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No. 3

Evan Kraft: Does Stabilization Work the Same Way in Transition Economies as in Market Economies ?

May, 1996

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**DOES STABILIZATION WORK THE  
SAME WAY IN TRANSITION  
ECONOMIES AS IN MARKET ECONOMIES?**

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## Executive summary

Stabilization is both possible and necessary in transition economies. But does stabilization policy work the same way for transition countries stabilizing very high inflation or hyperinflation as it does in market economies? One reason for doubt is that transition economies have far less developed institutional infrastructure, particularly financial systems, than market economies. The lack of such infrastructure has been hypothesized by various authors to result in different responses to stabilization policies.

This paper examines these questions by studying financial and real sector indicators after stabilization. It compares a group of successfully stabilizing market economies (Argentina, Bolivia, Israel, Mexico and Peru) to a group of successfully stabilizing transition economies (Croatia, Estonia, Latvia, Lithuania, Poland and Slovenia).

The examination of financial sector indicators shows that a combination of real appreciation, rapid accumulation of foreign exchange reserves and a "spike" in real interest rates coupled with long-lasting abnormally high real interest rates are common. Very rapid remonetization, with real money or real quasi-money growing at an annual rate of 100% or more for 1 to 4 quarters is also usually observed, followed by sustained real money or quasi-money growth of 20% or more for another 8-10 quarters. Accompanying this is a rapid fall in velocity, not only in the initial remonetization phase (called "Phase I" in the paper), but also afterwards (in "Phase II").

Regarding the real sector, output declines occurring after stabilization are far greater for transition economies than for market economies. However, there is reason to doubt whether these large output declines can be attributed to stabilization per se; rather, they are associated with the onset of transition, collapse of external markets such as CMEA, and trade liberalization. In addition, stabilization leads to a return to economic growth within 1 or 2 years.

Furthermore, when unemployment is examined, it turns out that the increase in unemployment rates in the quarter after stabilization programs is lower in all transition economies than the increase seen in Israel. Stabilization probably should not be blamed for the continued increasing trend of unemployment in such countries as Poland and Slovenia.

The policy recommendations of the paper are two-fold. First, stabilization works in transition countries; policy-makers should not fear that their economies will not respond to stabilization measures. Indeed, stabilization seems to help in establishing an environment of financial discipline. Second, stabilization should be phased with other policies so as to smooth-out the (quite substantial) costs of the whole process as much as possible.

## Introduction

The recent debate on gradualism versus shock therapy has been given great urgency by the high costs of transition. However, the sources of these costs remains somewhat unclear. Transition policies can be grouped into three sets: stabilization policies, liberalization policies, and restructuring policies. Each of these three sets, or specific policies within them, contribute to transition costs.

The present paper tries to isolate the costs due to stabilization during the transition process. While accepting Bruno's argument (Bruno 1993) that stabilization is both possible and necessary in transition economies, one may ask whether stabilization policy works the same way for transition countries stabilizing very high inflation or hyperinflation as it does in market economies. One reason for doubt is that transition economies have far less developed institutional infrastructure, particularly financial systems, than market economies. The lack of such infrastructure has been hypothesized to result in different responses to stabilization policies. (Calvo and Corricelli 1994, Ickes and Ryterman 1994) In addition, the responses of transition enterprises to market signals may not be the same as those of market enterprises; various "perverse" or survival-oriented responses may occur, which could have important implications for stabilization policy.

However, it is not clear whether such differences would be seen at the level of monetary and financial aggregates, or only in the impact of stabilization on real variables. The argument of this paper is that monetary and financial aggregates generally respond to stabilization in a similar way in transition and market economies. Furthermore, while there are arguments in favor of the idea that the real costs of stabilization may be higher in transition economies, the evidence is rather ambiguous, and much of the apparent costs of stabilization may in fact be costs of liberalization and restructuring.<sup>1</sup>

In order to examine the patterns of post-stabilization experience and the differences between transition and market economies, and the costs of stabilization, I have selected ten countries, four market economies and six transition economies, that have successfully ended high inflation (or even hyperinflation) in recent years. Only countries that have achieved sustained stabilization are considered, since only these countries give a long series of post-stabilization data.

The paper is organized as follows: I begin with a theoretical discussion of the expected behavior of key financial variables after stabilization. Then, I discuss the expected differences between market and transition economies' responses to stabilization. Following this, I examine the time pattern of each of these financial variables in the countries of the sample. Next, I look at evidence on the real costs of stabilization. I conclude with a few observations on the differences between market and transition economies after stabilization.

## Theoretical discussion--post-stabilization experience

According to Dornbusch and Fischer's well-known study of the stabilization of hyperinflation (1986), all successful stabilization programs include fiscal adjustment.

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<sup>1</sup> Taylor (1994) argues that the massive drop in output in transition economies is consistent with the experience of developing market economies undertaking systemic reform. In other words, much of the output cost apparently associated with stabilization in transition economies really should be assigned to systemic change.

Although budget balance may not be immediately achieved, a substantial step in the direction of balance is required. Furthermore, as stabilization takes effect, the Olivier-Tanzi effect adds an additional push to the fiscal rebalance.

Fischer (1995) also comments that at least a short period of fixed exchange rate seems to be usual, if not absolutely necessary. Sachs (1987) suggests that fixing the exchange rate may be sufficient to stabilize hyperinflation, at least temporarily, since in hyperinflation all long-term price contracts are abandoned, and spot exchange rates determine prices. Naturally, simply fixing the exchange rate is inadequate in the medium-term, as Dornbusch and Fischer (1986) and Beckerman (1992) stress.

If exchange rates are to be fixed during a stabilization program, an initial devaluation is likely, to give room for the real appreciation that can be expected as inflation continues with the exchange rate fixed.

Real appreciation may also be expected to result from capital inflows. These inflows may be the result of increased confidence in the domestic currency and the domestic economy. In addition, they may be simply the result of decreased domestic liquidity forcing actors to convert offshore hard-currency savings into domestic cash. (Sheahan 1994) They may also be occasioned by high real interest rates after stabilization.

Regarding interest rates, there are several reasons to expect a sharp spike in real interest rates in the aftermath of stabilization. First, raising key interest rates such as the central bank discount rate is often part of the stabilization program itself. Second, if interest rates are at all sticky in nominal terms, a rapid fall in inflation levels results in ex-post positive real interest rates, often of a very high absolute magnitude. Third, high positive real interest rates may reflect continued lack of faith in the stabilization program (in other words, such rates may be ex-ante very low, but ex-post very high). Fourth, high rates may simply be the product of a sudden upswing in the demand for money. As Fischer and Dornbusch point out, explanations 3 and 4 are mutually contradictory.

A further element in the behavior of interest rates in economies in transition is the likelihood that stabilization will eliminate inflationary gains made by enterprises, or at least remove the veil from enterprise performance. Either way, the real sector is likely to face a liquidity crisis. Such a crisis would bring a sharp increase in credit demand, which would push up interest rates as well.

Real interest rates should fall off after their initial peak. The central bank should be able to ease its discount rate, nominal stickiness should turn to flexibility over time, and confidence in the program should grow. Alternatively, once actors restore their real money balances to the desired level, extreme pressure on interest rate should slacken.

The question of real money balances, and of the money supply, deserves special discussion. Stabilization programs also, of course, rely on tight control of the money supply. Excess liquidity in the economy must be mopped up so as to reinforce the demand-limitations in the program. However, experience shows that monetary aggregates may grow very quickly during and after stabilization.<sup>2</sup>

Although the extent and even the existence of this factor of remonetization have been questioned, it seems that it is a fairly regular pattern in stabilizations. During high inflations or hyperinflations, economic agents substitute foreign currency for local currency. Consequently, real cash balances fall below "normal" levels. Although agents

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<sup>2</sup> The rapid growth of monetary aggregates can create confusion about whether monetary policy is indeed "tight". A better indicator of policy in this situation is interest rates, or liquidity indicators. Tight policy and rapidly growing monetary aggregates are in fact compatible.



incur costs because of their decreased real cash balances (in domestic currency), these costs are offset by the savings accrued by minimizing cash holdings in a high inflation economy.

While any indexed and highly liquid asset might be substituted for cash, in practice, given the openness of economies in the 1980s and 1990s, the most widely-used substitute is foreign currency. For this reason, high inflation generally results in currency substitution.

When stabilization is achieved, the level of real cash balances should rise back to "normal" levels through a process of reverse currency substitution. The process of remonetization, then, is a process of switching from foreign currencies to domestic currency assets in general and narrow money in particular.

One thing that is unclear from this discussion is how long and in what form this remonetization will occur. Should the "normal" level of real balances be reestablished quickly, or is it a long-term process? What determines the "normal" level of real balances? Put differently, what determines the length of the remonetization period?

Logically, it would seem possible that the level of real balances (or equivalently, the income-velocity of money) might "bounce back" to its long-term equilibrium level relatively quickly. However, there are number of reasons for doubting this. First, during high inflation, numerous financial innovations are likely to occur. These will change the "normal" level of velocity from its pre-stabilization level, making the immediate restoration of "normal" velocity less easy. Second, during stabilization, inflationary expectations as well as expectations of other macroeconomic parameters will likely continue to be quite volatile. As expectations change, various components of the demand for money would change, along with velocity.

Third, if we accept the Keynesian argument that velocity is interest-rate sensitive, the very large interest-rate shifts typical of the post-stabilization period would produce significant velocity shifts as well.

Putting all these arguments together, it seems plausible to expect that velocity would be quite unstable after stabilization. In fact, there is a case to be made that velocity should be steadily declining. As confidence is gradually regained, and people shift back to domestic liquid assets, velocity will decrease. Also, as interest rates fall, velocity will trend downward.

On the other hand, continued financial innovations would tend to raise velocity by minimizing the need for cash for payments. This factor suggests at least a possibility that velocity would rise, either temporarily or over a somewhat longer period. The empirical evidence introduced below, however, offers little evidence that velocity actually rises.

A last major element in post-stabilization experiences is the issue of real costs. Given the direct shock to demand resulting from fiscal adjustment and monetary stringency, and the likelihood of an interest rate spike, a fall in output and employment seems likely. Although Sargent (1982) has argued that stabilization can be virtually costless if credible, real costs seems likely, if only because it is implausible to think that credibility can be so rapidly restored. Furthermore, in practice it is difficult for policymakers to hit all their targets; indeed, given the confusion created by high inflation, it is hard to do more than make intelligent guesses as to the equilibrium values of key variables.

Dornbusch (1988) and Wicker (1986) show that in the German and Austrian cases, sharp increases in unemployment occurred after stabilization. Although these declines were fairly quickly reversed, they provide clear evidence that stabilization was not costless in these cases.

In theory, the costs of stabilization are the result of currency appreciation limiting exports, high interest rates curtailing investment and consumption, wage



restrictions (in heterodox programs), and fiscal consolidation limiting aggregate demand. However, in many cases stabilization has a positive effect on exports, whether because of an initial devaluation or because of producers' attempts to switch from the domestic to foreign markets. In addition, investment may be fairly insensitive to short-lived fluctuations in interest rates, for enormous uncertainties about the success of stabilization may postpone investment decisions.

Interest rates may have more effect on working capital and current production, as well as on consumption via their depressing effect on consumer credit. On the other hand, wage restrictions should lead to decreased costs and actually stimulate output.

Fiscal consolidation could have output effects, especially if it includes the ending of producer subsidies. Furthermore, if the Oliver-Tanzi effect is underestimated, demand restrictions required to balance aggregate demand with aggregate supply may be overshoot.

### **Theoretical discussion--market versus transition economies**

The discussion has illustrated the expected results of stabilization. What difference does it make if the economy is in transition?

One major difference is in the financial system. During stabilizations in market economies, economic subjects feel liquidity constraints. They adapt to this in various ways: by converting long-term assets to liquid assets, by converting foreign exchange to local currency, by borrowing, or by defaulting on payments. In transition economies, the menu of options includes all these, but another important option looms especially large: accumulation of arrears to suppliers. This is a result of the weak legal system in transition economies, and especially of the weakness of bankruptcy law and procedure.

Ickes and Ryterman (1994) argue that a liquidity crisis in the forms of an arrears crisis has more severe real effects than a "normal" liquidity crisis (e.g. increase in loan delinquencies).<sup>3</sup> They point out that, in an arrears crisis, payment depends heavily on personal connections between managers, thus favoring incumbent managers—the leaders from the old system. In addition, an arrears crisis spreads the payment problems of a few firms broadly across whole chains of firms. This not only spreads the problem, but also makes it more difficult to identify healthy firms. Both of these effects slow down restructuring, preventing the transfer of resources from less productive to more productive uses, and prolong the adjustment process.

Calvo and Corricelli (1994) add a further element: with financial markets less developed in transition economies, firms may be unable to obtain credit to meet liquidity needs at the onset of stabilization. This "credit crunch" would have real effects: enterprises would be unable to obtain working capital, and would decrease production.

Another difference between economies in transition and market economies lies in the response of enterprises to market signals generally. Firms in a market environment respond to decreased demand with some combination of lower prices, lower output and lower employment, motivated (presumably) by profit-maximization.

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<sup>3</sup> A similar conclusion is reached in Calvo and Corricelli (1994), who argue that the "credit crunch" created by stabilization efforts accounts for a significant portion of output fall.

Transition firms may have different objectives. Some may put maintenance of workers' jobs above profits. Or they may put survival of the firm first. Others may simply be inert, refusing to react to market signals at all.

To the extent that firms do not respond to decreased demand by decreasing prices, cutting costs or making efforts to seek new markets, output decline will be intensified. Furthermore, employment is likely to fall less quickly than output, leading to a pattern of falling productivity and rising costs, which makes recovery more difficult.

Both of these effects lead us to believe that the real costs of stabilization will be higher in transition economies. There is another side of the coin, however. It is possible that stabilization policies actually have positive effects on restructuring. Reduction of subsidies and a general decrease in demand may result in a hardening of budget constraints. Firms find out that they have to seek out markets, lower costs and improve business performance in order to survive. Stabilization, from this viewpoint, could provide a signal that spurs firms to restructure.

The result of stabilization, it seems, depends on how firms react to the signals they receive. This depends on the firms, their history and culture, as well as on firms expectations regarding the behavior and credibility of policy-makers. In short, it is possible that a successful stabilization could trigger the restructuring process and lead to positive developments in the real economy.

The next section of the paper examines the empirical evidence on post-stabilization experience. I begin with monetary and financial variables, and then proceed to real variables.

### **Empirical evidence--financial variables**

To give an idea how high inflation was in the countries of the sample, Table 1 gives maximum quarterly inflation rates (at annual rates) in the year before stabilization.<sup>4</sup>

TABLE 1: INFLATION RATES BEFORE STABILIZATION  
(Highest quarterly retail price inflation at annual rates)

<b>Market economies</b>	
Argentina	1886
Bolivia	38822
Israel	711
Mexico	272
Peru	523518
<b>Transition economies</b>	
Croatia	1925
Estonia	20605
Latvia	10785
Lithuania	6732
Poland	3860
Slovenia	667

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<sup>4</sup> Unless otherwise mentioned, all data comes from *International Financial Statistics*.

In the following discussion, I will look first at fiscal adjustment, then examine exchange rates, forex reserves, interest rates, and finally growth in monetary aggregates.

Fiscal policy: Dornbusch and Fischer's comment that fiscal adjustment is a sine qua non of stabilization is well-supported by the data presented below. Substantial fiscal adjustments are seen in Bolivia, Israel, Mexico, Peru and Poland; in other cases, budgets were more or less in balance already. Budgets are very close to balance during the year of stabilization, except for Mexico. In that case, the primary deficit (not including interest expenditures) was near 0; however, the burden of previous government foreign borrowing remained so high as to throw the whole budget into substantial deficit. (OECD 1992)

TABLE 2: FISCAL BALANCE AND STABILIZATION

Central Government Current Account Surplus as Percentage of GDP

	Year before Stabilization	Year of Stabilization
<b>Market economies</b>		
Argentina (1989, 1990)	-0.4	-0.3
Bolivia (1985, 1986)	-6.1	-0.2
Israel (1984, 1985)	-20.3	-3.5
Mexico (1987, 1988)	-14.3	-10.8
Peru (1990, 1991)	-3.7	-1.4
<b>Transition economies</b>		
Croatia (1993, 1994)	0.2	0.7
Estonia (1991, 1992)	5.1	1.5
Latvia (1992, 1993)	-3.0	-0.1
Lithuania (1992, 1993)	-1.1	-1.0
Poland (1989, 1990)*	-7.4	0.4
Slovenia (1991, 1992)	2.5	0.3

Source: IFS, National Statistical Authorities (Baltics, Slovenia) Data for Poland, 1989 from Balcerowicz (1994)

In addition, the data appear to show that fiscal adjustment among transition economies was generally not too much of an issue. In fact, in some countries, budgetary surpluses were quite large before stabilization. In these two cases—Estonia and Slovenia—surpluses were in part achieved by ending budgetary contributions to the (Soviet or Yugoslav) federation. In addition, these budgetary surpluses were the only means of fighting inflation while monetary policy remained in the control of the Central Bank of the Federation—Gosbank in the Estonian case, and the National Bank of Yugoslavia in the Slovene case. Latvia and Lithuania also had budget surpluses in 1991, for similar reasons.

In several of the other cases, fiscal imbalances were redressed before formal stabilization. For example, in Croatia, the fiscal stance was tightened in late 1992, although the public did not know about this at the time, since budget figures were not published. Formal stabilization began in October 1993. (Anušić et al, 1995)

The relatively small level of fiscal imbalances in the transition economies is quite misleading in three senses: first, both the quasi-fiscal deficit resulting from central bank subsidized lending, and government liabilities due to losses of state-owned enterprises and banks are not reflected adequately in these balances. The quasi-fiscal deficit had

to be made an explicit part of the budget immediately; the liabilities due to enterprise and bank losses are a burden on the budget that will only be handled over a much longer time horizon.

Second, the phenomenon of "tax erosion", as privatization makes the old forms of revenue-collection from state enterprises ineffective, can lead to decreased revenues in the next phase of the transition. This phenomenon has taken most drastic expression in Poland. The Polish budget, in slight surplus in 1990, fell into an enormous deficit of 7% of GDP in 1991.

Bruno (1994) argues that the Polish case is likely to be typical: budgets are highly dependent on profit taxes, but profits are likely to be squeezed as real wages rebound after stabilization; tax collection in the new private sector is likely to be poor; and social programs are likely to expand, especially as unemployment deepens. However, a number of countries, including Slovenia, and Estonia, have avoided this fate, perhaps by heeding the warnings emanating from the Polish experience.

Third, the small fiscal imbalances of this selected group of successful stabilizers is not an indication that transition countries *in general* are faced with only modest fiscal imbalances. The sample is biased: those countries with larger fiscal imbalances are generally not successful stabilizers. The enormous fiscal imbalances--budget deficits up to 20% of GDP--in Russia and Ukraine in 1992 and 1993, for example, prevented successful stabilization.

Exchange rates: As was discussed above, reverse currency substitution is expected to appreciate the exchange rate. Increased demand for domestic currency, and decreased holding of foreign currency, coupled with capital inflows, lead to appreciation. In addition, stabilization strategies that peg the exchange rate lead to appreciation as inflation continues.

In measuring appreciation, I have used the Real Effective Exchange Rate as the basis. Where available, REER data were taken from *International Financial Statistics*. Where this was unavailable, I calculated REER's using data from the *Direction of Trade Statistics* to obtain a group of trade partners accounting for between 64 and 82% of the countries' total trade. REER's were calculated for Argentina, Estonia, Latvia, Lithuania, Mexico and Peru.

Our sample shows four examples of pegged exchange rates-- Argentina, Israel, and Mexico, among market economies, and Estonia and Poland among transition economies, pegged their exchange rates.<sup>5</sup> Argentina and Estonia, in fact, operated currency boards. (Lithuania adopted a currency board as well, but only after stabilization had succeeded).

Graph 1 shows the well-behaved cases. The classic example of smooth currency appreciation resulting from a peg would be Argentina. In addition to the peg, and considerable continued inflation, Argentina experienced very extensive capital account inflows. These all combined to produce continuous currency appreciation through 12 quarters after stabilization.

Bolivia officially employed a floating exchange rate. Morales (1991), however, argues that given the authorities' commitment to unification of the black-market and official exchange rates, the Central Bank's lack of forex reserves and strict rules promising no increase in base-money without increases in reserves, monetary policy was equivalent to a fixed exchange rate system. After 6 months, an unofficial crawling-peg system was introduced.

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<sup>5</sup> Latvia and Lithuania both pegged their exchange rates after inflation was brought under control-- Latvia in February 1994 and Lithuania in April 1994.

The Israeli case appears less classic, but only because of changes in the US dollar. The new shekel was pegged to the dollar from July 1985 to August 1986, and thereafter was pegged to a basket of currencies. In the period of linkage to the US dollar, the real effective exchange rate of the shekel depreciated, since the dollar itself was depreciating in reaction to the Plaza Accords. However, when the peg was switched to a 5-currency basket, the shekel appreciated in real terms, leading to a 10% devaluation in early 1987, which is seen as the jump from quarter 5 to quarter 6 in the diagram. (Beckerman 1992, p. 168-170)

Mexico also fixed its exchange rate at the outset of the stabilization program. A year later, in 1989, it moved to a crawling peg. The pattern of initial appreciation, followed by stability of the real exchange rate, emerges clearly in the graph

Peru is a fairly classic case. Here, despite minor oscillations, appreciation continued for 7 quarters, followed by a real depreciation over the next 2 quarters. This, in turn, was followed by another five quarters of real appreciation. What is most interesting about all of this is that it occurred under a regime of floating exchange rates.

Moving now to the transition countries, the graph shows sharp initial appreciation in Croatia in the quarter before the program officially started and during the first quarter of the program itself. (The program's starting date of October 3, 1993 is in fact the very beginning of the last quarter of 1993 by my methodology). Any appreciation after this initial period is very slight. Although the exchange rate was not fixed, Croatian authorities felt that a stable real exchange rate was crucial to the success of the program, and prevented any further appreciation.

Another well-behaved case in Slovenia. Here, the introduction of the tolar was the occasion for massive real devaluation, meant to overcome the enormous overvaluation of the Yugoslav dinar in the last days of Yugoslavia. Following this, the tolar appreciated smartly for three quarters. A noticeable depreciation is seen in quarter 7, to be followed by a new bout of appreciation after quarter 9. Bole (1995) argues that this new round of appreciation is a result of excessively loose wage policy. High real interest rates, coupled with increasing confidence in the Slovene banking system, may have led to some repatriation of savings as well. High domestic interest rates also caused some domestic firms to borrow abroad.

Graph 2 shows three cases which are superficially not well-behaved, but in fact show the main pattern. In Estonia, the peg to the DM resulted in very strong real appreciation over three quarters. Surprisingly, the kroon then sharply depreciates for two quarters. In fact, this sharp depreciation is due to the substantial appreciation of the Russian ruble. Since Russia remained a major trading partner for Estonia, this resulted in the real depreciation of the Kroon as measured in my calculations of the Real Effective Exchange Rate.

The appreciation of the ruble, incidentally, was mainly due to nominal stickiness in the face of continuing high inflation in 1993. In addition, the real depreciation of the Kroon partially reflects the Kroon's depreciation versus the suddenly-appreciating Latvian Lats and Lithuania Lita.

In Latvia, the pattern is very similar to that seen in Estonia. 8 quarters after stabilization, the new Lat was more than 30% stronger than the pre-stabilization Latvian ruble. Lithuania, which stabilized two quarters after Latvia, shows the effect of the ruble appreciation less strongly. The introduction of the currency board in quarter 4, seems to accelerate appreciation. The Lita, coming last, enjoyed a period of appreciation vis-a-vis its Baltic cousin currencies, the Kroon and the Lat.

In all three cases in the Baltics, the net result is substantial appreciation. As Hansson (1995) suggests, the Baltic currencies were initially set at an extremely low level, to make these economies competitive despite unreformed enterprises, and in relation

to low wage competition from the Former Soviet Union. It is thus to be expected that export performance could be maintained, even improved, despite appreciation, as productivity rose sharply and quality improved rapidly.

Graph 3 shows Poland--a quite different case. Initial real appreciation occurred, despite a nominal devaluation at the beginning of the program, due to continued inflation while maintaining a peg in the first months of 1990. However, depreciation set in from there. Of particular note was the devaluation of May 1991, which is reflected in the large jump in the REER from quarter 4 to quarter 5. After that, the REER oscillates in a fairly narrow range.

The Polish case is distinguished by two elements. First, the peg was short-lived, giving way to a crawling-peg regime 5 quarters after stabilization. Second, and motivating the first fact, Poland kept major focus on its foreign competitiveness, since making payments on its foreign debt and securing the best possible deal from its creditors were perhaps even more important than achieving low inflation.

In summary, although the general expectation of real appreciation after stabilization is confirmed in most of the cases, there is some variety of experience, especially when the REER measure is used.

Forex reserves: The behavior of foreign currency reserves provides some further details for our story on exchange rates. With reverse currency substitution comes the possibility of increased forex reserves. Graph 4 shows the well-behaved cases. The countries with the most rapid rate of growth of reserves are new countries that started without significant reserves. These countries had to emphasize reserve accumulation both to secure international payments and to establish reputation in the international community. These considerations largely explain the rapid accumulation of reserves in Latvia, Slovenia, and Estonia. Croatia's reserve accumulation seems slower only because it had already accumulated significant reserves by the time stabilization began in October 1993.

Reserve accumulation in Argentina and Peru was the result, in addition to stabilization per se, of the inflow of capital into Latin America in the early 1990s. Both cases show steady and significant reserve growth even 16 quarters after stabilization.

In Croatia, reserve accumulation has been rather steady, and quite strong. The National Bank of Croatia has used forex purchases to avoid currency appreciation, and to bolster its reserves. *Pari passu*, forex purchases have served to increase the money supply, although significant sterilization has also been effected by raising reserve requirements and requiring that banks purchase NBC bills.

In Estonia, reserve accumulation has been almost linear. The return of pre-World War II gold allowed the establishment of the currency board at the beginning of stabilization. After that, rapid growth in direct investment provided the basis for strong capital inflows in 1993 and 1994. As Hansson (1995) points out, Estonia experienced the highest rate of FDI inflow/GDP of all transition countries in 1993 and 1994.

Latvia also shows very impressive growth of reserves, much of it coming in the second quarter after stabilization. Reserve growth has continued more modestly since then. In Latvia, capital inflow was a mix of FDI and loan capital; in Lithuania (data not shown due to incomplete series), which shows strong reserve growth in 1994, official loan financing was the key form of capital inflow. (Hansson 1995)

In Slovenia, reserve accumulation was very sharp through 1992. Reserve accumulation was a key goal of policy in that year, as Slovenia, which came into existence as an independent state in October 1991 with practically no reserves, attempted to establish a comfortable level of reserves. (Cvikl, Kraft and Vodopivec 1993) Kranjec (1995) argues that capital inflows were mainly driven by repatriation of

household savings deposited in neighboring countries, and increased enterprise borrowing abroad to circumvent high domestic interest rates.

Graph 5 shows the less well-behaved cases. In Bolivia, an initial accumulation of reserves in the first two quarters quickly turned into a decumulation. Capital inflows, including repatriation of savings and official transfers, were not strong. Morales (1991) argues that these inflows were not adequate to finance growing fiscal deficits after stabilization, causing the authorities to draw on forex reserves. It should be remembered that the Bolivian stabilization occurred in the environment of the 1980s, in which private capital flows to Latin America were minimal.

In Israel, reserve accumulation sputtered, stalling for three quarters after quarter 1, jumping up in quarter 5, and then again in quarter 8. Reserve accumulation follows on the devaluations of August 1986 (quarter 5) and January 1987 (quarter 7).

Mexico's stabilization effort was in part a reaction to the capital flight caused by the 1987 stockmarket meltdown. It proved impossible to immediately reverse capital flight, and reserves fell through the end of 1988. The success of the program turned this situation around by 1989, and in the ensuing quarters, a strong inflow of capital began, and reserves accumulated.

Poland is one of the rare cases in which reserves do not grow continuously. The fall in reserves in quarters 4 and 5 may be an attempt to defend the zloty before its May 1991 devaluation. Subsequently, when the Zloty was put on a crawling-peg, fluctuations in reserves had little trend until quarter 13, when a sharp increase began. This increase is probably related to the upsurge in portfolio investment once the trough of the "transition depression" was reached.

In conclusion, the behavior of reserves after stabilization is relatively straightforward. Reserves tend to grow due to the increased confidence in the stability and future prospects of the economy. This is a virtuous circle, since agents both inside and especially outside the country see the increased reserves as a sign of stability. The duration of the period of growing reserves depends on the capital flows induced by stabilization. Where capital inflows are weak, reserves may have to be used to maintain a fixed peg. Also, newly-independent countries may intentionally target reserve accumulation as a policy-aim, and display rapid rates of reserve growth.

Interest rates: As was discussed above, the textbook argument is that successful stabilization is likely to be accompanied by very high interest rates, as rapidly increasing demand for money pushes interest rates up. Of the eight countries for which data is available, five show the expected pattern: a fairly sharp initial spike in real interest rates, followed by a gradual fall. Notably, in most cases, real interest rates remain as high as 20% or 30% long after stabilization.

However, in three cases a different pattern was seen: interest rates remaining negative in real terms even after stabilization. In these cases, real interest rates actually rose as time went on. Table 2 summarizes the data. In the table, Phase I refers to the initial period of rapid remonetization, and Phase II refers to the following period of slower remonetization (see the next section for further explanation).



TABLE 3: REAL LENDING RATES AFTER STABILIZATION

	Phase I	Phase II
<b>Market economies</b>		
Argentina	-27.70	- 0.64
Bolivia	141.48	33.23
Israel	51.37	33.00
Mexico*	17.97	5.51
Peru	307.56	57.39
<b>Transition economies</b>		
Croatia	30.04	15.47
Estonia	-75.48	-14.60
Latvia	63.63	13.65
Lithuania	3.59	2.95
Poland	-19.17	-2.64
Slovenia	23.88	17.87

\*Money market rate

Graph 6 shows the "textbook" cases. In the Bolivian case, Sachs (1987) argues that high interest rates in the first months of the stabilization program are a strong sign that the program was not considered credible at the beginning. Morales (1991) suggests that high lending-borrowing spreads (over 12% at the peak in mid-1987) may have persisted because of severe decapitalization of banks due to capital damage to banks from "de-dollarization" measures of 1982, heavy financial disintermediation combined with overextension of branches and overstaffing of banks during hyperinflation.

Another the well-behaved cases is Israel, in which real interest rates leaped to over 80% a quarter after stabilization, and plunged below 20% two quarters later. However, rates continued to oscillate, staying above 20% through 7 quarters.<sup>6</sup>

Mexico also shows the usual pattern, although not in such an extreme degree. Real interest rates do jump to near 20%, then fall to a manageable 5% in the second phase.

In Peru, real interest rates exceeded 300% 3 quarters after stabilization, and only fell to the range of 50% 6 quarters after. 17 quarters after stabilization, rates remain over 20%. Sheahan (1994) comments that such high real interest rates "were more a matter of pathology than of any positive economic function." Indeed, in addition to squelching domestic investment, such high interest rates only served to encourage capital inflows, leading to even greater exchange rate appreciation and further deteriorating export performance.

Moving to the transition economies, the Croatian pattern also shows very high real interest rates in the initial phase, with high interest rates remaining, and rates even growing in the last quarter. Interest rates may in fact have been somewhat higher than

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<sup>6</sup> Given Israel's extremely high real interest rates, it may seem remarkable that economic growth was so robust after stabilization. However, as Bruno and Meridor (1991) document, directed credits to agriculture and for exports (mainly to manufacturing) carried much lower interest rates. In fact, the average real interest rate on short-term credits to manufacturing was only 1% in 1986, and 10.1% in 1987—some 16 percentage points below average free market credit rates.

the data suggests, since many banks required clients to deposit one-third to one-half of the loan amount in the bank, and/or charged other forms of fees.

Data for Slovenia show a very slight increase in real interest rates in the initial phases of stabilization. However, the initial rise in rates probably occurred in the first month of stabilization (October 1991), for which I do not have data. Real positive rates were assured in Slovenia by universal indexation.

The other interesting feature of the Slovene case is the one-time fall in interest rates in the second quarter of 1993. In fact, this is due to bank rehabilitation, which removed bad assets from Ljubljanska Banka, the country's largest bank, at this time. (Kraff 1995)

Graph 7 shows the "non-textbook" cases. Among the market economies, the exceptional case is Argentina. Real interest rates are actually negative for much of the period after stabilization. This is due to massive capital inflows. Argentine policy-makers attempted to stanch the capital inflow by recourse to low interest rates. This, incidentally, helped stimulate very rapid growth in real GDP after stabilization.

The other two transition economies belong to the exceptional category. Estonia, operating a currency board like Argentina, also shows strongly negative real interest rates which rise towards zero over time. Although repatriation of offshore savings, which played such a key role in the Argentine case (Rodriguez 1993), was not a major factor, interest rates remained low.

Poland, also saw negative real lending rates. In the early periods of stabilization, this is probably due to inflation overshooting expected inflation. In other words, interest rates were most likely *ex ante* real positive but *ex post* real negative.

In mid-1990, the authorities became worried about monetary overkill exacerbating the transition recession, and policy eased. However, this easing was short-lived, as inflation began to accelerate again. Strong contractionary measures taken in fall-winter 1990 probably explain the marked rise in real lending rates in the first two quarters of 1991 (quarters 5 and 6).

Furthermore, price liberalization in 1990 led to significant inflation of enterprise profits. Since enterprises were suddenly very profitable, their demand for credit was quite limited in this period. By 1991, these profits had dried up, demand for credit rose, and with it came positive real interest rates. (Schaffer 1992)

Even these positive rates did not last. Since economic growth was still not forthcoming, monetary policy was once again relaxed, and real rates dropped down below zero. Only as growth became strong in 1993 did real rates start to reach positive levels again.

This analysis of interest rate trends shows two different categories of cases. The first, classic set of cases, involves a very sharp spike in interest rates. These cases fit both the pattern observed in earlier hyperinflations, and the theoretical considerations mentioned above.

The second, exceptional set of cases, show negative real interest rates in the initial stabilization period. The fact that two of these three cases are associated with currency boards is more than suggestive. In currency board schemes, central bank lending to banks is not allowed, so domestic credit contracts without any need for high interest rates. Also, since currency board schemes tend to produce a high degree of confidence and rapid capital inflows, low interest rates will be needed to contain pressures for appreciation.

Put differently, one can look at this in terms of the theory of uncovered interest parity, according to which interest rate differentials must equal the difference between expected future exchange rates and current rates. With a currency board, expected future rates equal the current rate, so domestic interest rates equal foreign rates. If,

however, domestic inflation is above foreign, real interest rates will be lower at home than abroad—possibly even negative.

The Polish case is more truly exceptional. Here, price liberalization had a major impact on interest rates, depressing demand for credit in 1990 (the first 4 quarters in the diagram). In the following quarters, positive real rates were not consistently maintained, as monetary policy sought to combine gradual disinflation with the restoration of economic growth.

Remonetization: Looking at the rate of real money growth, we see a characteristic pattern. In the first phase, extremely rapid growth—above 50% annual rate—is seen, for 1-5 quarters. After this, a second phase is seen, in which growth remains strong, but at a lower rate of 20-40%. Tables 3 and 4 give a numerical overview of this pattern.

TABLE 4: REAL MONEY GROWTH IN PHASE I AND PHASE II

	PHASE I	PHASE II	QUARTERS IN PHASE I
<b>Market economies</b>			
Argentina	109.89	22.12	5
Bolivia	55.35	18.57	6
Israel	124.16	20.36	5
Mexico	34.27	101.99	4
Peru	64.95	15.01	1
<b>Countries in transition</b>			
Croatia	217.26	27.93	3
Estonia	449.41	9.88	1
Latvia (M2)	104.10	38.50	2
Lithuania	828.41	43.60	2
Poland	162.16	-4.10	2
Slovenia	65.93	21.30	2

TABLE 5: REAL QUASI-MONEY GROWTH IN PHASE I AND PHASE II

	PHASE I	PHASE II
<b>Market economies</b>		
Argentina	39.34	39.02
Bolivia	267.59	18.57
Israel	-10.82	3.92
Mexico	82.34	31.30
Peru	434.10	29.72
<b>Countries in transition</b>		
Croatia	145.93	20.44
Lithuania	37.68	78.69
Poland	-22.82	6.66
Slovenia	58.11	42.57

Graphs 8 and 9 show the market economies. Phase 1 in Argentina lasted 5 quarters, with growth rates of real money averaging well over 100%. Growth continued above 20% to the 15th quarter. As Rodriguez (1993) stresses, a good deal of this growth comes from the repatriation of dollars held abroad. In addition, Argentine banks were allowed to grant dollar credits, providing a multiplier effect.

In Bolivia, the first phase lasted 6 quarters, with quasi-money growth well over 250%. Growth of 20% or more continued through the 9th quarter. What is particularly interesting in Bolivia is that quasi-money grows rapidly in the initial phase, but narrow money only begins to grow rapidly in quarters 5 and 6, indicating that confidence in the local currency was very hard to restore. Capital inflows were relatively weak in the Bolivian case, so this is a clearer example of reverse currency substitution driving the remonetization.

In Israel, high growth did not appear until the second quarter, and continued for a total of 5 quarters. Real money growth consistently exceeded 100% annually. After this, growth of 20-40% was seen through the end of the sample at quarter 11. In this case, much of the growth in narrow money occurred due to substitution of shekel for dollar accounts, and quasi-money growth was relatively weak. Israel restored confidence in the currency more quickly than most of the other countries in the sample.

In Mexico, high growth resulted from the return of flight capital, much of which had moved overseas in the aftermath of the stockmarket crash in October 1987. The restoration of confidence in Mexico came gradually in 1988 and 1989, thanks to the Pacto and the stabilization program in general. Quasi-money growth, driven by the repatriation of dollars, far outpaced money growth.

In Peru, the high growth period (for quasi-money) was shorter, lasting only one quarter. Quasi-money growth then slowed, but did approach a 50% annual rate as late as 7 quarters after stabilization. Even 15 quarters after stabilization, growth was still above 20%. Rapid growth in narrow money did not come until quarter 9—sign of great difficulties regaining public confidence.

Turning now to the transition countries, in Croatia extremely rapid growth in money occurred for two quarters. Once this initial remonetization was over, however, strong growth has continued. Although the sample for Croatia is not as long as for the other countries, the pattern so far looks quite similar: continued real growth rates nearing 30% annually.

Estonia generally follows the pattern as well, but, as might be predicted due to the currency board, monetary growth is unusually slow. Thus, after only 1 quarter of rapid remonetization, Estonia experienced relatively restrained 9.88% real money growth on average in Phase II.

Both the Latvian and Lithuanian cases resemble "normal" market economies. Phase II growth rates are actually the highest in the transition part of the sample. This implies a continuing strong trend in velocity, especially considering that real GDP was falling during most of the period under discussion.

In Slovenia, the high growth period lasted only two quarters, the third and fourth quarters after the initiation of the stabilization program. These were also the first two quarters in which monthly inflation rates fell consistently below 5%. As with the other cases, when monetary growth fell thereafter, it did not fall anywhere near zero, but remained quite rapid. Interestingly, Slovenia's numbers are quite comparable to both Bolivia's and Peru's as far as narrow money is concerned. The two Latin economies show much faster quasi-money growth in Phase I however, perhaps indicating a higher degree of dollarization during the period of high inflation.

The last case, Poland, is again exceptional. While a rapid remonetization is seen—162.16% growth in real money over two quarters—real money contracts

thereafter. Part of the story, as suggested in the theoretical discussion above, may be institutional innovations that speeded up payments and reduced the need for cash. However, another part of the story would have to be the continued struggle to control domestic demand to service the foreign debt and contain still substantial inflation.

Before summarizing, it is interesting to look at the behavior of velocity in these cases. Due to data limitations, I was only able to calculate velocity on an annual basis. Still, the message is clear: velocity falls dramatically once stabilization takes hold.

TABLE 6: CHANGE IN VELOCITY OF M1 AFTER STABILIZATION (%)

	Year After	Second Year After
<b>Market economies</b>		
Argentina	-23.2	-12.0
Bolivia	15.8	-27.7
Israel	-41.2	-20.2
Mexico	-4.2	-11.7
Peru	0.6	-16.2
<b>Transition economies</b>		
Croatia	-49.0	-20.1*
Estonia	-24.9	10.9
Latvia	-25.3	na
Lithuania	-45.8	na
Slovenia	na	-38.5
Poland	-4.6	-8.2

\* First three quarters

Velocity tends to decline sharply the year after stabilization. The exceptions are Bolivia and Peru, where confidence in the currency was very slow to materialize. In those countries, it took till the second year after to achieve significant decreases in M1 velocity.

Summarizing, the moral of this section is fairly clear: rapid remonetization is a usual phenomenon after high inflation. Not only that, rapid monetary growth and a declining trend in velocity may continue 10-15 quarters after stabilization. Even in transition economies, where velocity-increasing financial innovations might be expected, the finding of decreased velocity seems to hold. Substantial declines in interest rates may be part of the reason for decreased velocity, although the cases of Estonia and Poland, with rising (but negative) real interest rates and declining velocity suggest that this is not the whole story. Rather, it seems that increased confidence in the currency induces a return to cash and checkable deposits, and that this process of restoring confidence and reverse currency substitution lasts many quarters, indeed several years.

#### **Empirical evidence--real costs**

##### Real GDP

At first glance, the biggest difference between market economies and transition economies is seen in the impact of stabilization on real GDP. As Table 7 shows, the difference is enormous.

TABLE 7: REAL GDP GROWTH DURING AND AFTER STABILIZATION

	Year before	Year of	First Year After	Second Year After
<b>Market economies</b>				
Argentina	-6.2	0.0	8.9	8.7
Bolivia	0.0	0.0	-2.8	2.0
Israel	2.3	3.7	3.3	7.1
Mexico	1.7	1.2	3.3	4.4
Peru	-11.8	-4.4	2.7	-2.8
<b>Transition economies</b>				
Croatia	-3.7	0.8	na	na
Estonia	-11.8	-21.6	-6.6	6.0
Latvia	-38.0	-17.0	2.0	na
Lithuania	-35.0	-15.0	2.0	na
Poland	13.7	-27.1	-7.0	2.6
Slovenia	-8.4	-5.1	1.3	5.0

In market economies, the successful heterodox programs, most especially the Israeli one, show very low output costs. Argentina also very low costs—a year of no growth followed by several years of very rapid growth. Mexico, too, has only a year of slow growth, followed by acceleration in the next two years. However, the Bolivian and Peruvian hyperinflation cases, like the post-World War I German and Austrian ones, show more significant output costs.

The data for transition economies have to be handled with some care. For one thing, because they are annual data, some arbitrariness is introduced. Slovenia, Croatia and Latvia all introduced stabilization plans in October of the given year; I have therefore taken the next year as the year of stabilization (1992 for Slovenia, 1993 for Latvia, 1994 for Croatia). Changing the choice of year would substantially raise the apparent costs of stabilization.

Furthermore, the data for Poland, Estonia and Slovenia in particular are heavily affected by the collapse of CMEA, the ex-Soviet market and the ex-Yugoslav market respectively. In a sense, the first two are costs of transition.

On the other hand, the enormous falls shown by Latvia and Lithuania are for 1993—after the biggest drop-off in ex-Soviet trade.

In addition, output fall in the transition economies is probably considerably overstated, due to the difficulty of tracking the new private sector. Much controversy exists over the extent of this bias. These figures are taken from the IMF, which in turn relies on official statistical sources that probably understate GDP and overstate output fall.

While it appears that GDP fell enormously in the year of stabilization in many transition countries, it also is clear that the next post-stabilization year brought either a dramatic decrease in output decline or actual growth. Furthermore, with the exception of Estonia and Poland, GDP growth actually improved during the year of stabilization; output declines were greater the year before stabilization than the year of stabilization. It therefore becomes difficult to assign the output decline in the year of stabilization to the stabilization process itself.

The case of Croatia is especially interesting. There, output actually rose slightly in the year of stabilization. However, there is some reason to believe that the costs of

stabilization were borne even before the official announcement of the stabilization program. Monetary tightening began in August 1993, with the result that real money balances fell some 23% by the end of September—that is, before the announcement. This produced a sharp real appreciation, and very likely output decline (although monthly GDP data are unavailable).<sup>7</sup>

Finally, there is the Polish case. Here, in the original "big bang", stabilization and liberalization measures were introduced at one go. Most likely, both the output increase in 1989 and the output fall in 1990 are overstated. And the whole initial impact of transition is seen in the 1990 output decline.

Taking all this in consideration, it is difficult to say whether stabilization caused greater output declines in the transition economies than in market economies. Thanks to our preceding discussion, furthermore, it is clear that any difference between transition and market economy real effects cannot be due to more unfavorable behavior of monetary aggregates or interest rates. Certainly, there are no cases of transition economies returning to growth as rapidly or as vigorously as Israel or Argentina did.

In general, it seems more fair to attribute the lion's share of the large output losses to transition processes rather than stabilization programs. In conclusion, it seems reasonable to conjecture that stabilization costs per se were on a similar order of magnitude to those in market economies; if costs were higher they were higher by a small amount only.

### Unemployment

Another indicator of the real costs of stabilization is unemployment. Table 8 provides quarterly data.

TABLE 8: STABILIZATION AND UNEMPLOYMENT  
(registered unemployment, % of labor force)

	Quarter before	Quarter of	First Quarter After	Second Quarter After	Third Quarter After
<b>Market economies</b>					
Israel	na	5.9	7.8	7.1	6.7
<b>Transition economies</b>					
Croatia	19.8	18.9	19.2	19.2	19.2
Estonia	na	1.0	1.7	2.4	2.2
Latvia	0.6	1.2	2.3	3.2	4.5
Lithuania	1.4	1.6	1.7	1.6	1.6
Poland	na	1.5	3.1	5.1	6.1
Slovenia	8.6	9.8	10.6	10.9	11.8

Sources: OECD, National Bank of Croatia, Bank of Slovenia, United Nations Monthly Bulletin of Statistics (Israel)

<sup>7</sup> I would like to thank Velimir Šonje for pointing out the pre-announcement impact of stabilization. For more on stabilization in Croatia, see Anušić, Rohatinski and Šonje (1995).



Israel is a fairly typical case for market economies. A sharp rise in unemployment was seen, despite the use of heterodox methods to minimize the real costs of stabilization. Unemployment only fell substantially in the first quarter of 1987, a year and half after the stabilization program began.

Bolivia, on the other hand, showed steadily rising unemployment through the early and mid-1980's. Unemployment rose from 15.1% in 1984 to 18% in 1985 and 20% in 1986. There is no clear impact of stabilization to be seen. And Mexican annual data shows no negative impact of stabilization at all: unemployment falls from 3.9% in 1987, to 3.6% in the stabilization year of 1988 and 3.0% in 1989.<sup>8</sup>

In the transition economies, there seem to be two kinds of cases. In the first group are countries with very small unemployment responses (Croatia and Lithuania). Here, unemployment rates are hardly affected by stabilization at all. In the second group are countries with large and continuing unemployment response (Slovenia, Latvia, Poland). Here, unemployment rates rise by 3-4 points the first year, and another 1.5-8 points the second year. Estonia<sup>9</sup> forms a separate case, in that a noticeable increase in unemployment occurs initially after stabilization, but then unemployment falls.

Two of the cases of sustained increase in unemployment were fuelled by the collapse of markets. Slovenia faced the collapse of the ex-Yugoslav market in its post-stabilization year, and Poland faced the collapse of CMEA in its post-stabilization year. Perhaps, without these shocks, their unemployment increase would have been more moderate, like Latvia's.

It is interesting to compare the increases in unemployment across economic systems. Israel's 1.9% jump in unemployment in the quarter after stabilization outpaces all the transition economies, although Poland (1.6%) and Latvia (1.1%) are not too far behind.

The lack of consistency in the behavior of unemployment in the transition economies post-stabilization may be less a reflection of differing costs of stabilization than a reflection of differing rates of restructuring.<sup>10</sup> Restructuring cuts two ways: it tends to increase unemployment through layoffs at existing firms, but it also increases re-employment at new firms. In Slovenia and Poland, layoffs were more rapid; in Estonia, re-employment by the new private sector was more rapid.

It is quite plausible that employment is more rigid to demand shocks of the kind created by stabilization in many transition economies, given institutional and historical limits on firings, and the perceived dangers of social unrest. One of the keys to the resistance to adjustment in most transition countries has been the use of interenterprise

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<sup>8</sup> These are official unemployment figures. It is doubtful whether they accurately reflect the real levels of unemployment. However, alternative estimates by the National Institute of Statistics, Geography and Informatics (INEGI) seem to show the same trend. See OECD (1992, Appendix II).

<sup>9</sup> For Estonia, there is a very significant difference between the data on registered unemployment given in the table above, and labor force surveys. The latter show unemployment in Estonia near 10% in the last quarter of 1992, falling to 7% by the last quarter of 1994. The reason for the difference between registered unemployment and survey unemployment is the extremely low level of unemployment benefits, as well as stringent conditions on receiving such benefits. Unfortunately, since survey data begin in the last quarter of 1992, we cannot use them to test the impact of stabilization. (Cornelius 1995)

<sup>10</sup> Transition economies are hardly the only ones to be forced to restructure. Wicker (1986) points out that much of the unemployment in Austria after stabilization of hyperinflation after World War I reflected restructuring of Austria's bureaucracy and economy to a smaller state territory and the imposition of tariffs (a smaller home market). For contemporary evidence, see Cornelius (1995).

arrears as a form of credit expansion. By simply not paying bills to suppliers, enterprises continue to exist, and limit the need for adjustment (Ickes and Ryterman 1994).

Stabilization programs, of course, create severe liquidity constraints even in market economies. Rising loan delinquency rates are common after stabilization. The case of Bolivia is a good example (Morales 1991): Overdue loans/assets rose from 7.5% in 1986 to 8.0% in 1987 and as high as 11.4% in the first quarter of 1988.

Among the transition economies studied, all have had noticeable arrears problems. In Croatia, arrears grew from 1 billion Kuna in January 1994, just after stabilization, to some 5 billion Kuna in August 1995. This latter sum represented approximately 6% of GDP.

Latvia had arrears close to the very high Russian levels in May 1992, perhaps as high as 50% of GDP, according to Rostowski (1994). Poland also had a major arrears upsurge in 1990, but then the problem fell off, as arrears fell from 18% of GDP pre-stabilization to 10% of GDP post-stabilization. Estonia's arrears problem peaked with the bank crisis of November 1992; bank illiquidity brought payments to a crawl. The resolution of the bank crisis also resolved the payments crisis (Hansson 1995).

The combination of rapid decline in GDP due to transition, loss of markets and stabilization, and slow declines in employment—facilitated by the arrears crisis—points to worrisome real economy implications of stabilization and systemic reform in slowly restructuring transition economies. The burden is more generalized, and very likely, more long-lasting, because of this pattern. Decreasing output without decreasing staffing means falling productivity, diminished competitiveness, and little likelihood of quick emergence from crisis.

In general, it seems probable that unemployment costs of stabilization are not higher in transition countries than in market economies. However, this conclusion is clearer in slowly-restructuring transition economies; in those restructuring more rapidly, growth in unemployment after stabilization seems broadly comparable to that in market economies.

### **Conclusions--some implications for policy**

The evidence examined above suggests that those who suggested that transition economies can be stabilized just like any other economies are part right—and part wrong. True, the basic macro relations hold: exchange rates appreciate, forex reserves accumulate, interest rates spike and monetary growth swells. Furthermore, there is little clear evidence that stabilization per se has higher output or unemployment costs in transition economies than in market economies.

To put it another way, it appears that transition economies have no more reason to fear stabilization programs than market economies. However, this conclusion must be further qualified by the fact that this paper has studied only *successful* stabilizations; it may be that unsuccessful stabilizers have been unsuccessful precisely because real costs were high.

Despite the many similarities between stabilization in market and transition economies, the mechanisms are not entirely the same, as payments problems and enterprise arrears proliferate. Also, there is some evidence that the mix of costs may be different: somewhat higher output costs and lower unemployment costs. Most of all, even if stabilization has limited costs by itself, it is accompanied by systemic changes that have very high costs.

All this implies that, while policymakers in transition countries need not postpone stabilization, they should be aware of the need to phase the whole reform program so as to smooth out the costs of transition. For example, it may be advisable to begin with

stabilization, liberalization of prices and complete liberalization of conditions for entry for small business, both of which create conditions for private sector growth. Foreign trade could be liberalized immediately as well, but it might be advisable to follow McKinnon's suggestion of a phased reduction in tariff levels to avoid to large an initial employment impact. (McKinnon 1991)

In this scenario, measures that would drastically reduced unemployment, such as the introduction and implementation of strict bankruptcy laws, efforts to restructure key large enterprises, and the reduction of trade barriers to very low levels, could be adopted later, in phase with the growing ability of the economy to absorb labor.

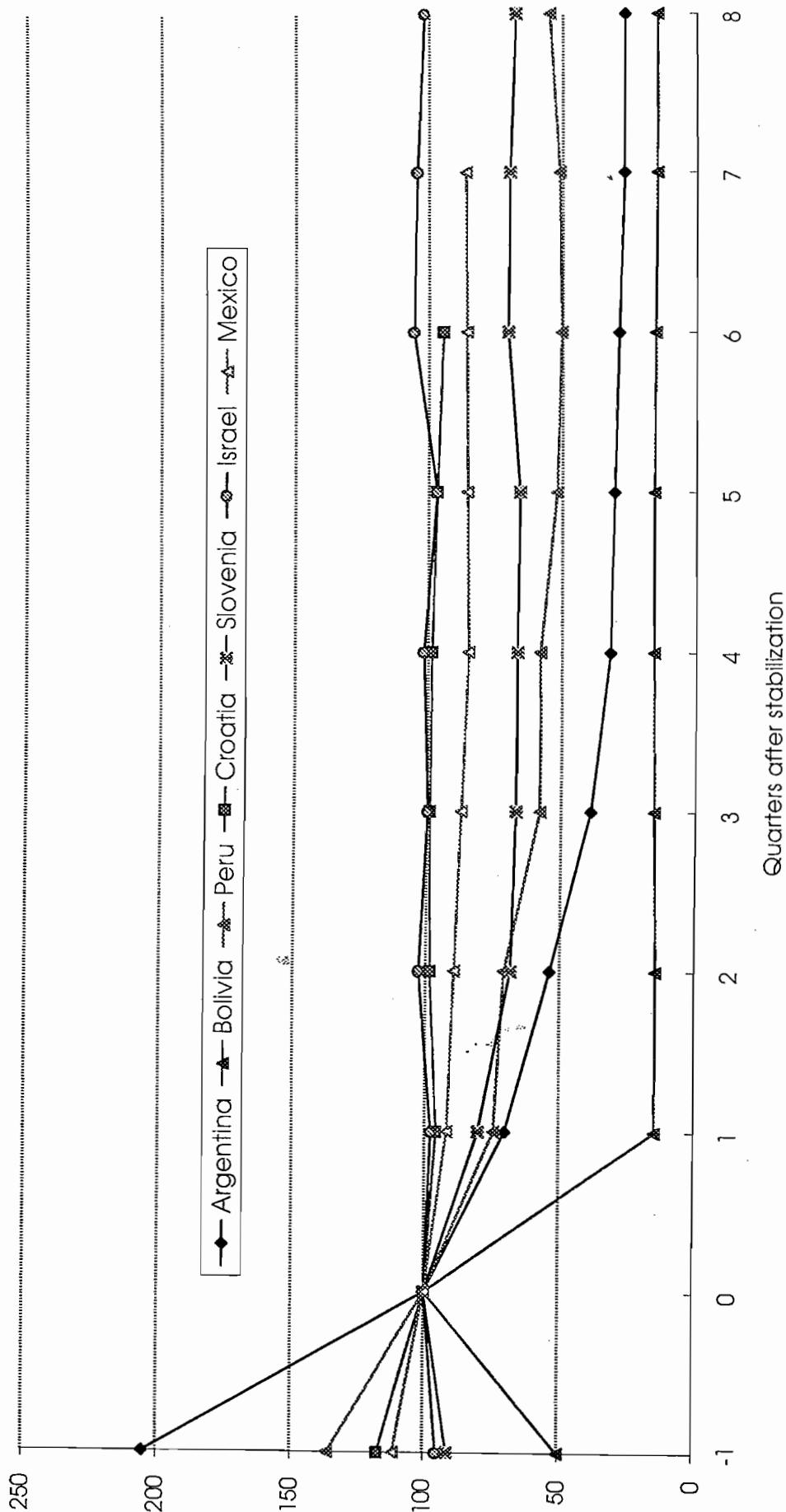
While this scenario may be disputed, it remains clear that the social and political costs of transition are high, and that policymakers need to evaluate the probable costs of each element of the reform measures so as to achieve the best achievable path of reform. Stabilization policies, in most cases, seem to be a necessary beginning, not to be avoided by reference to the "special circumstances of transition economies". At the same time, it remains obvious that "normal" conditions have not yet been achieved, and that much work must be done before stabilization of inflation can turn into stable, long-term growth.

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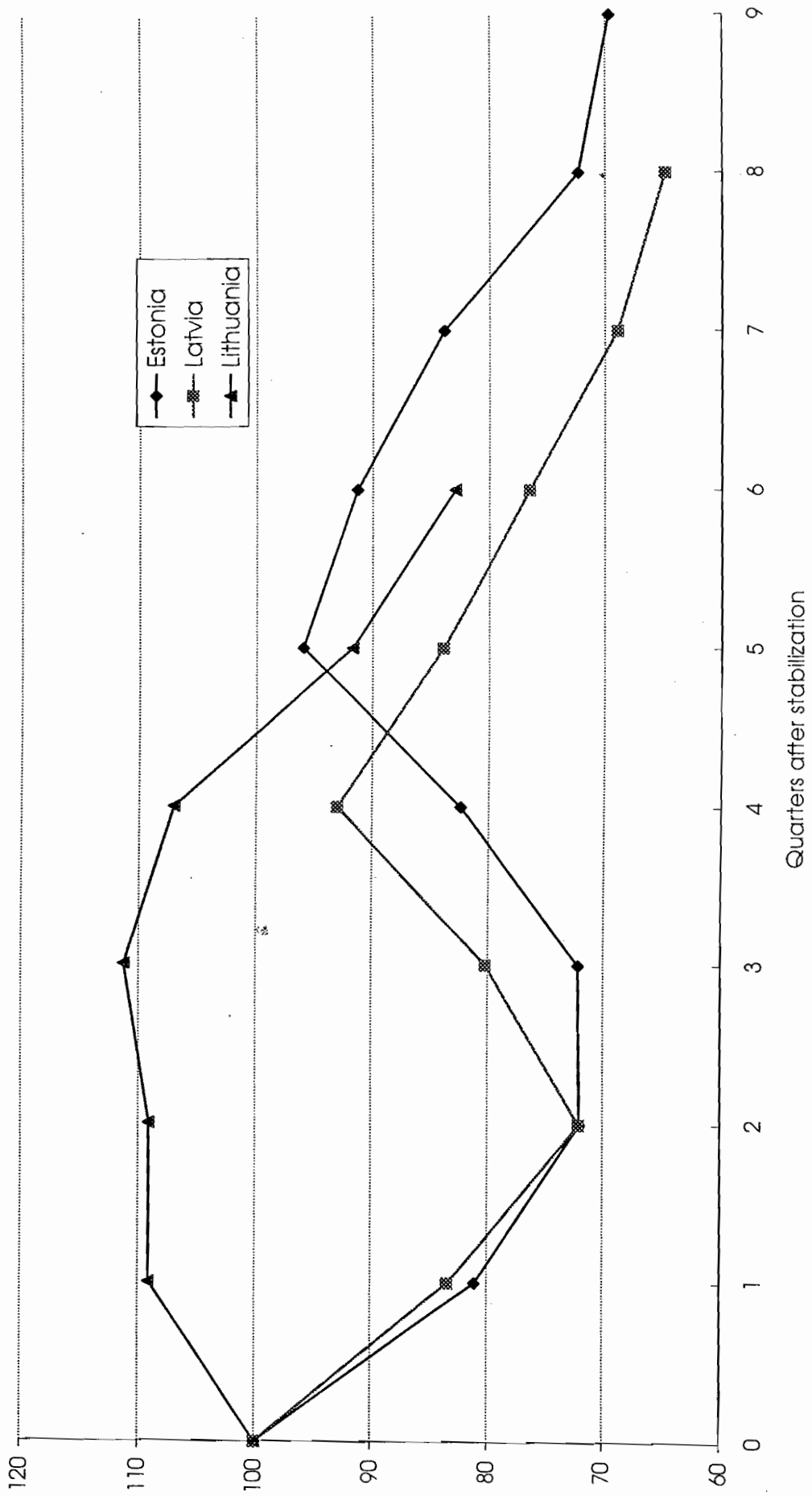
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Graph 1: Real Effective Exchange rates after stabilization  
 Argentina, Bolivia, Peru, Israel, Mexico, Croatia and Slovenia

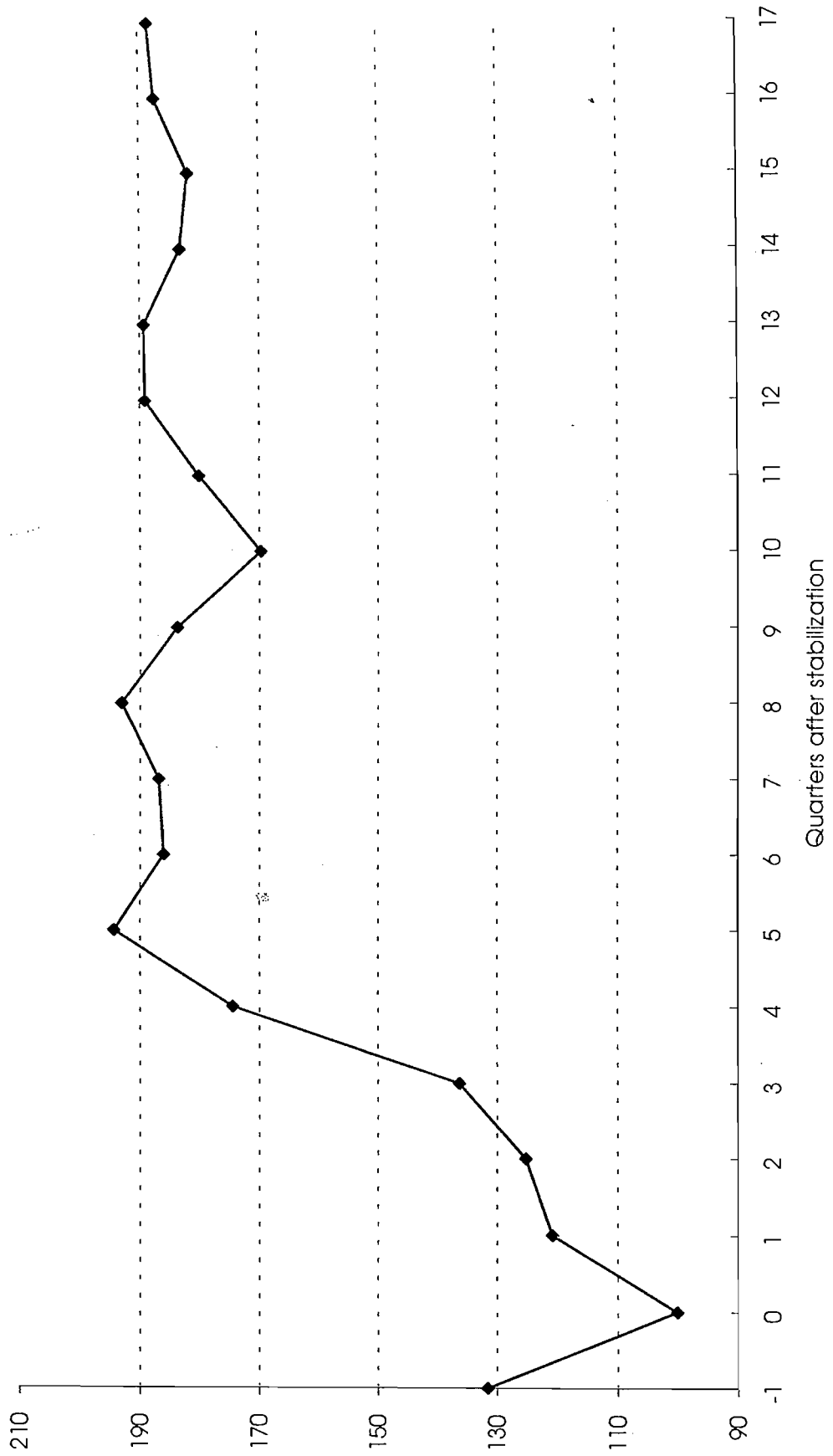


Graph 2: Real effective exchange rate after stabilization  
Estonia, Latvia and Lithuania



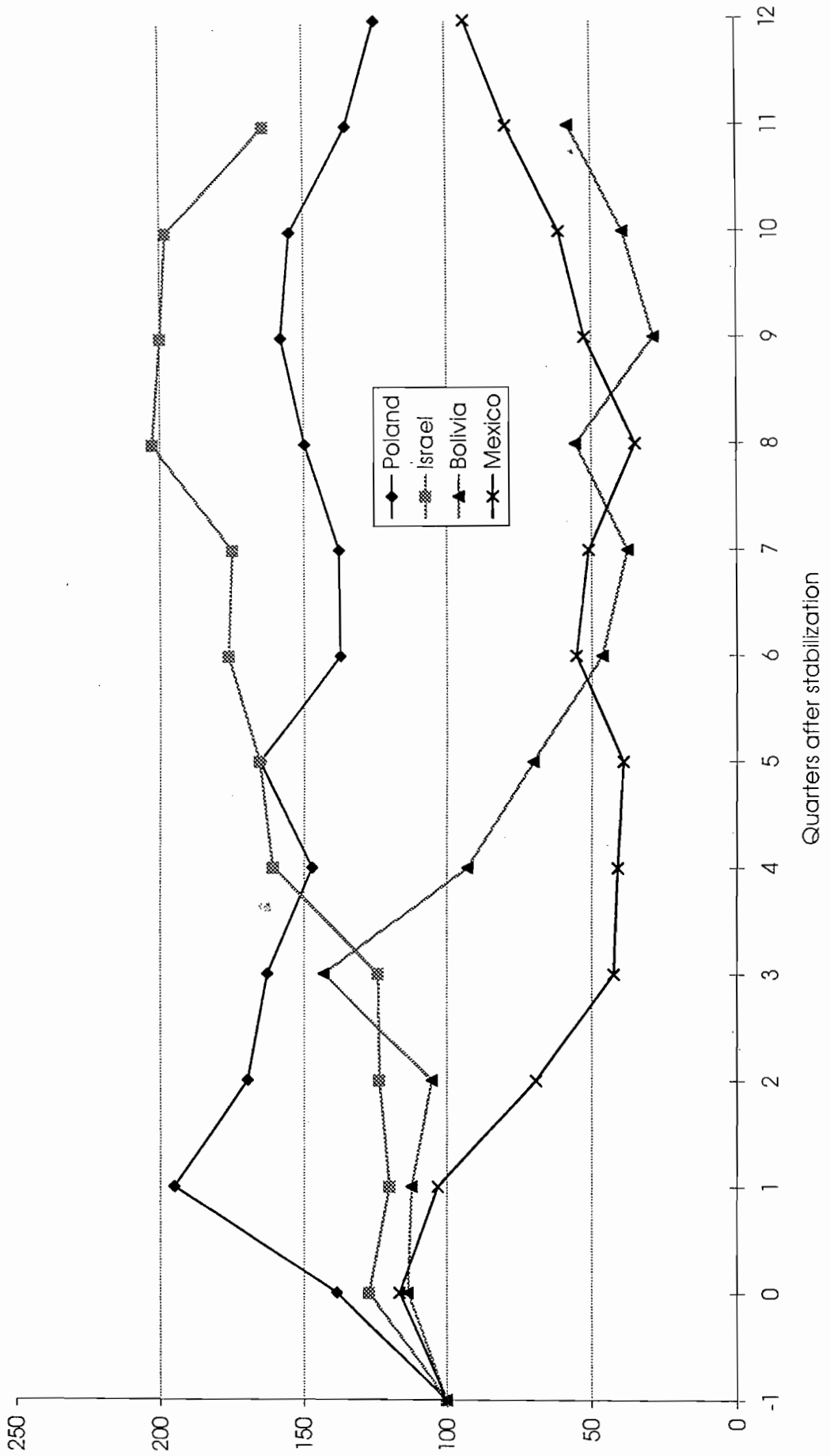


Graph 3: Real Effective Exchange Rate After Stabilization  
Poland



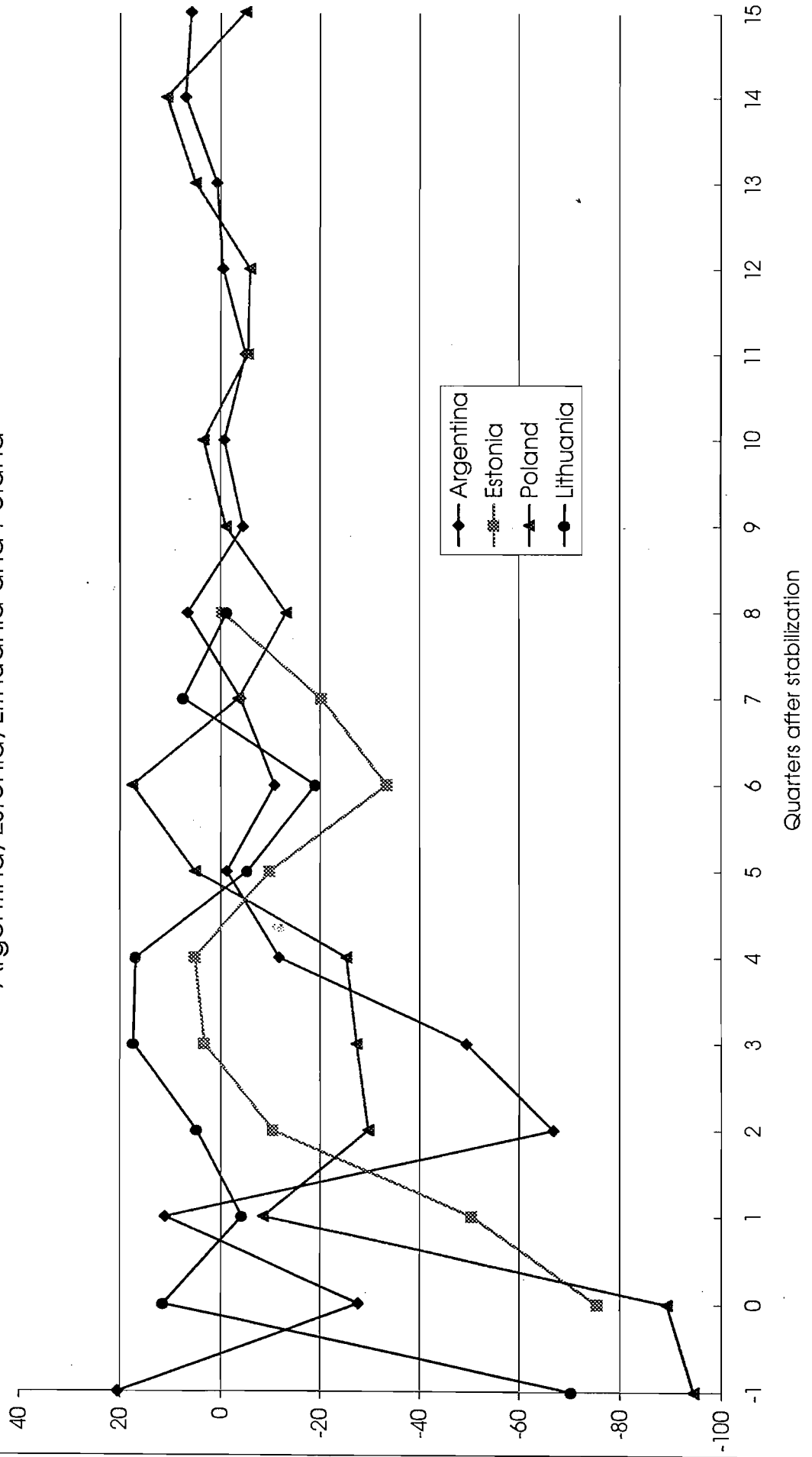


Graph 5: Index of Forex Reserves after stabilization  
 Poland, Israel, Bolivia and Mexico

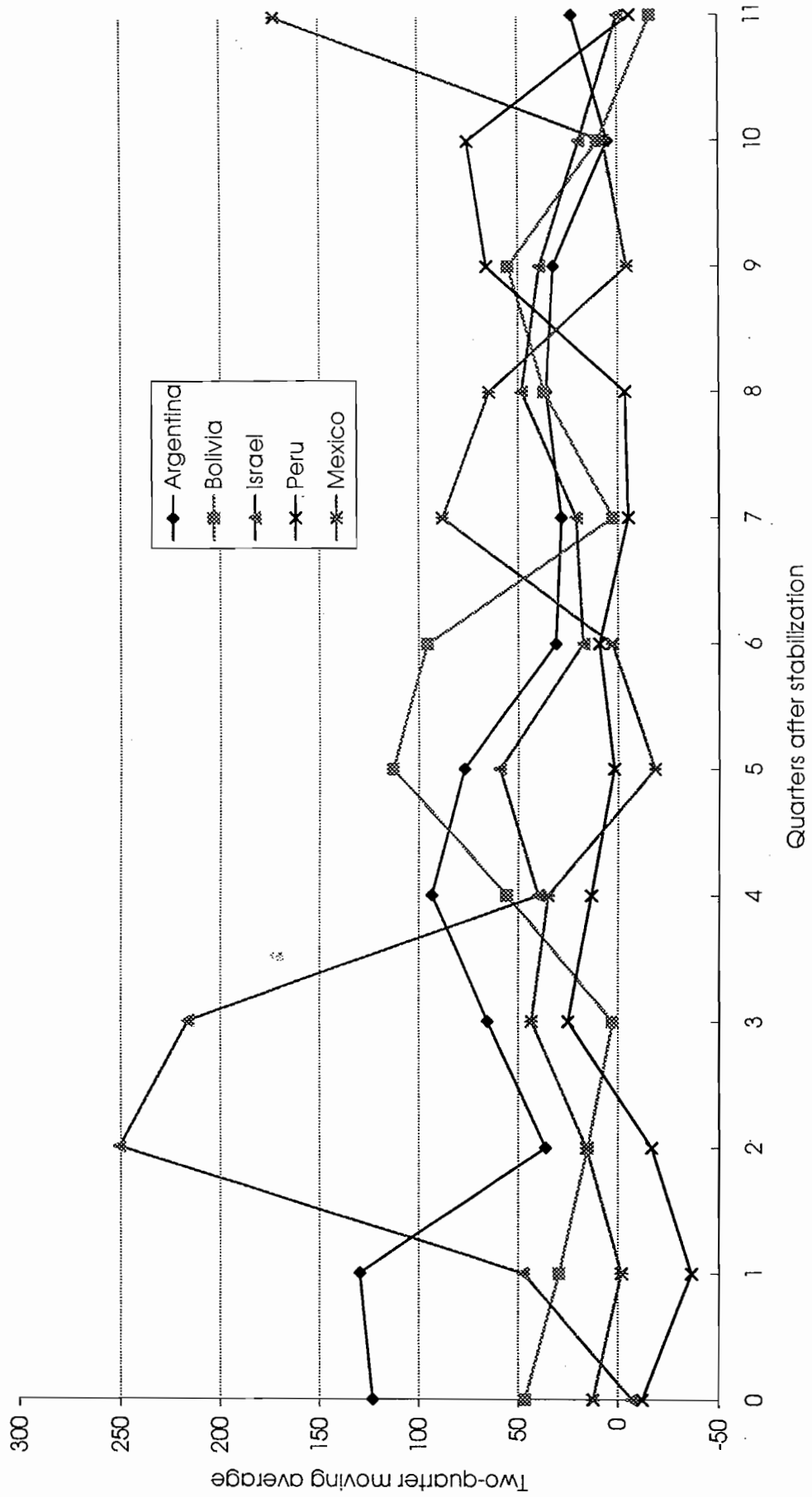




Graph 7: Real lending rates after stabilization  
 Argentina, Estonia, Lithuania and Poland



Graph 8: Real money growth after stabilization  
Market economies

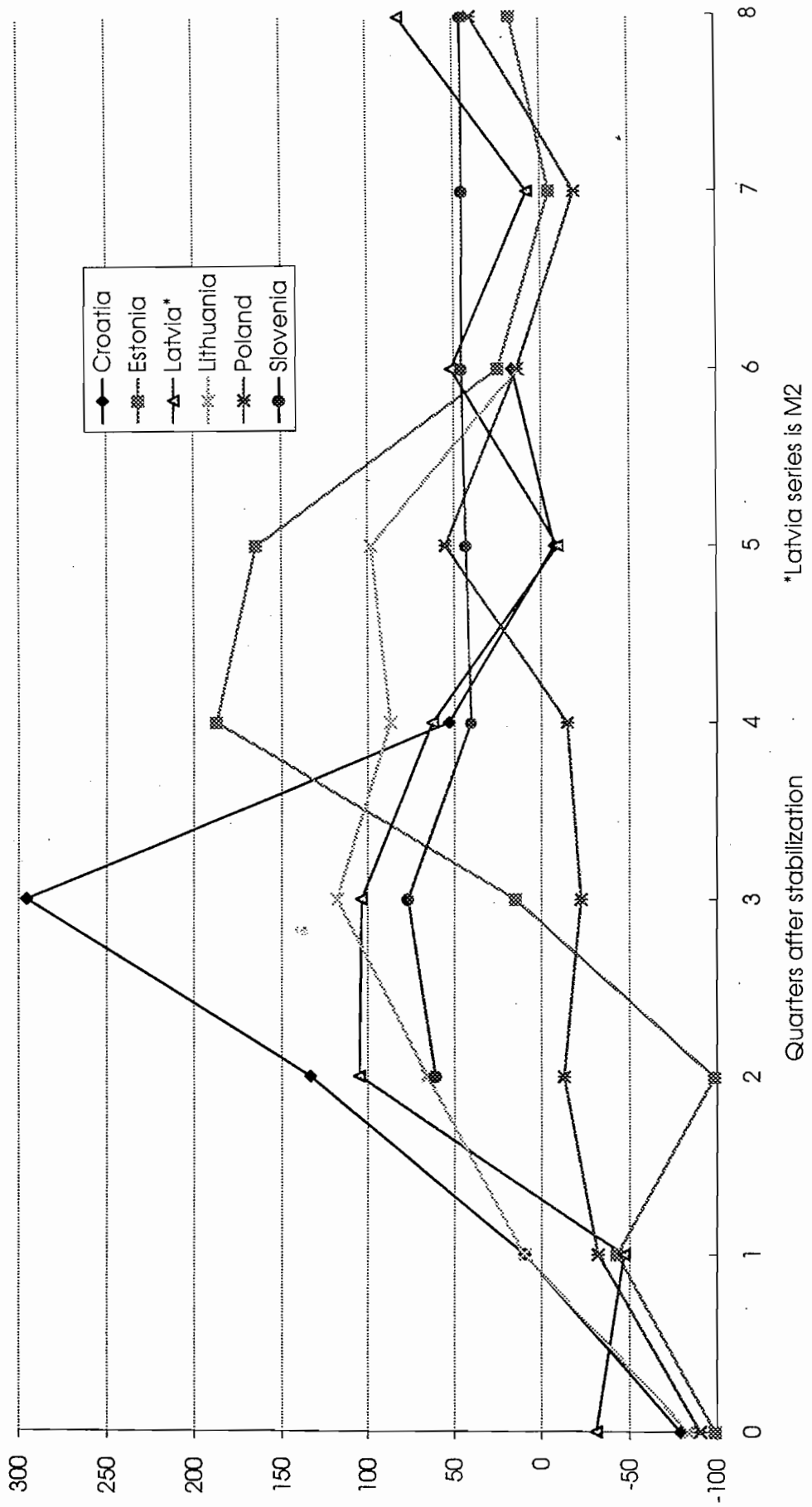








Graph 11: Real quasi-money after stabilization  
Transition economies



\*Latvia series is M2

Quarters after stabilization