizations is the declining worldwide trend of inflation, which is part of very deep economic and political developments. These can be summarized as the triumph of the conservative capitalist system over centrally planned economies, and of economic openness and integration in a globalized world economy over inward-oriented strategies. In this new world there is no room for the CHI regime, not even for chronic moderate inflation, though the former of course constitutes a more flagrant violation of the new setting. The return of the CHI regime is just as unthinkable to us as the return of the Soviet version of the communist regime!

The fact that in all these countries, with differing economic and political structures and varying inflation histories, the stabilizations all occurred at about the same time, underscores the importance of worldwide effects on the viability of stabilization processes. This impression is strengthened by the observation that all the stabilizations in the above countries were effective

even though they used different strategies. One implication of these developments for Israel is that it strengthens expectations—and the challenge—for macroeconomic policies that inflation is on the way down and there is no reversal of the disinflation process. In particular, this lends greater credibility to a fiscal policy based on the gradual reduction of budget deficits and to monetary policy based on inflation targeting, where these targets embody the gradual convergence of domestic inflation to that of Israel's trading partners. In this environment we see no room for the claim of various interest groups that rates of inflation slightly higher than 10 percent per year can be tolerated in the medium and longer term in an economy like Israel.

Another salient development of the 1990s is the effect of the growing globalization of the world financial markets and increased capital mobility under financial openness. These trends give rise to capital inflows from industrial countries to emerging markets. The Israeli economy has its own share in these trends. From the start of 1994 until the middle of 1997 there was a substantial inflow of capital, reaching a cumulative \$ 21 billion. It appears that this trend—together with the increased vulnerability to capital flow reversals—leads to a polarization of the exchange-rate regime (see discussion in Eichengreen, 1999). With a high degree of capital mobility a fixed-but-adjustable exchange-rate regime, without an arrangement of a lender of last resort in foreign currency, is potentially subject to speculative attacks, and these have been occurring with increasing frequency. Even the regime of exchange-rate bands, which were a partial answer to this problem in the past, does not seem to have been sufficient in recent years. Thus, it has become more difficult for central banks, which hold a finite amount of international reserves, to defend nominal exchange-rate commitments, especially when there is a high degree of capital mobility.

These developments changed a basic conception with regard to exchange-rate-based stabilizations. In the 1980s it was believed that a balanced budget and a slowly crawling exchange-rate band as anchor formed a viable disinflation strategy. But, as the Mexican crisis of 1994 has clearly shown, this principle is less tenable in the world of the 1990s, where a country that relies on that kind of setup to disinflate may be extremely vulnerable to reversals due to either internal or external developments. This justifies the Israeli strategy of gradually increasing the flexibility of the exchange-rate regime, but also calls for speeding up this process in the future. Enhancing exchange rate flexibility can also render domestic monetary policy more effective in a world of high capital mobility.

What happens to the nominal anchors when the exchange-rate regime becomes more flexible? Clearly there is room for more autonomous monetary policy. However, since the demand for money could be relatively unstable in the process of disinflation, it would not be advisable to rely on monetary aggregate targets. Instead, this problem could be dealt with by adopting an inflation-target regime, as Israel did in 1991 and many other economies are also doing, as this does not constrain the policymaker in the choice of instruments. Clearly, this regime requires a great deal of instrumental and institutional independence for the central bank, and indeed there has been a worldwide trend of legislation aimed at strengthening central bank autonomy. There is reason to believe that this trend will be reflected in the near future in an overall revision of the Bank of Israel Law of 1954.

10. CONCLUSIONS

With the benefit of hindsight, the present paper has identified several key policy measures whose inclusion in the original stabilization program—without changing the basic paradigm of the heterodox approach—could have resulted in better macroeconomic performance during the process that began in mid-1985. These measures include:

- Greater emphasis on the transition from the initial stage of stabilization to growth. In particular, given the deterioration in the infrastructure in the mid-1980s, a faster transition to sustained growth could have resulted from earlier public-sector investment in the infrastructure.
- A fundamental change in fiscal institutions, right from the start of the stabilization process, would have generated forward-looking commitments. This could have applied to the Budget Deficit Reduction Law, which was implemented only from 1992 onwards.
- A faster move towards increased exchange-rate flexibility and the adoption of inflation targets.
- Taking major initiatives to reduce the degree of formal indexation in Israel's economy. It is well known that Israel has one of the highest degrees of indexation in the areas of the labor market, financial assets, housing, and foreign exchange (see Shiffer, 1997). Although indexation is not an independent source of inflation, it can enhance the persistence of nominal shocks. While the effective (i.e., de facto) degree of indexation has declined, this has followed the reduction of inflation, and there could have been beneficial inputs for disinflation from a reduction of formal indexation.
- The adoption of fiscal policy measures aimed at dampening the expenditure (especially consumption) boom that characterizes the first phase following an exchange-rate-based stabilization. Imposing a transitory tax on private consumption could have resulted in less overheating and current account deterioration while helping to reduce inflation further.

From the standpoint of a hypothetical economy similar to Israel in the early 1980s and embarking on a process of stabilization, there have been many dramatic changes in the early 1990s. Three salient changes are:

- The impressive worldwide reduction in the rate of inflation, in both industrial and developing countries. The new environment is far more conducive to disinflation than that of the 1980s. As a result, disinflation plans can now benefit from greater credibility.
- The worldwide trend of legislation aimed at reinforcing central bank independence, allocating monetary policy the primary role of focusing on price stability. Accordingly, it is better understood that it is in the interests of society for monetary policy not to attempt to exploit any short-term tradeoffs between inflation and unemployment, but rather systematically to concentrate on achieving the authorities' inflation targets, as an important prerequisite for sustained growth alongside nominal stability. In most cases the reference is to what is known as instrumental independence rather than to goal-oriented independence. In addition, without prejudicing the goal of price stability, monetary policy is envisioned as being generally supportive of overall government policies, see, e.g. changes in central bank independence under the Maastricht process.

- The sharp increase in the degree of international capital mobility which, in turn, has increased the potential vulnerability of individual economies to internal or external shocks. As a result, there is a need for increased flexibility in such economies to deal with shocks—flexibility in labor and goods markets, in fiscal-policy adjustments, and in exchange-rate regimes. In particular, it has become increasingly difficult for central banks with finite international reserves to support and defend fixed-but-adjustable exchange-rate regimes. This, in turn, has led to a trend of ‘polarization’ of exchange-rate regimes, with currency boards (or irrevocably fixed exchange rates) at one extreme, and a float at the other one. Israel’s current regime is clearly closer to the latter than to the former. Overall, increased capital mobility makes exchange-rate-based stabilization programs much more vulnerable to capital flow reversals in the 1990s than in the 1980s.

Beyond these considerations, recent experience has borne out Michael Bruno’s perception of successful inflation stabilization as ‘therapy by consensus.’ Strong political and public support for disinflation—and consensus about the strategy—can substantially increase the credibility of the stabilization process, reduce the social and economic costs of the transition, and increase the chances of success of the whole policy scheme.

REFERENCES

- Aschauer D. (1989). "Is Public Expenditure Productive?" *Journal of Monetary Economics*, 23, 177–200.
- Bregman, Arie, and Arie Marom (1992). "Growth Factors in Israel's Business Sector," manuscript, Research Department, Bank of Israel.
- Bruno, Michael (1993). *Crisis, Stabilization, and Economic Reform—Therapy by Consensus*, Oxford, Clarendon Press.
- and Sylvia Piterman (1988). "Israel's Stabilization: a Two Year Review," in *Inflation and Stabilization*, edited by Michael Bruno and Sylvia Piterman, MIT Press, Cambridge, Mass.
- and Leora (Rubin) Meridor (1991). "The Costly Transition from Stabilization to Sustainable Growth: Israel's Case," in *Lessons of Economic Stabilization and its Aftermath*, edited by Michael Bruno and Leora (Rubin) Meridor, 241–75, MIT Press, Cambridge, Mass.
- Bufman, Gil, Leonardo Leiderman, and Meir Sokoler (1995). "Israel's Experience with Explicit Inflation Targets: A First Assessment," in *Inflation Targets* edited by Leonardo Leiderman and Lars E. Svensson, London, CEPR 169–191.
- Bufman, Gil, Leonardo Leiderman, and Meir Sokoler (1997). "Monetary Policy and Inflation in Israel," manuscript, Research Department, Bank of Israel.
- Calvo, Guillermo A. (1986). "Temporary Stabilization: Predetermined Exchange Rates," *Journal of Political Economy*, 94, 1319–29.
- Cardoso, Eliana and Rudiger Dornbusch (1987). "Brazil's Tropical Plan," *American Economic Review*, Papers and Proceedings, May.
- Corbo, Vittorio and Stanley Fischer, (1994). "Lessons from the Chilean Stabilization and Recovery," in *The Chilean Economy: Policy Lessons and Challenges*, edited by Barry Bosworth, Rudiger Dornbusch, and Raul Laban. The Brookings Institution, 29–80.
- De Gregorio, J, P. A. Guidotti and C. A. Vegh (1992). "Inflation Stabilization and the Consumption of Durables," IMF, mimeo.
- De Pablo, J. C. (1972). "Relative Prices, Income Distribution and Stabilization Plans: the Argentine Experience, 1967–1970," *Journal of Development Economics*, 1, 167–189.
- Dornbusch, Rudiger (1991). "Credibility and Stabilization," *Quarterly Journal of Economics*, 837–850.
- Edwards, Sebastian and Alejandra Cox Edwards (1987). *Monetarism and Liberalization: The Chilean Experiment*, Ballinger, Cambridge, Mass.
- Easterly, William, (1996). "When Are Stabilizations Expansionary?" *Economic Policy*, Blackwell, 67–98.
- Eichengreen, Barry (1999). *Toward a New International Financial Architecture: A Practical Post-Asia Agenda*, Institute for International Economics, Washington DC.
- Helpman, Elhanan, Leonardo Leiderman, and Gil Bufman (1994). "A New Breed of Exchange Rate Bands: Chile, Israel, and Mexico," *Economic Policy* 19, 259–306.

- Kiguel, A. Miguel and Nissan Liviatan (1992). "The Business Cycle Associated with Exchange Rate Based Stabilizations," *The World Bank Economic Review*, 6, 279–305.
- Leiderman, Leonardo and Lars E. Svensson (eds.) (1995), *Inflation Targets*, London, CEPR.
- Leiderman, Leonardo and Gil Bufman (1996). "Searching for Nominal Anchors in Shock-Prone Economies in the 1990s: Inflation Targets and Exchange Rate Bands," in *Securing Stability and Growth in Latin America*, edited by Ricardo Hausmann and Helmut Reisen, Paris, OECD.
- Ramos, Joseph (1986). *Neoconservative Economics in the Southern Cone of Latin America, 1973–1983*. Johns Hopkins University Press. Baltimore, Md.
- Sargent, Thomas J. (1986). "The Ends of Four Big Inflations," in *Rational Expectations*, Harper & Row, N.Y., 40–109.
- Shiffer Zalman (1997). "The Rise and (Very Partial) Decline of Indexation in Israel," manuscript, Research Department, Bank of Israel.