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Deep Crises and Reform

What Have We Learned?

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Contents

Preface

This paper was first presented as my address, as president, to the 1995 Congress of the International Economic Association in Tunis. I would like to pay tribute to three illustrious leaders of the association who have passed away since the 1992 Congress in Moscow. They are Professor Austin Robinson, who was one of the founding fathers of the association and for many years its leader; Professor Luc Fauvel, who faithfully served as general secretary of the association for many years; and Professor Don Patinkin, past member of the executive committee and vice president of the association. Assar Lindbeck gave a special lecture in memory of Austin Robinson at this Congress, and Kenneth Arrow talked about Austin's seminal contribution. This address is dedicated to the memory of my friend, colleague, and esteemed teacher Don Patinkin, who passed away on August 7, 1995.

Don Patinkin was one of the great monetary theorists of this century. To Israeli economists he was *the* spiritual father in every sense of the word. In 1948, shortly after Israel's War of Independence, he left a promising career in Chicago to go to Hebrew University to build a modern Israeli economics profession virtually from scratch. His first students were sent out to earn their PhDs in the best graduate schools abroad and then returned to teach the next generation, which now fills the ranks of Israeli universities. Others gradually filled important economic posts in the Israeli government and subsequently in business and banking. Those who graduated under Don were nicknamed "Patinkin Boys," bringing with them ideas about modern economic analysis and the role of markets that at first seemed quite foreign to a generation reared on the virtues of central planning and the writings of Marxist and utopian socialists.

While I was not, strictly speaking, a Patinkin Boy (having earned my first economics degree at Cambridge), I had my best and most serious exposure to monetary theory while participating in Don's graduate seminar in monetary theory at Hebrew University in 1961. At the time he was writing the second edition of *Money, Interest and Prices,* and he used his students as an active sounding board for his ideas. The combination of a sharp thinker, a brilliant expositor, and a patient teacher was unbeatable. The basic concepts of money illusion, the neoclassical dichotomy ("valid" and "invalid") between the nominal and the real economy, and the early robust conceptualization of disequilibrium economics—in those days these seemed remote from real development

policy concerns, especially because they were taught within a closed-economy framework. Yet I cannot think of a better analytical paradigm for understanding the high-inflation processes and stabilization programs that my colleagues and I were thinking about twenty years later when three-digit inflation and related nominal-real dichotomies came to dominate Israeli policy debates.

While primarily a theorist, Don maintained a lively interest in Israeli policy issues, and we discussed them quite often. Every few years he even dabbled in painstaking empirical inquest. His most recent contribution was an excellent analysis of Israel's high-inflation crisis, the stabilization, and its aftermath, written from a monetary perspective (Patinkin 1993). The topic of this paper is closely linked with that episode.

Inflation, Debt, and Growth Crises

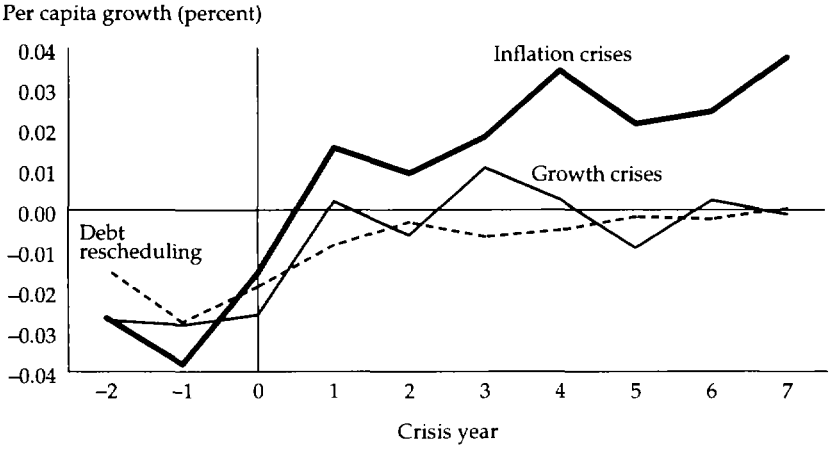
During the past twenty-five years the international economy has experienced unusually large external shocks: oil and commodity price shocks, the debt crisis, the breakup of the Soviet Union, and several mostly local wars. These shocks took a heavy toll on country performance, and as a result growth fundamentals (population, human and physical resources, level of technology) became poor predictors of country growth performance (Easterly and others 1993). Individual countries responded very differently to what were often similar shocks. Compared with the twenty-five years that followed World War II, mean growth gradually slowed and became more volatile.[1]

Shocks often lead to crises—but defining a crisis is not as simple as it appears. There is already a large literature on comparative country studies—and even a survey claiming that the link between crisis and reform is part of the new conventional wisdom on reform (Tommasi and Velasco 1995, p. 13). But this literature often fails to define what constitutes a crisis (see, for example, Williamson 1994, in which country authors were asked to give their own "crisis hypotheses"). My focus here is on growth crises. Growth crises, as we shall see, are often related to external factors and often show up as balance of payments and external debt crises. Moreover, growth and high-inflation crises often go together (figure 1).

- *Inflation crisis.* The first (upper) curve of the figure summarizes the time profile of twenty-eight episodes of high inflation followed by stabilization (Easterly 1995).[2] High inflation is 40 percent annual inflation for at least two years in a row. Stabilization implies returning to below that threshold for at least two years in a row. The year zero is the peak inflation year. Almost all the high-inflation countries had their debt rescheduled at least once since 1980, which brings us to the next, wider, group.
- *Debt crisis.* The second curve summarizes the group of fifty-five countries that have rescheduled their private debt at least once since 1980. The year zero is the first rescheduling, which often occurred during the early 1980s.
- *Growth crisis.* The third curve represents sixty-six countries that experienced growth crises, defined as at least three consecutive years of negative growth (cumulating in a drop in growth of at least –9 percent) during 1960–94. The year zero is the last of the three years.[3]

Each crisis group suffered a dip to negative growth in the year before the crisis. However, the path to recovery is different for each

Figure 1. Inflation Crises, Debt Crises, and Growth Crises



Note: See text for definitions of year zero for crises.
Source: Easterly 1995.

group. There is a marked contrast between average growth under high inflation and the other crises. Countries that experienced high inflation show an immediate recovery in growth; countries that experienced growth or debt crises generally do not. This finding implies that countries that did not experience high inflation had negative growth immediately following their crises. This finding is refined in greater detail below.

To be sure, there is substantial overlap among the three definitions of crisis. The definitions are neither mutually consistent nor exclusive. In addition, any crisis has important country-specific social and political dimensions. What is perceived as a serious crisis in one country may not be an issue of concern in another; thus a drop in growth to 3 percent a year would be a crisis in the Republic of Korea but not in Kenya.

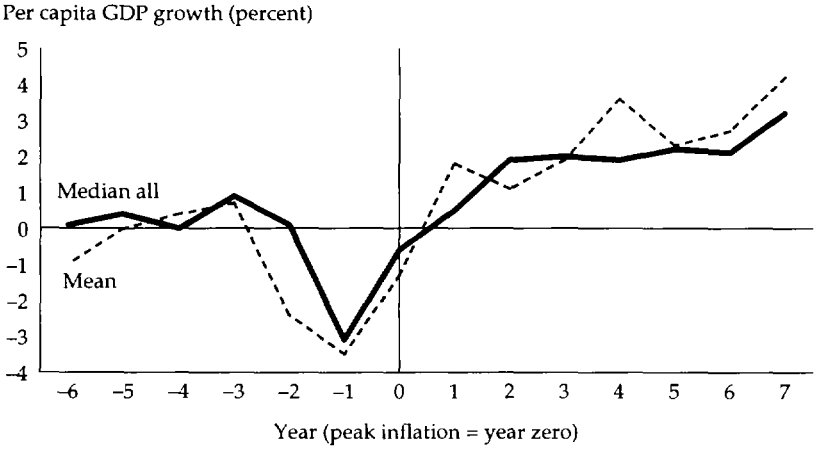
What triggers deep crises of growth, inflation, or debt? Which combinations of macroeconomic policies and structural reforms have brought about recovery in growth? What do we know about the speed of recovery? Given that for some class of crises (the high-inflation ones) adjustment policies have been shown to work quickly, why are reforms delayed for so long? What is the role of foreign aid in these processes? These questions form the backdrop to this analysis. In the following sections I highlight some conceptual issues and present empirical findings, drawing on ongoing work with William Easterly.

Stabilization from High Inflation: Procrastination and Speedy Recovery

The finding that stabilization from high inflation leads to speedy growth recovery is not completely surprising. In a previous paper Easterly and I identified a cycle associated with discrete high-inflation crises (defined in terms of the 40 percent threshold)—growth falls sharply during the crisis and then recovers just as sharply after stabilization (Bruno and Easterly 1995).[4]

Although output growth becomes negative during the crisis (from initial rates that are not significantly different from world averages), after stabilization it rises by about 4 percentage points to growth rates that are higher than the rates before the crisis (figure 2). Inflation crises are associated with an increase in the budget deficit (usually financed by money creation) and with a rise in the black market premium on foreign exchange. With recovery there is a corresponding reversal; the budget deficit, for example, improves 5 percentage points on average.[5] The typical output expansion begins in the first year that inflation declines and accelerates over time. Output expands in the aftermath of

Figure 2. Per Capita Growth during and after High Inflation and Stabilization



Note: Sample of twenty-eight high inflation and stabilization episodes.
Source: Easterly 1995 and World Bank data.

all successful stabilizations. As Easterly (1995) shows, such recovery is not merely a reflection of the consumption boom that follows exchange rate–based stabilizations. When starting from high inflation, "expansionary stabilization" is surprisingly common.

Why Are Stabilizations Delayed?

If growth recovers quickly after stabilization, why do some countries delay stabilization? Do policymakers believe that things have to get worse before they can get better? Is an inflation crisis beneficial because it also motivates reforms on a broader front?

It has become fashionable in the political economy literature to argue that severe crises promote reform. The idea that a large enough crisis may shock otherwise reluctant policymakers into instituting productivity-enhancing reforms is by no means new. Mancur Olson (1982) argued that growth accelerates after crises because crises destroy the rent-seeking coalitions that block growth. Albert Hirschman (1987), reflecting on the Latin American experience, suggested that in some developing economies inflation has acted as an equivalent of war in eliciting the kind of fiscal correction that only an emergency or a severe crisis can invoke. Bresser Pereira, Maravall, and Przeworski (1993) concluded, after examining Latin American policies over the past forty years, that populist leaders adopted non-populist policies when the crisis was so deep that the costs of populist policies became higher than the costs of adjustment. Bates and Krueger (1993) and Haggard and Webb (1994) support the hypothesis that crisis leads to action. Yet despite the growing consensus, the hypothesis has not been subjected to systematic empirical testing—perhaps because it is too broad.

Recent political economy theory has also raised the possibility that crises can be beneficial—and has helped identify the instruments. Alesina and Drazen (1991) deal with a case in which there is general agreement on the need for fiscal change but a political stalemate over how the burden of higher taxes or spending cuts should be distributed among competing groups. The authors apply a "war of attrition" model in which an attempt is made to shift the burden of stabilization from one group to another until one of the groups eventually concedes. The point to be noted is that, when stabilization finally occurs, it coincides with a political consolidation; that is, one group (or coalition) dominates.

Many stabilizations are delayed because no group perceives the costs of inflation to be sufficiently high to induce it to concede (it is assumed that money finances the fiscal deficit so that the cost of no agreement is higher inflation). Stabilization is introduced when the costs of living with inflation become unbearable. This model assumes heterogeneity among groups; in a homogeneous society no group would gain from delays, so it is best not to wait. Each group's uncertainty about the distribution costs or, more precisely, about the per-

ceived burden of inflation is also important. The more unequal the distribution of the stabilization burden (that is, the greater the political polarity), the greater the delay in stabilization. An increase in the costs of high inflation at the *same* distribution of the burden will speed up the process.[6] Likewise, policies or institutional arrangements that lower the costs of inflation (such as indexation of wages or of the exchange rate) will postpone adjustment.

Therefore it seems correct to assume that inaction reinforces the status quo, because the time horizon of most agents is short and uncertainty about future benefits is great. Indeed, this argument has been formalized by Fernandez and Rodrik (1991). In the context of trade reform they show that under majority voting, uncertainty about the distribution of gains and losses militates against reform even though, once adopted, reform could gain adequate political support: When individuals do not know how they will fare under a reform, aggregate support for reform can be lower than what it would have been under complete information, even when individuals are risk-neutral and there is no aggregate uncertainty. In this model the outcome is certain: the ex post aggregate increase in welfare is known. But at the disaggregated level no one knows who will win or lose, and everyone votes according to his or her expected gain. Thus the majority could find that ex post they would have been better off if they had voted for reform—even if they in fact voted against reform.[7]

Delays in reform can thus be explained by considering a heterogeneous distribution of post-reform costs and benefits—even when the groups involved are rational and act with full information. But what happens when we introduce an explicit consideration of the externality that arises from lack of individual accountability for public expenditure (pre-reform)? Suppose that each interest group receives a share of public expenditure financed out of a common resource pool (examples are regionally decentralized governments, as in Aizenman 1992, or state-owned enterprises with soft budget constraints). Each group benefits from its expenditure share but faces only $1/N$ of the cost of the accumulated debt (if there are N groups).

A recent paper by Velasco (1994) formalizes such a model.[8] There is a social deadweight loss incurred by lobbying (or inflation) that cannot be altered through unilateral action from any group—and that loss disappears only with stabilization. In aggregate, individuals overspend and overborrow in equilibrium. Thus individuals will choose stabilization only when the cost of continued debt accumulation minus the benefit of additional consumption rises above the cost of stabilization. At that threshold the stabilizing outcome is feasible. For example, stabilization is a feasible outcome with two groups when action by one group, seeking to spend more than its equilibrium share, forces all of the additional deadweight loss onto the other group, thus invoking immediate retaliation.

In contrast to the earlier models, reform is not delayed by uncertainty about costs or benefits. It could be delayed even with full certainty about outcomes because stabilization must be a positive-sum game. It must lead to efficiency gains that are larger than the net marginal cost of continued aggregate borrowing with inflation. Thus an adverse shock (such as a drop in government revenue or in external transfers) may actually *increase* welfare because it shortens the delay.

The notion that "things have to get worse before they can get better" emerges naturally from this class of models. Increased costs of postponed adjustment help break a stalemate. For example, in Drazen and Grilli (1993) the costs of high inflation resulting from monetization of the government deficit prompt an agreement on nondistortionary tax increases. This resolution between heterogeneous interest groups would not have occurred in the absence of inflation. Thus a crisis that erupts into high inflation may coalesce reform. In fact, a high-inflation crisis may leave a country better off than if it had muddled along through less severe crises. In the Velasco model a reduction in external transfers to the budget will hasten stabilization (because for each group the costs of additional debt will rise more quickly above the benefits they derive from their share of public expenditure).

Other Explanations for Delay

There are some important complementary considerations to these models. First, they do not deal explicitly with the fact that, quite apart from delays in adoption, the experience in many countries points to a series of failed attempts to stabilize. The behavior of policymakers under uncertainty may help explain why. Political leaders tend to be risk-averse and, as a rule, do not risk their careers by taking one long shot. In the face of a major reform with uncertain outcomes, decisions will tend to favor small, seemingly low-risk deviations from the status quo so long as they buy time and political survival. (See Akerlof 1991 for a theoretical argument on the reasons for procrastination.)

Second, parallel processes of what might be termed "endogenous political disintegration" may be at work. The economic dynamics of depletion of the common resource pool has a parallel in the political dynamics of disintegration of the political system. Geddes (1994), Bates and Krueger (1993), and others have shown that a government's capacity to supply public services (and thus to reward established constituencies) weakens as rent-seeking increases. Indeed, as the crisis deepens the government may gradually wither away. This development has a positive outcome; namely, at the time of reform the power of entrenched groups may have been weakened—and a leader who opts for the long-run solution over short-term expediency may win support for reform.

A third complementary consideration comes from the dynamics of social learning and from failures in the market for information, in this

case, about stabilization programs. Arguably, politicians and the public must learn the costs and benefits of a comprehensive stabilization and reform program before it is ultimately adopted. But failure in piecemeal programs may be needed to ensure that the "right" policy package is adopted. Delay (or prior failure) may result from a lack of consensus among experts in the profession or in the economic policy team.[9] It may also result from partial solutions implemented with partial and fragmented political support. And learning from experience at home and elsewhere takes time both because those who succeed take time in drawing general lessons from their success and because those who should learn often do not have the right incentives to seek knowledge.

Finally, there is a need for consensus. The models reviewed here argue that consensus on a comprehensive policy package is essential. But is it? Consider the 1990 Polish reform program. Leszek Balcerowicz, the architect of the reforms, has observed that there may not have been a full understanding of the program (see also Sachs 1993). Yet given the political environment and the opportunity for "extraordinary politics" (to use Balcerowicz's words), any reform program would have been approved. It is a good thing that it happened to be the right program! Consider also Israel in 1985. The public was ready for a dramatic change and pushed for reform, leading its political leaders.[10] In this case and, even more so, in the Czech reforms of 1991, public discussion of the details of the reform program (in particular, Vaclav Klaus's personal involvement in this effort) played an important role in the formation of consensus at each step.

In sum, though we now have models of economic and political behavior that may explain reform delay and its optimal timing, we do not have a single encompassing explanation. This may be an indication of the state of our theoretical understanding. But the lack of a general explanation also reflects the nature of the problem. The rich empirical experience with stabilization and reform does not lend itself to one overarching account and, in any case, the stage at which comprehensive reform takes place may differ markedly from one country and situation to another.[11]

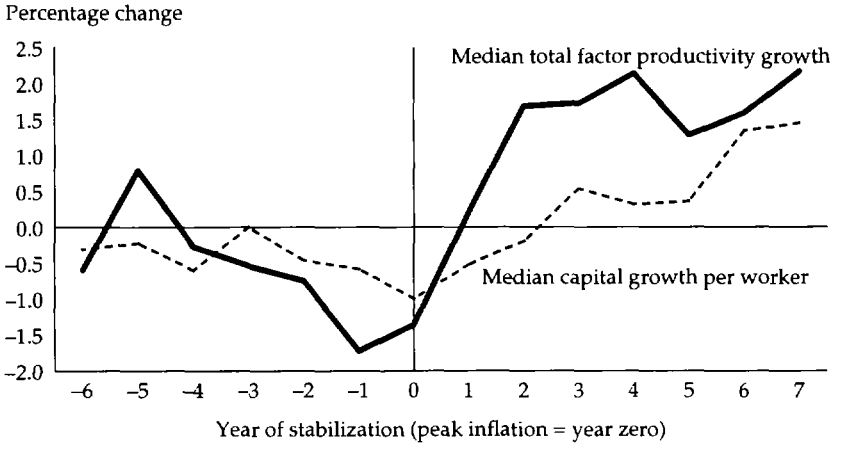
Stabilization and Trade Liberalization

Macroeconomic stabilization is only one element of the reform process, albeit a crucial one. Microeconomic structural reforms are as important in the long run, and trade reform, in particular, has been central to nearly all successful adjustments. Rodrik (1994, p. 81) contends that "no significant case of trade reform in a developing country in the 1980s took place outside the context of a serious economic crisis." The argument is that trade reform involves large distributional changes with a high political cost-benefit ratio. The gains from stabilizing a deep macroeconomic crisis outweigh the distributional costs of trade reform and make it politically easier to lump the two together. Earlier research on comparative trade reform in nineteen developing countries has shown that, of the thirteen episodes of "strong" and "fast" reforms, ten occurred as a political regime was changing or an economy was collapsing (Papageorgiou, Choksi, and Michaely 1990). The link between macroeconomic crises and trade reform was even stronger during the 1980s.

Sachs and Warner (1995) have argued for another linkage in the opposite direction—that openness helps economies avoid deep macroeconomic crises. By their definition of openness fifty-nine countries experienced crises during the 1980s that were not open during the 1970s, and only one (Jordan) that was open during the 1970s entered a macroeconomic crisis during the 1980s.[12] Clearly, many of the countries that opened up during the 1980s did so in the wake of a macroeconomic crisis.

Coincident stabilization and trade liberalization points to an important empirical issue: Is the resulting output expansion due to one or the other? Is it due to both? Trade liberalization is thought to produce a delayed supply response (see, for example, Dean, Desai, and Riedel 1994). It is reasonable to conclude, therefore, that the sudden output response observed after stabilization from high inflation is the result of the productivity-enhancing effects of stabilization itself.[13] On the other hand, the endurance of growth is probably related to other structural reforms, including trade liberalization. On the supply side, an immediate revival in growth may indeed come from an increase in total factor productivity, while subsequent growth may be sustained by an increase in the capital stock (figure 3). On the demand side (not shown in figure 3), a domestic consumption boom often provides the initial impetus for growth. The export response to liberalization seems to be more delayed. Investment is known to resume with a considerable lag, as shown in figure 3 in the lagged growth of the capital stock.[14]

Figure 3. Annual Change in Total Factor Productivity and Capital Growth



Source: Easterly 1995.

Does Postcrisis Growth Return to or Accelerate above Trend?

There is little doubt that an inflation crisis leads to low, even negative per capita growth, or that growth increases after the crisis.[15] Does this mean that the higher postcrisis growth is a simple statistical artifact of mean reversion? Indeed, critics of the beneficial crisis idea have noted that one *should* expect a recovery after crises: things do get better after they have been very bad.

This simple explanation does not hold, however. Consider again figure 1, which contains all countries that met a given definition for a growth crisis. This definition (at least –9 percent growth in three consecutive years) was calibrated to the level of prestabilization output drop in the group of countries experiencing inflation crises. Thus, if one were to draw a curve in the figure for countries with growth crises that did not experience high inflation, one would find that growth is strongly negative and remains negative or zero for this group for many years afterward. In fact, per capita growth in these countries is still zero, on average, fourteen years after the growth crisis. Thus the recovery of growth following inflation stabilization is not just a mechanical reversion to trend.

It is hard to distinguish between a permanent acceleration of growth and a simple reversion to the precrisis trend with such short time series. Data for seven countries and episodes for which a sufficient postcrisis time period was available (to the cutoff point of 1992) are shown in table 1. Figure 4 shows for each of these countries the residuals from growth regressions that incorporated determinants of

Table 1. Growth and Inflation Crises
(percent)

		Per capita growth		
Country	*Period*	*Annual average*	*Difference from world average*	*Annual inflation rate*
Bolivia	1961–81	1.6	–0.8	13
	1982–86	*–4.9*	*–5.3*	*781*
	1987–91	0.8	0.1	16
Brazil	1950–61	3.6	1.2	21
	1962–66	*1.6*	*–1.0*	*58*
	1967–75	6.8	4.3	23
	1976–92	*0.6*	*–0.4*	*259*
Chile	1960–71	2.4	–0.4	27
	1972–77	*–2.8*	*–5.1*	*240*
	1978–92	3.0	2.3	22
Ghana	1964–74	0.4	–2.4	11
	1975–83	*–4.7*	*–5.8*	*71*
	1984–92	1.7	1.0	23
Indonesia	1951–60	1.2	–1.1	21
	1961–68	*0.9*	*–2.9*	*189*
	1969–90	4.2	3.2	13
Israel	1961–76	4.4	1.8	14
	1977–85	*1.5*	*0.7*	*135*
	1986–92	2.3	1.6	17
Mexico	1961–81	3.6	1.3	11
	1982–88	*–1.9*	*–2.5*	*86*
	1989–92	1.6	1.3	20

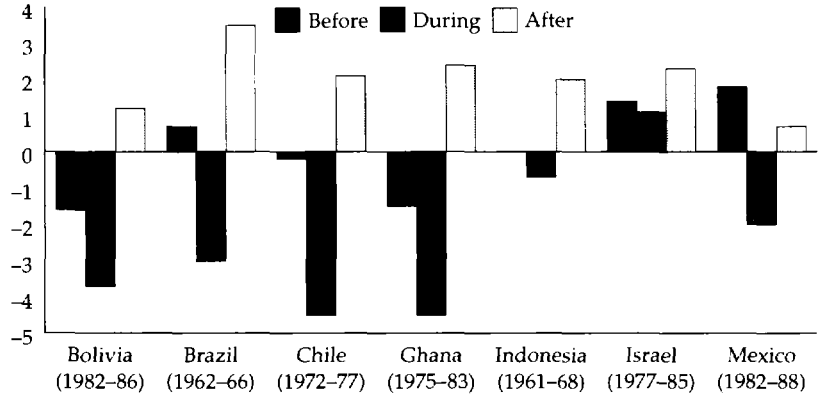
Note: Crisis is defined as more than 40 percent inflation for two or more years; shown in italics.
Source: Bruno and Easterly 1995.

long-run growth. For each country the regressions were estimated before, during, and after the inflation crisis. Then a hypothetical 1992 GDP level was calculated using the precrisis trend and the growth regression residuals. The results are compared with actual 1992 GDP in table 2. All the countries, with the big exception of Mexico, were at or above trend by 1992 (with some question on Israel). Indonesia, with the longest postcrisis inflation period, is way ahead. Whether post–inflation crisis growth returns to trend or above trend for a wider sample of countries remains an open question for future research—but the evidence shown here is suggestive.

Comparing High, Moderate, and Low Inflation

The pattern for countries experiencing more moderate inflation (20–40 percent a year) is much more ambiguous. Of thirty-four moderate inflation crises, only twenty-two exhibited a reduction in growth during the

Figure 4. Residuals from Growth Regressions before, during, and after Crises
(percent)



Note: Residuals after controlling for investment and other long-run growth determinants.
Source: Bruno and Easterly 1995.

crisis and only half showed an increase in growth after stabilization (Bruno and Easterly 1995). Korea is a classic example. Twice during the 1970s it ran inflation rates of 25–26 percent a year. In both instances inflation was quickly reduced through effective stabilization. However,

Table 2. Per Capita Income Relative to Precrisis Trend, 1992

			1992 difference (percent)[a]	
Country	*Years since end of crisis*	*Length of crisis (years)*	*Controlling for investment*	*Not controlling for investment*
Bolivia	6	5	7	–14
Brazil[b]	9	5	7	6
Chile	15	6	9	4
Ghana	9	9	9	0
Indonesia[c]	22	8		128
Israel	7	9	4	–14
Mexico	4	7	–27	–29

a. Actual extrapolated precrisis trend, using growth residual. Formula for log difference in per capita income, actual extrapolated precrisis trend = $N(2)\bullet g(2)-N(3)\bullet g(3)-[N(2)+N(3)]\bullet g(1)$, where $N(2)$ is number of years during crisis, $g(2)$ is growth residual during crisis, $N(3)$ is number of years since crisis, $g(3)$ is growth residual in period after crisis, and $g(1)$ is growth residual in precrisis period (all growth residual in logs).
b. Crisis here is 1962–66 crisis, and the end of postcrisis period is 1975 instead of 1992. Brazil does not control for secondary enrollment because of small sample available in 1950s.
c. Growth residual does not control for anything except world average growth because of absence of data from earlier period.
Source: Bruno and Easterly 1995.

while output growth went up during the 1974 crisis, in 1979 Korea suffered a temporary slowdown in growth to 1 percentage point below the world average. And only after 1980, when inflation was reduced to 6 percent, did growth resume its 7 percentage point per capita differential with respect to the world average.

For episodes of moderate inflation the contrast between countries that pursued stabilization and those that did not is not as sharp as the contrast between open and closed economies. Again, defining open economies as those that had liberalized their trade regimes by 1991 (using the Sachs-Warner definition), consider the group of twenty-two countries that had moderate inflation after 1991 (of which seven had ongoing inflationary spurts by the end of 1992). There were twelve open economies, of which eight had positive growth during 1991–94, and ten closed economies, with six recording negative per capita growth during that period.[16] For these countries openness seems to be associated with prudent fiscal behavior and with smaller current account deficits, on average. It also appears that open economies relied less on foreign aid. It remains an open question whether openness is simply a symptom of other forms of commitment to reform (notably in countries without high-inflation crises) or whether it may be overly liberal aid that has blocked reform in the closed economies. I will return to this subject.

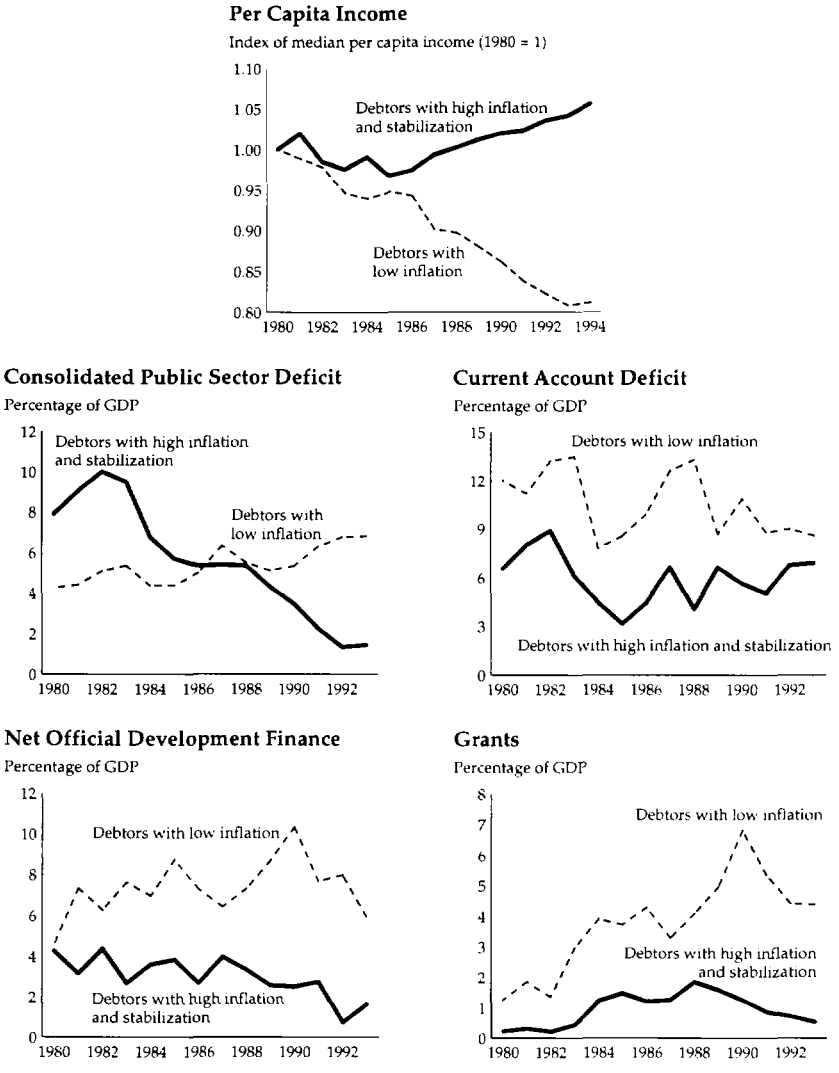
Polar Evidence on Beneficial Crises and Reform Laggards

Over the past two decades fifty-five developing countries had external debt crises.[17] Of these, fourteen that experienced prolonged high inflation (annual inflation above 40 percent) later stabilized and introduced structural reforms, including the opening up of their economies.[18] Nineteen debt crisis countries never had annual inflation above 20 percent.[19] Most of these economies did not undergo reform until quite recently. They also remained closed. The top panel of figure 5 shows median per capita income over 1980–94 in these two groups of countries. In the high inflation-stabilization and structural reform group per capita income went down, then recovered. All these economies (except Nicaragua) enjoyed positive per capita growth rates during 1991–94, when the world average per capita growth rate was stagnant. The median per capita income of the low-inflation group kept falling until 1993 and then stabilized. Most of these economies (fourteen of nineteen) continued to contract during 1991–94. They are also part of the sample of growth crisis countries included in figure 1.

Latin America's experience with adjustment and reform is a prime example of seemingly beneficial deep crises. (Mexico's recent troubles should not cancel out what has been accomplished in the region.) The region's response to high-inflation crises included stabilization, trade liberalization, and many other elements of the so-called Washington consensus: privatization, pension reform, and central bank independence.[20] Chile is the archetypal example of a country that did it all: trade reform beginning in 1974, waves of privatization in 1975 and 1985, pension reform in 1981, and central bank independence in 1990. Argentina is a more recent example of reform response to crisis. Taking advantage of the emergency atmosphere in the post–Mexico crisis situation, Domingo Cavallo sought and obtained congressional approval (amid an election campaign) of long-stalled labor and pension reform legislation. By winning the election on a reform platform, the government consolidated its credibility.

The franc zone in West Africa is, unfortunately, a counter example. Countries in the franc zone (tied for forty years to the French franc) had low inflation. They borrowed abroad to finance public deficits and suffered a substantial real appreciation of the exchange rate. This approach resulted in low inflation, but it also blocked adjustment and led to successive debt crises.

Figure 5. Comparing Debtors with High Inflation and Stabilization and Debtors with Low Inflation



Note: Samples include thirteen to fourteen countries for high inflation and stabilization and sixteen to nineteen for low inflation.
Source: Bruno and Easterly 1996.

Inflation that is followed by stabilization versus inflation with no adjustment is not, however, a story of Latin America versus Africa.[21] It is a story of relative incentives. As noted earlier, there is a close correlation between stabilization and trade liberalization in the resolution of high-inflation crises. As a result high-inflation economies become unusually open, postcrisis. What about the low-inflation group? Here

the link between inflation and openness does not hold. Of the sixteen low-inflation countries in our sample, eleven were classified by Sachs and Warner as closed in 1994. Low inflation should follow low budget deficits unless inflationary pressures from budget deficits are diverted to an external imbalance and creditors are willing to finance the deficit through a capital inflow. This is in fact what happened in the group of low-inflation economies (see figure 5):

- *Public sector deficits* were worse in the high inflation-stabilization group during the first half of the 1980s—and this had a lot to do with their subsequent inflation crises. But during the late 1980s and the 1990s these deficits became much lower than in the low-inflation group.
- *Current account deficits* were higher in the low-inflation group than in the high inflation-stabilization group throughout 1980–93. Budget deficits in the low-inflation group showed up as current account deficits rather than as inflation.
- *Grants* (a subset of official development finance) increased sharply in the no-inflation group; grants were modest in the high inflation-stabilization group.

In sum, the evidence suggests that in the low-inflation countries the lack of adjustment is partly a consequence of continued soft external finance (official development finance). High- and low-inflation economies started the 1980s with similar access to such finance (measured by its share in GDP). But in the high inflation-stabilization economies its share fell throughout the 1980s and 1990s, while it generally rose in the low-inflation, no adjustment countries.

The Role of Foreign Aid

For the high-inflation stabilizers, the story of the past decade is one of substantial adjustment and liberalization with little foreign aid. For the low-inflation group, the story is one of substantial foreign aid and little adjustment. Does foreign aid delay adjustment? It seems that it does: The debt crisis left Latin America without access to market-based foreign finance, and official finance did not come in to fully close the gap. Attempts to fill the gap through domestic finance led to high inflation and crisis. Only adjustment could restore equilibrium. And after adjustment, market-based external financing resumed. The same is not the case for low-inflation countries that, after the debt crisis, relied increasingly on official external flows to finance their unadjusted economies.

Official foreign aid and grants to the median low-inflation economies started to fall in 1990, and current accounts stabilized (see figure 5). These developments marked the beginning of a change. After considerable additional delay, the franc zone in Africa undertook a major reform in January 1994, starting with a 100 percent devaluation. It is too early to assess the full impact of the reform, but output

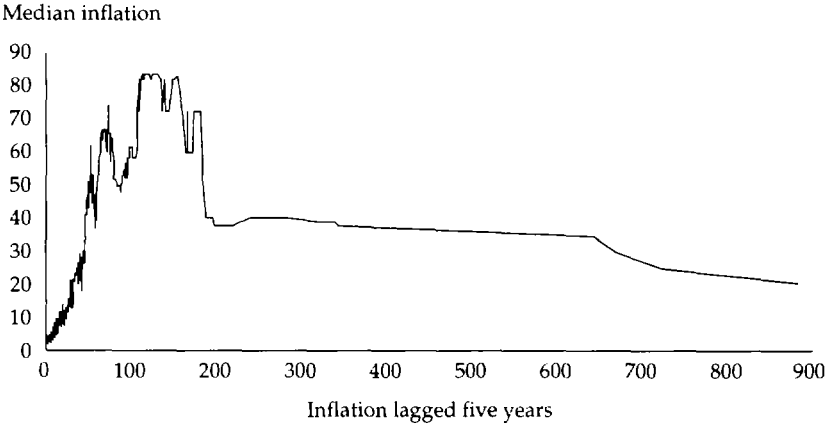
growth is already positive, fueled in part by rising exports. Fiscal deficits have been reduced and are expected to drop further. Wage behavior has been moderate, and the initial inflationary costs were low (inflation fell from an average of 33 percent in 1994 to 4–16 percent by mid-1995). On the downside, structural reforms, including trade liberalization, have lagged and the fiscal cuts fell disproportionately on social spending and on investment. The quality of adjustment is not yet satisfactory, but the trend is in the right direction.[22]

Does Extreme Crisis Force Action?

One testable prediction of beneficial crisis models like those of Drazen and Grilli (1993) or Velasco (1994) is that a severe crisis forces countries to act, whereas they would merely muddle along under moderate crises. That is, a sizable increase in inflation today could prove beneficial by leading to lower inflation tomorrow.

Inflation is normally persistent, so if country A has higher inflation than country B today, country A will also have higher inflation tomorrow. However, Drazen and Grilli predict that there is some threshold level of inflation such that if country A is above this threshold and B is below it, then country A will have *lower* inflation than B tomorrow. If

Figure 6. Median Inflation Relative to Inflation Lagged Five Years
(percent)



Note: To summarize what would otherwise be an unwieldy mass of data, all the pairs of data points (1–5, π) are ordered according to the values of $\pi(-5)$. Each pair is one observation. Next the median of the first ordered forty observations is calculated and the same calculation is repeated, moving down one observation at a time. Thus each point in the figure is the median of $\pi(-5)$ and of π for these overlapping groups of forty observations. The use of rolling medians ensures that these findings are not sensitive to an arbitrary choice of dividing lines between successive inflation ranges.
Source: Bruno and Easterly 1995.

we think of a graph of inflation tomorrow versus inflation today, the normal pattern is that it is monotonically and positively sloped; Drazen and Grilli predict that it will turn down at some point.

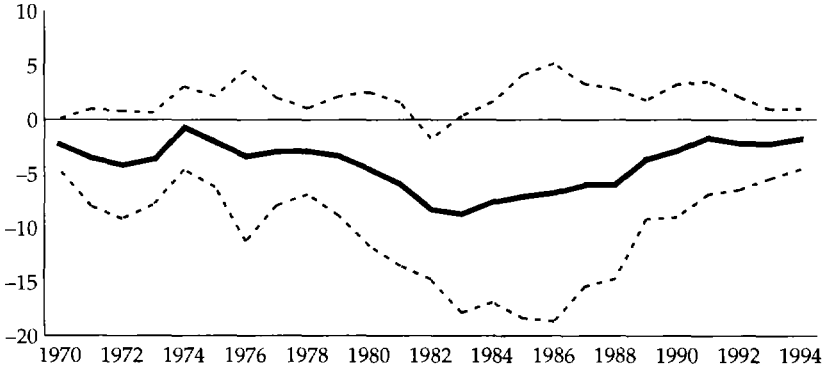
The Drazen and Grilli prediction can be confirmed, at least for extreme values of inflation. Figure 6 graphs current inflation against inflation lagged five years. The observations follow roughly the unit elasticity line and then jump at about 40 percent inflation, which is also a high inflation threshold for persistent inflation. As inflation accelerates, instability increases.[23] The curve in figure 6 turns sharply downward somewhere in the range of 150–200 percent of lagged inflation.[24] Thus it seems that extreme inflation does lead to action!

What Ingredients Are Necessary for Reform?

The empirical evidence so far has focused on two major sets of policies required for growth recovery after crisis—stabilization and liberalization. Stabilization is measured by the rate of inflation and the main policy instrument is fiscal restraint. Liberalization is measured by economic openness and the main policy instrument is trade liberalization. I will elaborate on these points.

First, consider stabilization and fiscal behavior going into and out of crisis. The movement and variability of the average central government balance for Latin America during 1970–94 are shown in figure 7. Note that the average balance went from near balance in 1974 to a deficit of about 9 percent by 1983, and subsequently the variability across countries increased dramatically until about 1986. By 1994, when the region's inflation wave had abated (in mid-1995 the average inflation rate was 30 percent and falling), the average deficit and its variance had returned to their 1974 levels. More than anything else, fiscal consolidation accounts for the stabilization of these economies.[25] And this development cannot be explained only in terms of the hyperinflation experienced by a few countries. Clearly, reform has swept the continent in a contagious blessing (more on this below).

Figure 7. Central Government Fiscal Balance in Latin America
(percent)



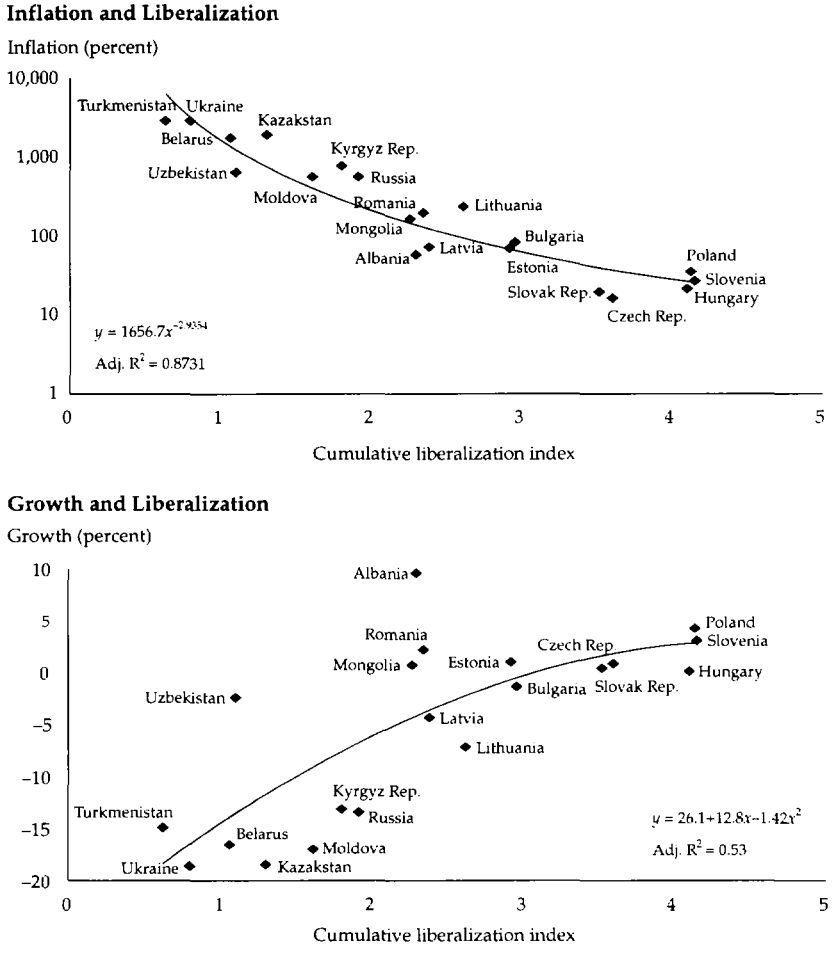
Note: Dotted lines indicate standard deviations.
Source: Alesina and others 1995.

Given our empirical analysis it could be alleged that once inflation goes below 40 percent (or perhaps 20 percent) growth recovers, and so there is no need to worry about inflation rates below 20 percent (or even 40 percent) or about the independence of central banks. These conclusions are misleading, however, because (as I have addressed more formally elsewhere; see Bruno 1995) inflation, like smoking, is addictive. There is an inherent inertia in inflationary processes that makes for an upward drag, especially in the presence of shocks and especially when attempts are made to "immunize" the system through indexation. An independent central bank pursuing price stability introduces an important additional safeguard beyond basic fiscal prudence. Such an authority ensures that inflation is kept as low as is consistent with sustainable growth, especially in countries that have come out of deep inflation crises.

Is Latin America special? No, it is not—and the importance of the link between inflation stabilization, liberalization, and growth is seen vividly in the crisis and reform experience of Central and Eastern Europe. Clearly, the concept of "crisis" is more encompassing in this case. What is at stake is the demise of a regime's entire institutional, political, and economic underpinnings. Accordingly, growth and output collapse were larger, with inflationary outbursts that were at times as high as those in hyperinflation economies. The collapse in output followed the breakdown of central planning and of the coordinating mechanism for bilateral trade. The collapse was exacerbated by shifts in consumption, both for inputs and for final goods. The initial high inflation follows price liberalization in the aftermath of repressed inflation (that is, in the presence of a large monetary overhang). In this context reform and liberalization involve a far more comprehensive agenda than anything we have observed in Latin America and certainly in Africa. Yet the basic inflationary process is not that different; nor is there a major difference in the link between stabilization and growth.[26]

Researchers on transition have created an index of liberalization that includes measures of the liberalization of external and internal trade, ease of entry and privatization, financial depth and reform, and so on.[27] With it we can compare the cumulative extent of liberalization across countries (figure 8). Some results are clear: Price liberalization removes output distortions and induces a recovery in output through the private sector (which expands at a much faster rate than anybody had imagined). Inflation stabilization helps liberalization work by reducing price volatility and price distortions, especially in the financial sector. Thus it also helps sustain the recovery in output. Note that the faster a country progresses in the reform process, the higher is its cumulative liberalization index at any moment in time. There are gains from speed: Growth recovery and inflation reduction are positively correlated with this index over time.[28]

Figure 8. Inflation, Growth, and Liberalization in Transition Economies



Note: Average inflation and average growth for 1993–94.
Source: de Melo, Denizer, and Gelb 1996.

Important as they are, stabilization and liberalization cannot explain the range of transition outcomes. Another key element in transition is institutional—the introduction of the basic rules and instruments of a market economy. Three aspects that are central to this change are the redefinition of property rights, the adoption and implementation of an independent legal authority (based on well-defined contractual obligations), and the elementary functioning of government as an efficient provider of services (including, importantly, a monopoly on coercion). The magnitude of change required is unique to the transition economies. But the same policy challenges would, in

a suitably modified fashion, carry over to the many similar tasks of inducing deep reform in crisis economies where basic markets existed before the crises erupted.

Is privatization, for example, less important in Sub-Saharan African than it is in Eastern Europe or Latin America? The answer may be that it is even more important. Recent studies have shown that state enterprises are the main impediments to reform in several of the poorest economies, commanding large shares of (inefficient) production and consuming equally large shares of the government's budget (World Bank 1995). In Africa during the 1980s state-owned enterprises accounted for 20 percent of formal employment and 30 percent of investment. The reluctance to move faster on state enterprise reform is almost always due to political reasons. The speed of reform has to do with the breakdown of existing political coalitions and the quick formation of new ones. And often the new coalitions are a regrouping of the same elite: In the formerly communist economies many members of the old nomenklatura have joined and often lead the new private sector. In Latin America the seed of the new, vibrant export industry often lies in the soil of protected and inefficient sectors. Incentives are the key to performance. This is as true in Latin America as it is in the former Soviet Union or Africa.[29]

The Role and Timing of Foreign Aid

The role of foreign aid has been controversial for some time—and the debate intensified after the external shocks of the 1970s and 1980s.

My focus here is on the role foreign aid can play in a crisis. In theory there are three such roles: two are purely financial and one is informational. Two points are critical in discussing the financial roles. First, the incremental supply of foreign funding eases the pressure on the public budget and will, other things being equal, delay stabilization. Second, if foreign aid is made conditional on and coincident with the onset of stabilization, it can increase social welfare. In the context of the Velasco model, the promise of additional budgetary resources to be disbursed upon stabilization will reduce the expected ex ante deadweight loss of stabilization (or increase the expected efficiency gain from stabilization). Thus conditional aid shortens the delay in adopting stabilization by reducing the critical debt threshold that individuals consider when weighing the tradeoffs.

The informational (and complementary) role of foreign aid is mainly in the form of social learning. Education of policymakers by mutual consultation, learning of best practices, and dissemination of policy experience to wider audiences within countries are mechanisms that have repeatedly been shown to further reform. Multilateral agencies may have much to contribute to this effort. Aid as access to information, advice, and transfer of knowledge has an advantage over aid as up-front finance with weak and compromised conditionality. When a government is not ready for reform, a critical task is to build the momentum for reform—bearing in mind that when knowledge leaks the benefits are widespread, while when money leaks only a few benefit (usually those with the wrong incentives for reform).

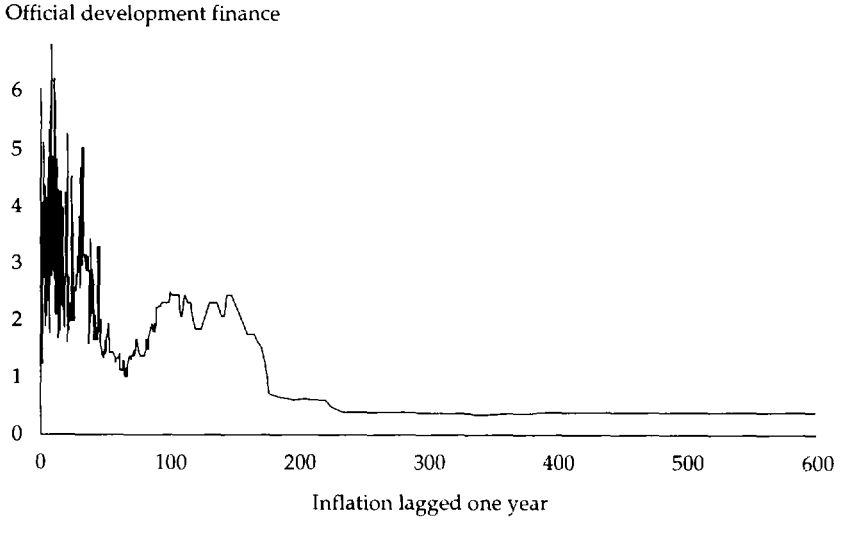
Returning to the empirical analysis, there is a considerable difference in budget finance, current account deficits, and debt profiles for countries that underwent a deep high-inflation crisis. For the low-inflation debt reschedulers there was an increase in debt with successive debt reschedulings but without an output response. Continued debt relief prolonged rather than shortened the time to reform. Among the rapid stabilizers, on the other hand, a number of countries undertook deep reforms without an injection of external funds. Only subsequently, as stabilization proceeded, was foreign aid requested and obtained. Examples include Peru and, more recently, Vietnam. Israel, which was not a debt rescheduler, also conforms to this pattern. It was promised large foreign aid conditional on the adoption of the far-reaching 1985

program. In the end the program succeeded and the exchange rate stabilization fund was not mobilized. In a recent lecture Stanley Fischer, first deputy managing director of the International Monetary Fund, recounted how a reluctant stabilization team put off an overly generous U.S. Senate in order to delay aid until the stabilization program was put firmly in place. Our fear then was that aid would come too quickly, not too late!

The Role of Aid under Inflation

Figure 9 shows the amount of official development finance countries receive in the current year as a function of inflation in the previous year (again using rolling medians for overlapping groups of forty observations ordered by lagged inflation). Curiously, such finance appears to be sensitive to high inflation—it nearly shuts off when annual inflation reaches 150–200 percent. (Again, the confidence interval for the median at the right-hand tail indicates that it lies significantly below the peak.) Donors are obviously scared to lend to high-inflation economies—but perhaps this is a bonus for adjustment. Donor reluctance may function as an additional incentive for stabilization. Lack of supply and unmet demand reinforce one another. But this pattern is not at work in low-inflation economies. The question therefore remains: What incentive mechanism should aid givers apply to low- or moderate-inflation economies?

Figure 9. Lagged Inflation and Official Development Finance
(percentage of GDP)



Source: Bruno and Easterly 1996.

Conditionality

The exchange of policy action for external financing—conditionality—is a difficult bargain. The main problem is contract enforcement and incentives, as several empirical studies have documented (see Kahler 1992, Mosley 1987, and Mosley, Harrigan, and Toye 1991). The borrowing government wants to obtain as much finance with as few strings attached as possible (unless the time of reckoning has come and it wants to tie its own hands). Lenders use the threat of stopping the privileged access to funds to enforce the implicit contract with the borrower. This threat is meaningless if the donor is not willing to cut off funds or if there are other potential lenders who would step in, whether for political or other reasons. The problem can be partly attenuated through cross-conditionality, which developed from the lessons of poor enforcement during the 1970s and 1980s. Cross-conditionality is an implicit contract in which lending by one creditor is conditional on borrower compliance with another creditor. An example is rescheduling by commercial banks conditioned on a program with the International Monetary Fund (IMF).

This scheme is not, however, a complete solution to the problem of incentives. A creditor such as the IMF or the World Bank, unlike a commercial bank, is motivated not by profit but by the objectives of its shareholders. The shareholders include the major industrial countries (with varying political interests) and the client countries themselves. Moreover, the organizational incentives within the international financial institutions have often worked in favor of continued lending (for defensive or other reasons).[30] Kahler's (1992) recent analysis of the programs sponsored by these institutions suggests that the combination of finance with up-front policy action (that is, action is taken before external support is granted or even offered) is a reasonably good predictor of successful implementation. Many failed programs can be traced to inadequate finance, but many more are caused by an improper sequencing of commitment, action, and finance. To be sure, the international financial institutions exist partly to spur reform—although they are often accused (usually wrongly, I believe) of coming in too late. Indeed, timing is of the essence. The difficult choice is not between aid and no aid; rather, it is about the timing of aid and about the links between aid and reform. The real issue is getting a handle on the ex ante measurement of commitment.[31]

The Remaining Agenda

I have emphasized one major theme: the political economy of deep crises tends to yield radical reforms with positive outcomes. Reforms often occur after considerable delay. However, the empirical evidence suggests that the payoff to radical reforms is more immediate than was once believed. From a period of high inflation, growth starts soon after stabilization measures are introduced. Liberalization appears to be an important and necessary condition for the resumption of growth after a crisis. But for countries with incipient market institutions, liberalization may be insufficient to elicit the desired response in private saving and investment—without which sustainable growth is impossible.

I have also addressed the role of foreign aid. While the evidence on the role of aid is incomplete, it does suggest that timing is critical. Continued foreign aid may delay or hinder reform (reform in Latin America became widespread after external aid disappeared). The Brady debt deals, which stimulated the return of private foreign capital to heavily indebted countries, came after reforms had been put in place. The Baker plan, which tried to do the same before reforms were in place, failed miserably. External aid has clearly helped Eastern Europe. But it is not clear that it has helped more than external advice and the so-called nonlending services, including the opening up of OECD markets.

There are open questions about the effectiveness of aid—and they remain central to the development agenda. Moreover, the definition of the threshold of a crisis that brings about reform is still fraught with ambiguities. One puzzle is why negative growth is not enough to motivate radical reform. Perhaps it is because the costs of high inflation are a stronger incentive for policymakers and inflation is easily monitored by all, including donors. High inflation has one clear cause—fiscal misbehavior. By contrast, the causes of negative growth are notoriously difficult to pin down.

One interesting facet of recent reforms is their bunching by region. The East Asian miracle was spurred by positive contagion effects (the linking of reforms across countries through the trade of goods and ideas as well by emulation of successful neighbors). Similarly, the experiences of the European Economic Community and now the European Union are an example of individual country reforms that are enhanced by collective commitment, without which individual governments would not have found the will to undertake reform. And the success of reforms in some countries in Latin America and Eastern and

Central Europe may create other regional reinforcing processes. Sub-Saharan Africa may lag behind as long as the number of successful reformers in the region remains a small and unstable group. For example, the region as a whole is a remarkable outlier in the general trend toward trade liberalization that underscored the Uruguay Round.

In conclusion, a word of warning. We should not minimize what is at stake when discussing crises, aid, and recovery and we should not jump lightly to conclusions. Crises are inherently dangerous beasts—remember that the conventional political wisdom used to be that high-inflation crises made totalitarian dictatorships more likely. Stabilization of even very high inflation often is still postponed for much longer than is necessary. Even if high-inflation crises play a role in stimulating adjustment, more thought should be given to designing less costly ways of promoting reform.

Notes

1. Average per capita growth rates (and standard deviations) over the 1960s, 1970s, and 1980s were 2.8 percent (2.5), 2.2 percent (2.7), and 0.5 percent (2.8).

2. The number of countries is fewer than twenty-eight because in some cases there was more than one episode per country.

3. These crises periods are calibrated to correspond to one another. The year zero is, on average, 1983. Of the sixty-six crises, five occurred during the 1960s, eighteen occurred during the 1970s and the rest occurred after 1980. There is a substantial overlap between the group of countries that experienced debt crisis and the group that experienced growth crisis: roughly two-thirds (thirty-eight of the sixty-six) of the growth crises countries were debt reschedulers.

4. The length of the crisis period varied substantially across countries, from one to three years in some cases (where inflation was between 40 and 100 percent) to fourteen to nineteen years in the three-digit Latin American crisis countries (Argentina, Brazil, and Peru). The median length was five years.

5. The variance among countries is quite large here. In Israel, for example, the 1985 stabilization generated an 11 percentage point increase over the five years preceding and following stabilization.

6. There is an interesting corollary here in that stabilization is most likely to occur when the output gains are highest, which is consistent with our empirical findings (see above discussion and Easterly 1995).

7. The reverse can also happen, but the cases are not symmetric. Reforms that are rejected ex ante even if they would not be rejected ex post continue to be rejected in the future because they are never tested. The model is also used to show that in the absence of risk aversion (which would increase uncertainty) a more extensive reform (ex ante, making for net expected gainers to dominate expected losers) would make individuals respond in the desired manner.

8. The model is based on two groups, each with many identical individuals. It allows intertemporal (external) borrowing by both government and individuals and assumes that exogenous tax income is paid by the individuals in the two groups.

9. Lack of consensus among economists has certainly hindered progress in Israel, where adoption of a heterodox program was delayed because it was unconventional (Bruno 1993, chapter 4). Joan Nelson (1990) draws conclusions from a seventeen-country study that "all cases of clear failure all traced collapse to deeply divided economic teams." Clearly, dissent among the experts may sometimes be used as a smokescreen for lack of desire to act among procrastinating policymakers.

10. In terms of the Velasco model any consensus-building efforts can be thought of as measures to reduce the deadweight loss, which helps advance the ability to undertake the cooperative solution rather than sustain the inferior Nash equilibrium of political conflict.

11. For example, given Argentina's dismal previous twenty-year record, who could have predicted the timing of an eventual turnaround at any of the following points in time: during Menem's election campaign, at the time of the subsequent early blunders, or at the time that the seemingly right team (with Cavallo) was appointed?

12. Israel could be another exception because it was relatively open by the 1970s crisis (using, as Sachs and Warner do, the 1985 stabilization as the date of the economy's "opening" is inaccurate). The Republic of Korea in 1979 and Chile in 1982 were also exceptions. The Sachs-Warner definition of a closed economy includes one or more of the following: high nontariff barriers, high average tariffs, a high black market premium, a socialist economic system, or a state monopoly on exports. Most of the inflation-stabilization countries that are discussed here were classified by Sachs and Warner as open by 1991. The Sachs-Warner opening date is generally close to our stabilization dates. Moreover, the black market premium, which plays an important role in their measure, is as much evidence of macroeconomic instability as it is lack of openness.

13. There is an identification problem here. Countries often undertake partial structural reforms during the period of high inflation whose output dividends are reaped only upon stabilization (examples include the tax reforms in Argentina prior to the 1991 stabilization and the privatization efforts in Brazil prior to the 1994 stabilization).

14. On the lead in consumption and the lag in investment see Bruno and Easterly (1995) and Easterly (1995). A subsequent preliminary look at comparable data also suggests a lagged response in exports.

15. Virtually all hyperinflations in the aftermath of the World War I and World War II have followed the same pattern of growth, collapse, and dramatic growth recovery to rates of change that exceed the precrisis period (and also exceed the average of a control group of countries that did not have a hyperinflation crisis). See Bruno and Easterly (1995) and Easterly (1995).

16. For comparison, of the fifteen countries that had stabilized inflation to below 20 percent by 1992, six had negative growth in 1991–94. Of the seven that had not stabilized, three had positive growth during this period.

17. This section is based on ongoing work with William Easterly, some of which is summarized in Bruno and Easterly (1996).

18. The definition of economic openness (and closedness) follows Sachs and Warner (1995), mentioned earlier.

19. The "intermediate" group of twenty-two debt rescheduling countries that is not in either of the two extreme groups highlighted here consists of eight countries that had inflation above 40 percent but that had not stabilized below that rate by 1993–94 (two of these, Brazil and Uruguay, now have) and fourteen countries that had at least one moderate inflation crisis of 20–40 percent a year (of which only three, Algeria, Madagascar, and Venezuela, have not stabilized while two others, Colombia and Honduras, are still hovering on the edges of the 20 percent threshold). This intermediate group of countries is expanded into a larger group and analyzed in the next section.

20. The term Washington consensus originated with Williamson (1990). At that time it did not include central bank independence, but it may be said to include it now. For an account of the Latin American reform effort see Edwards (1994).

21. Among the debt reschedulers there are three African examples of stabilization and recovery: Guinea-Bissau, Uganda, and, to a lesser extent, Sierra Leone. Another successful African stabilizer and reformer, though not a debt rescheduler, has been Ghana. Most of the non–franc zone countries in this group also had negative growth over the same period.

22. For completeness it should be noted that within the group of twenty-two debt reschedulers that is not included in the two polar inflation groups contrasted above, ten were open by 1992—a nicely intermediate result. There is a strong correlation between an economy being open by 1991 and positive per capita growth during 1991–94. Of the

ten countries that experienced positive growth, eight were open, while of the twelve that experienced negative average growth, ten were closed. As mentioned earlier, stabilizing when inflation is below 20 percent appears to be a weaker predictor of positive growth than the measure of openness. (Turkey and Venezuela were above the 40 percent threshold and Colombia and Honduras were above 20 percent, yet all were open and had positive growth; Egypt and Malawi had stabilized yet were closed and had negative growth.) Here too it is worth noting that stabilization was often accompanied by opening up, either simultaneously (the Gambia and, in some sense, Colombia and Honduras) or with a short delay (El Salvador, Guatemala).

23. As inflation increases, various indexation mechanisms make for persistence but also for greater instability. For an analysis of the relevant inflationary dynamics and the difference in patterns of growth response at different ranges of low and high inflation, see Bruno (1995).

24. A calculation of the confidence interval bands shows that the median is indeed significantly below the peak. Significance checks on the differences in the intermediate points between the peak and the tail are inconclusive. The sample size was lowered to twenty at the right-hand tail to get more detail on what is going on at the scarce high-inflation observations.

25. See Alesina and others (1995). Clearly, this picture is incomplete unless local and state budgets and quasi-deficits are considered, but the movement in these areas has been in the same direction.

26. In Bruno (1993) I pointed out the parallels of the reform process in a typical Latin American stabilization and reform with that of Eastern Europe, where the process can be described in stylized fashion in a two-dimensional inflation-growth diagram.

27. Various versions of this index have been prepared by the staffs of the European Bank for Reconstruction and Development (EBRD) and the World Bank for their respective reports—the EBRD's annual Transition Report and the World Bank's *World Development Report 1996* on transition. The data and figures used here are from de Melo, Denizer, and Gelb (1996).

28. Interestingly, the cumulative liberalization index is also closely correlated with an index of political liberalization (see de Melo, Denizer, and Gelb, 1996). Something like the 40 percent inflation threshold also seems to hold in this case. With few exceptions countries have not started to grow after the sharp output declines before inflation came down to moderate levels (the Visegrad countries were within the less than 40 percent, positive growth category by 1993–94, as were Albania and Estonia).

29. Of the $96 billion in revenue from divestiture in developing countries during 1988–93, $55 billion was in Latin America, $18 billion was in Eastern Europe and Central Asia (excluding voucher privatizations and shutdowns), $20 billion was in East and South Asia, and just $3 billion was in Africa (World Bank 1995, p. 28).

30. A glaring example of ineffective conditionality is the one that lies behind part of our empirical finding on the low-inflation reschedulers. In the franc zone countries exchange rate reform was delayed, and they were collectively given the amount of aid recorded. A major policy turnaround occurred only in 1994 with the 100 percent devaluation.

31. In a study carried out at the World Bank (Johnson and Wasty 1993) a composite index of borrower commitment was constructed involving location of initiative for reform (to what extent it is the country's own), level of conviction among policymakers, political will (for example, actions taken before or on inception of the program), and degree of consensus building (for example, the existence of a public campaign for the

program). Eighty-one adjustment programs implemented during the 1980s were measured in terms of borrower commitment and program outcome, showing quite a strong relationship between the two.

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