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Abstract

The leading formal models of the post-communist transition predict that more radical reform results in a larger loss of output, higher social costs, and a greater chance of political failure. We review the evidence from the previously communist-controlled countries of Central Europe and the former Soviet Union, and find very little support for these propositions. The usual concern with economic and political adjustment costs appears to be misplaced and misses important complementarities between economic policies and other positive externalities.

More important, and ignored by most of the literature, is rent-seeking by a subset of the old elite. This behavior is pervasive and potentially very dangerous, although it has been more of a problem in the former Soviet Union. Tough stabilization policies have proven effective in controlling this rent-seeking, particularly if combined with institutional changes which "lock-in" reforms. We also find that radical reform has done relatively well with public opinion and in elections. For these post-communist countries, democratization appears to be strongly complementary to radical economic reform because it helps to break the power of the old elite.

CONTENTS

I. Introduction

Between 1989 and 1991, the collapse of the Soviet bloc brought down the established political system in 25 countries.[1] With the rapid decline of the communist party's power throughout the region, and particularly following the collapse of the Soviet Union, it proved impossible to maintain an economic system based on hierarchical subordination, predominant state ownership, and a command-rationing allocation mechanism (Kornai 1992). All previously communist-controlled countries therefore inherited an economic system which no longer functioned properly, and a political struggle for power.

The central problem has proved to be one of controlling inflation. In theory, liberalization and privatization can take place without macroeconomic stabilization, but in practice this combination has not proved effective. At least in these countries, the budget cannot be balanced and monetary emission cannot be controlled without large cuts in subsidies and far-reaching price liberalization. Macroeconomic stabilization is therefore the necessary, although not sufficient, condition for effective reform.[2]

The large literature on macroeconomic stabilization and economic transformation in these countries is divided into three parts: policy prescription, formal models, and individual country studies. The policy prescription work, by both academics and international organizations, has been overwhelmingly in favor of complete stabilization supported by all other reforms being carried out with as much intensity as possible (e.g., Lipton and Sachs 1990, Fischer and Gelb 1991). In contrast, the formal models have almost unanimously argued that radical reform is too costly and a slower approach is preferable (e.g., Dewatripont and Roland 1992a, 1992b, 1995, Murrell and Wang 1993, Laban and Wolf 1993). Taking an intermediate position, individual country studies find that radical policy has important advantages, but that slower reform can also have positive results (Aslund 1995, Gomulka 1992, Hansson 1994, Johnson and Loveman 1995, Leitzel 1995, Slay 1995).

So far, however, there has been relatively little work comparing the reform experiences in all post-communist countries. Among the important retrospective studies, Blanchard (1995) analyzes the experience in five Central European countries, Gomulka (1995) compares Poland and Russia, and Citrin

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[1]We will focus on 23 countries: the fifteen countries which emerged from the Soviet Union, the seven commonly referred to as Central or Eastern Europe (Poland, the Czech Republic, Slovakia, Hungary, Romania, Bulgaria, and Albania), and Mongolia. We do not deal in detail here with former Yugoslavia, because it had a very different starting point, or with East Germany, since it was incorporated into unified Germany with unique resources and problems. However, some aspects of the stabilization experiences in Slovenia, Serbia, Macedonia, and Croatia will be brought in where relevant. Similarly, because of their structural economic differences, we do not deal with China and Vietnam (Sachs and Woo 1994).

[2]The leading retrospective studies of reform experiences focus on the importance of liberalization measures with stabilization given a supporting role. For example, in a background paper for the World Development Report, de Melo, Denizer, and Gelb (1995) measure the transition primarily in terms of the cumulative liberalization of internal prices, external markets, and private sector entry. In its 1995 transition report the European Bank for Reconstruction and Development does not include stabilization policy or inflation as part of its otherwise comprehensive indices which measure reform. This presumably reflects the view that liberalization rather than low inflation is of primary importance for reform. For a related discussion in a broader set of countries see Sachs and Warner (1995).

et al (1996) reviews the evidence from the former Soviet Union. Only European Bank for Reconstruction and Development (1995), and de Melo, Denizer, and Gelb (1995) discuss all the reforming countries, but these papers do not emphasize how reform policy is affected by and feeds back into political considerations.

There are four main questions. Has radical reform proved more costly or more beneficial than slower reform? What considerations have determined the choice of reform strategy? To what extent has radical or slow reform prevailed in elections and with public opinion? Which tactics have proved particularly effective for introducing and maintaining reform?

First we must define what we mean in discussing the intensity and timing of reform, particularly because the terms "radical" and "gradual" have sometimes been misused. Table 1 shows the pattern of inflation, including the year in which inflation peaked and what happened subsequently. Table 2 supplements this with information about the pattern of liberalization over time, using the World Bank index which is presented in de Melo, Denizer, and Gelb (1995).

By "radical" we mean a country that has tried to undertake a maximum of reform given its initial conditions. Our definition of radical reform focuses on two criteria: how rapidly inflation was brought under control, and the change in the level of the liberalization index. In all the radical reform countries, inflation peaked in the year of price liberalization and then fell. Gradual reformers have a peak in inflation usually one year after liberalization, while in the remaining countries inflation continues to accelerate. While stabilization is only one component of reform, in post-communist countries it is highly correlated with liberalization. Figure 1 shows that high inflation countries tended to carry out the least liberalization as measured by de Melo, Gelb and Denizer's (1995) liberalization index.[3]

We should strongly caution the reader against placing too much reliance on data from post-communist countries. Below we focus on those measures of economic performance, particularly output, which are measured reasonably well, although we emphasis (in footnotes) the problems with each series. We also use measured inflation and the liberalization index as crude but reliable indicators of economic policy. Our empirical goal is to draw robust conclusions, in the sense that they are not affected by likely measurement errors.

A striking correlation exists between political regime and economic policies. In these terms, post-communist countries can be divided into five groups. First, one group of countries opted for democratization, were initially ruled by liberal governments, and chose radical stabilization and liberalization. With the first year of radical reform given in brackets, these countries are: Poland (in

[3]This correlation does not simply reflect differences in conditions between the former Soviet Union and Central Europe. When we include dummy variables for the former Soviet Union and war-torn areas, the cross country correlation between inflation and liberalization remains strong. The Soviet Union dummy captures different underlying structural factors, such as greater reliance on military-industrial production, a longer history of communism, greater reliance on trade within the communist bloc, and membership in the rouble zone when control over money creation disintegrated.

1990), Czechoslovakia (in 1991), Estonia (in 1992), Latvia (in 1992), and Albania (in 1992).[4] In each country inflation peaked in the year of reform and was then brought rapidly under 50 percent (Table 1). Table 2 shows the liberalization index jumped by at least 0.3 (although Latvia had an increase of only 0.22) and reform continued over the following years until the index reached the 0.8-0.9 range (Albania has remained at 0.7 because of poor conditions for private sector entry).

A second group of countries had democratic regimes and initially non-socialist governments, but chose, or ended up with, slower or less radical reform: Hungary, Lithuania, Bulgaria, Russia, and the Kyrgyz Republic.[5] Various reasons accounted for postponing reforms or making them more gradual. Hungary had a conservative and nationalist government that won elections against two liberal parties that desired more radical reforms. Table 2 shows Hungary had less change in its liberalization index than Poland but because its 1989 liberalization was greater than Poland, by 1993 both countries had reached the same level.[6] Lithuania had a strongly nationalist government that focussed initially on privatization rather than liberalization or macroeconomic stabilization. Both Bulgaria and Russia attempted radical economic reform, but their non-socialist governments were so politically weak that they faltered after about a year and their radical reform attempts collapsed before the reforms had taken hold (in contrast to Poland where the reform government collapsed after the reforms had taken hold). The jump in Bulgaria's liberalization index in its most intense reform year was of a similar size to that in Poland, and this was not reversed, but change over the next two years was slow and inflation crept higher. According to the liberalization index, Russia's initial jump was as large as in Poland and change continued over the next two years. But Russia started from a lower level, so needed to do more, and inflation was not brought under control as quickly. The Kyrgyz Republic simply started its reforms relatively late.

In all these cases we can identify the year in which reform began: Bulgaria in 1991, Hungary in 1990, Lithuania in 1992, Russia in 1992, and the Kyrgyz Republic in 1993. With the exception of Hungary, all these countries had higher inflation, both initially and subsequently, compared with the early radical reformers and none had inflation under 50 percent by 1994. These countries either had a relatively small initial jump in their liberalization index (Hungary, Lithuania) or a very slow subsequent increase (Bulgaria), or both (Russia). The Kyrgyz Republic is an exception because the initial jump was low but the following years were quite radical.

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[4]The split of Czechoslovakia into the Czech Republic and Slovakia created two new countries which had already embarked on radical reform. Slovakia slowed privatization significantly, but kept the other dimensions of reform close to those of the Czech Republic (see the Appendix in De Melo, Denizer, and Gelb 1995, or EBRD 1995, Table 2.1).

[5]A "non-socialist" is a centrist or right-wing government as distinct from a government formed around a former communist party.

[6]Although Hungary had undertaken the most far-reaching economic reform under communism, the post-communist Hungarian government took pride in being gradual and maximizing current consumption (Kornai 1995). In particular, the Hungarian government allowed its public expenditure to rise to a much higher share of GDP than under communism, while the radical reformers brought down the share of their public spending in GDP.

Third, wherever the same group of communist rulers stayed in power, reform was initially delayed and only began to occur later. This was the case both where there was some democratization, i.e. in Romania, Moldova, Belarus, and Ukraine, and also where there was very little: Kazakhstan, Uzbekistan, and Turkmenistan. In Romania and Moldova inflation was brought down, but remained above 100 percent in 1994, while in the others it remains unclear if inflation has been controlled. In terms of liberalization, there was some slight improvement in 1992, but the subsequent pace has been very slow and all the countries remain in the 0.3-0.4 range on the liberalization index. For these gradual reformers it is often difficult to date the beginning of reform, and the first column of Table 2 generally shows the earliest possible date.[7]

Fourth, high inflation and postponed reform characterize the war-torn countries of the former Soviet Union: Georgia, Armenia, Azerbaijan, and Tajikistan. The former Yugoslav republics, Croatia and Macedonia, show relatively high liberalization and an improvement over time, but inflation remains a problem. Slovenia is hard to classify because it emerged from Yugoslavia without much fighting; we include it and Mongolia here only for completeness.[8]

To assess to what extent people agree on this ordering of reform outcomes across countries, and aware that various international organizations attach different weight to attributes of economic policies and environment, we evaluated four rankings for countries in the former Soviet Union in 1994 and 1995: the World Bank, IMF, EBRD, and Ernst & Young. The World Bank and EBRD rankings do not include macroeconomic issues (such as the inflation rate), while the EBRD has more emphasis on institutional development.[9] All four organizations agree that the "best" five reformed countries are Estonia, Latvia, Lithuania, the Kyrgyz Republic, and Russia. They also agree that the worst countries are Turkmenistan, Tajikistan, and Azerbaijan. Kazakhstan gets a higher ranking from the IMF (6th) and Ernst & Young (4th) than it does from the World Bank and the EBRD (9th according to both), but almost all the other countries have the same position within a place or two across the rankings. The

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[7]The EBRD (1995, p.68) puts price liberalization in same year as the "year of most intense reform" in Table 2, with the following exceptions: Lithuania is in 1992 rather than 1991; Bulgaria starts in 1991 but ends in 1992; Russia and the Kyrgyz Republic start in 1993 rather than 1992; Romania starts in 1993 rather than 1990; Moldova, Armenia, Uzbekistan and Georgia start in 1994 rather than 1992; and Azerbaijan, Belarus, Kazakhstan, Turkmenistan, and Ukraine are shown as not having price liberalization through 1994.

[8]Mongolia could reasonably be considered to have had a non-socialist government which followed gradual reform. In fact, a minority pro-reform lobby pressured for radical reform but only partially succeeded before a financial scandal contributed to electoral defeat.

[9]The World Bank's categories are: internal prices, external markets, and private sector entry (de Melo, Denizer, and Gelb 1995). The IMF's categories are: fiscal consolidation, privatization/land restitution, institutional reform, government/legal framework, social safety net, and trade liberalization (Citrin et al 1995). The EBRD 1995 evaluates: "enterprises" (large-scale and small-scale privatization, as well as restructuring), "markets and trade" (price liberalization, trade and foreign exchange system, competition policy), "financial institutions" (banking reform and interest rate liberalization, securities markets and non-bank financial institutions), and "legal reform." Ernst & Young ranks: business opportunity, political risk, credit rating, status of economy, stability, and business infrastructure (*Financial Times* October 24, 1995).

notable exception is Ukraine on which the rankings differ widely; for 1994 the World Bank puts it in 14th place while the IMF puts it in 8th place.[10]

Based on our classification above we use the cross-country evidence to obtain new answers to the standard four questions. First, the statistical evidence shows that a substantial loss of output associated with ending the communist system is inevitable, and the cross-country evidence does not support the proposition that rapid reform results in a more rapid output decline. Instead we find the timing of reform determines the timing of the output decline and recovery: countries that entered into reform early faced early output declines, but they also were the first to renewed growth.

If we compare groups of countries with similar starting conditions, in every case the radical reformer does better or no worse. This is true for: Poland compared with the rest of Central Europe; Estonia compared with other Baltic countries; and Russia compared with other parts of the former Soviet Union. Furthermore, contrary to most formal models we find radical reform does not result in higher unemployment, does not slow private sector development, and does not prevent institutional development. In fact, in most of these regards there is strong evidence that radically reforming countries have done better, particularly with regard to the growth of new private firms and pro-market institutions.

Second, there is strong evidence that the timing and intensity of reform is determined by the position of the old communist elite after the fall of communism. Governments controlled by members of the old communist elite, particularly state enterprise managers, have initially pursued inflationary policies which transfer large amounts of resources to their supporters. Delayed or slow reform has facilitated this elite's acquisition of economic resources. Interestingly, as these transfers have declined and parts of the old elite have acquired enormous wealth, the overall resistance to reform has weakened. Some members of the old elite have gained so much wealth that they now want policies that safeguard their acquisitions.

In contrast, reforms introduced by anti-communist governments invariably involve measures designed to break the extraordinary power of the old elite. In hindsight we can conclude that radical reform has proved the best way to eliminate subsidy-seeking behavior. In many cases it has not been possible for the government to remain in power, but in all cases to date a reform "breakthrough" has been achieved so that the reforms have so far proved irreversible. Once the old communist elite is broken, *its power cannot be rebuilt.*

Third, cross-country experience indicates several lessons for the design and implementation of stabilization policy. Democratization can be strongly complementary to economic reform. In particular, reformers have found the creation of new political institutions, producing new norms as well as checks and balances, to be valuable means of "locking-in" reform. The combination of an independent monetary authority and a fixed exchange, most noticeably in some form of a currency board system, has proved particularly effective. A preemptive strike by a small reform group may also be effective in

[10]The explanation may be the exact time of measurement. Ukraine undertook a major liberalization in early November 1994.

changing the preferred actions of other groups. Foreign aid can play a key role, but only when it is highly conditional on policies that break the power of the old elite and permanently reduce the scope for rent seeking. Rules for drawing up budgets, and resolving any political deadlock, also appear to have been important.

Fourth, contrary to the predictions of most political economy models of reform, we find that radical reform does not lead to much of a popular backlash. Radical reformers have lost elections primarily because the pro-reform forces have been less united than the former communists. Gradualists are even more likely to lose elections. The public opinion poll data is quite clear: people want faster reforms; and there is much more dissatisfaction in countries which have not had effective macroeconomic stabilization.

The remainder of this paper is divided as follows. Section II examines the theoretical debate and empirical evidence concerning the optimal intensity of stabilization. Section III considers why many countries have pursued stabilization policies which have been less intense than appears optimal for society as a whole. Section IV makes the case that immediate reform is popular and can win elections. Section V considers lessons for the design of stabilization policy packages.

II. Stabilization and Structural Transformation

There is broad agreement that the overall goal of policy in post-communist countries should be to move in the direction of a market economy based on private property. Even Amsden, Kochanowicz and Taylor (1994), who represent an extreme in terms of their preference for a greater role for the state and industrial policy during and after the transition, agree there is a need for such a transition at both the firm- and macroeconomic-level. There is also agreement that some degree of macroeconomic stabilization is required, and that this forces state enterprises to contract and pushes people into the new private sector. However, there is strong disagreement about how fast and how far the budget deficit and subsidized credits to firms should be reduced.

Once subsidies for industry are removed, the demand for labor in the industrial sector falls. In the standard neoclassical model, if real wages do not adjust downwards to maintain full employment, if workers need time to find new employment, or if the private sector takes time to create new jobs, then there may be unemployment during the adjustment.[11] The economic policy and theoretical literature has presented several arguments as to why the state should intervene to slow this process. In this section we examine to what extent the theoretical reasoning is supported by the data.

[11] A good example of this model, applied to trade reform, is in Mussa (1986). Blanchard (1995) uses the framework for his discussion of transition in Eastern Europe.

The Case for Negative Externalities

According to the standard argument for early and radical reform, in the absence of externalities and market imperfections, the optimal policy is to reform the economy as fast as possible.[12] Delay or more gradual change can only be optimal if private adjustment costs differ from social adjustment costs.

For formerly planned economies, most of the arguments against radical reform are based on the idea that social adjustment costs are larger than private adjustment costs. Thus negative externalities mean that economic agents will adjust too fast if left to their own devices, and the goal of policy should be to slow down the necessary changes. Four main concerns have emerged in the discussion: the disruption of production, the creation of excessive unemployment, constraints on private sector growth, and problems for institutional development. We review each of these arguments in turn and assess which theoretical points are confirmed by the evidence.

Disruption of Production

Probably the most hotly debated question in post-communist countries concerns whether more radical reform leads to a larger fall in output. The controversy began when the Balcerowicz Plan, implemented in Poland at the beginning of 1990, resulted in a much larger contraction in output than had been expected.[13] At the same time it appeared that Hungary's more gradual reform would avoid this loss. A range of explanations have appeared concerning why radical policy causes excessive falls in output. Other measures of performance may have more merit, but output has gained most attention.[14] Two main sets of theories have been developed.

First, several models assume the presence of sector specific capital which cannot be utilized in alternative activities. In Atcheson and Kehoe (1993) reform destroys established information capital in declining sectors, while new information capital takes time to develop. A similar argument is made in Murrell and Yang (1994). Li (1995) and Blanchard (1995) argue that reform disrupts inter-firm

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[12]This proposition was clearly stated by Mussa (1986). For the case of a tariff reduction, he showed that "when private economic agents who control the disposition of productive resources have rational expectations which allow them to calculate correctly the values of locating these resources in alternative activities, and when there are no *distortions of the adjustment process that cause these agents to see private adjustment costs that differ from social* adjustment costs, then the adjustment process subsequent to an immediate change of commercial policy to its long run optimum will be socially efficient. By implication, a slowing down of the implementation of the policy of trade liberalization, which would reduce the privately perceived incentive to relocate resources outside of previously protected industries, would result in a less socially desirable adjustment path for the economy."

[13]The policies were named after Leszek Balcerowicz, Minister of Finance and Deputy Prime Minister. The initial official estimate of the GDP decline in 1990 was 20 percent, although this number does not appear to have been published. The latest revisions suggest instead a fall of 11.6 percent. Taken together the latest revised numbers suggest that GDP fell by only 8 percent from 1989 to 1994 (Luthman 1995).

[14]Output does not necessarily reflect living standards, and consumption has increased as a percentage of GDP as post-communist countries stabilize. EBRD (1995) presents evidence that living standards increase with reform. However, living standards are harder to measure and this debate remains inconclusive. While there does appear to have been an increase in mortality and a reduction in life expectancy in Russia following the collapse of the Soviet Union, the evidence strongly indicates that this is not the case in other reforming countries (Skolnikov 1995).

relationships, particularly between suppliers and their customers. In these models, slower reform implies lower output losses because it allows the new sector to develop faster relative to the decline of the old sector.

Second, models with important nominal rigidities also predict lower output losses when reform is less radical. For example, Calvo and Coricelli (1992) argue that imperfections in the credit market mean that state firms are starved of credit, and that output can be boosted by providing more credit. A similar argument is made by Amsden, Kochanowicz, and Taylor (1994) who emphasize wage and price rigidities. Both sets of authors argue the output fall was unnecessarily large because the anti-inflation policy was "too tight." Both imply that overly tough stabilization policy actually slowed the economic transition.

These theoretical arguments have been refuted by de Melo, Denizer, and Gelb (1995) who argue empirically that more reform has positive effects on the economy.[15] Their cross-country regression results show that cumulative liberalization is positively correlated with output performance, and they infer that output fell less in countries where there was more reform.

However, this cross-country statistical result is not robust and disappears under reasonable modifications of the specification. The first two columns of Table 3 show the effect of regressing the cumulative output decline (from 1990 to 1995) on de Melo, Denizer, and Gelb's (1995) index of cumulative liberalization (1990-94), both with and without a dummy variable for the former Soviet Union.[16] For output change between 1990 and 1995 the liberalization index becomes insignificant once this dummy variable is included.[17]

The last two columns in Table 3 show the relationship between cumulative output decline and inflation for the 22 countries for which we have data.[18] Again there is an apparently strong relationship: the coefficient on inflation is significant and negative. In this case, the effect remains if we include a dummy for the former Soviet Union, but it disappears if we include also a dummy for being affected by war.

Counter to both the formal models in the literature and the empirical arguments of de Melo, Denizer, and Gelb (1995), there is no robust significant correlation between cumulative output loss and any measure of reform. Figures 2 and 3 help to explain this result. A strong relationship between reform and output decline is apparent in the large graph, but the two smaller graphs immediately show

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[15]Further informal arguments, particularly that lowering inflation helps investment to recover, are offered by EBRD (1995). Johnson, Kouvelis, and Sinha (1996) model formally the idea that sufficiently radical reform reduces uncertainty and prevents firms from simply waiting for further developments.

[16]The regressions of cumulative output on cumulative liberalization (the first two columns in Table 3) exclude Mongolia and Macedonia because we could not obtain data for the full cumulative decline. With those exceptions we use data from all the listed in Tables 1 and 2. When we exclude Croatia and Slovenia, so no countries from the former Yugoslavia are included, this does not affect the significance of any coefficients.

[17]Exactly the same effect of including dummies occurs if we use the level of 1995 liberalization instead of cumulative liberalization. These results are not affected if we exclude countries from former Yugoslavia.

[18]The missing countries are now Macedonia, Mongolia, Tajikistan, and Turkmenistan.

that the pattern in Central Europe and the former Soviet Union is quite different. The most plausible explanation is that while every country in our sample had to endure an output decline as part of its post-communist structural adjustment, former Soviet republics had a worse legacy due to a larger military industrial sector, and their longer history of state planning, heavy industry, and allocation decisions without an economic basis. Despite policies which ranged from the very radical to the very gradual, only one country in the former Soviet Union (Estonia) lost less than 40 percent of its measured output.[19] These countries also tended to have higher inflation and less liberalization for political economy reasons, and because of the turmoil in the rouble zone particularly during 1992.

Given this problem with cross-country data, we need to look more closely at what happened in countries with similar starting conditions. With the average output level in 1989 as the base, Table 4 shows how output fell before reform began, at the beginning of reform, and over the next two years.[20] Furthermore, through comparing the 1994 and 1995 numbers we can gain an overall comparative picture of performance.

Countries differed markedly in terms of their initial level of reform, the extent of disruption caused by the break-up of previous trading arrangements, and size of the military-industrial sector. We focus on comparisons on three sets of countries with similar starting conditions: Central Europe, particularly Poland compared to the other countries; the Baltics, particularly Estonia and Lithuania; and the rest of the former Soviet Union, particularly Russia and Ukraine.

Within Central Europe, Poland has undoubtedly had the best cumulative performance so far. Its 1995 output was 97.4 percent of its 1989 level, while in no other country was this measure above 85 percent. In 1990, when Poland was the first country to introduce radical reform, its initial output decline seemed severe. Seen now in comparative perspective, the measured fall of 11.6 percent in 1990 and 7 percent in 1991 seem remarkably mild, and the return to growth in 1992 is impressive, particularly as the growth rate has steadily increased to 6-7 percent in 1995.

How much of the Polish advantage is simply due to starting reform earlier? To take into account the timing of reform, Table 4 shows the decline in output both prior to reform, in the first year of reform, and subsequently. The Czech Republic and Slovakia both show a larger output fall than that of Poland, but better performance than in slower reforming Romania and similar results to those in Hungary. As is evident from Tables 1 and 2, Romania attempted some initial reforms in 1990, but proceeded at a much slower pace. The initial output decline was smaller than in Poland, but the

[19]It is unfortunately not possible to ascertain the precise size of the military-industrial sector in various countries. However, it seems likely that while the share of this sector may have been as high as 25 percent in the USSR (Aslund 1989), it was probably an order of magnitude less, in the range 3-5 percent, in Eastern Europe.

[20]Output in the 1980s is also important, but here the numbers are much less reliable. For 1989, the World Bank numbers show most countries with positive growth, ranging from the very modest in Poland (0.2 percent) and the Czech Republic (0.4 percent) to high figures in Albania (9.8 percent) and Moldova (8.8 percent). These numbers do not match up at all with what we know about economic performance, particularly because there were pervasive shortages and prices were often extremely distorted. We do not use them in this paper.

downward slide was larger and continued through 1992. Subsequent growth has picked up but output in 1995 was still under 82 percent of its 1989 level.

Within the former Soviet Union, Estonia -- the country with the most radical reforms -- stands out as having done relatively well. Again the fall in 1992 seemed steep at nearly 26 percent, but the position in 1994 and in 1995 turns out to be relatively good. In contrast, Tables 1 and 2 show Lithuania began reform a little earlier but proceeded much more gradually, and Table 4 shows that while the initial decline was small, by 1994 Lithuanian output had fallen by almost a third more than Estonia's output.[21]

Russian reform was not very radical, but it was the most radical in the former Soviet Union outside of the Baltics and the Kyrgyz Republic.[22] It was certainly more radical than Ukrainian reform. And yet by 1995 we find Russian output has declined less than Ukrainian output, and much less than most of the former Soviet Union (with the curious exception of Uzbekistan).[23]

At the very least, these direct comparisons suggest there is no evidence supporting the argument that radical reform leads to a greater fall in output. Even if viewed in the least favorable light, they are highly suggestive that more radical reform results in a lower output decline, other things being equal. Furthermore, in contrast to the rather weak statistical results for cumulative output decline, Table 5 shows a significant negative relationship between the growth rate in 1995 and inflation in 1995, and a positive relationship between growth in 1995 and the level of cumulative liberalization through 1995.[24]

Figure 4 shows that in both Central Europe and the former Soviet Union, those countries which stabilized earlier have now started to recover. By 1996 we can expect most countries, regardless of their early reform strategies, will have halted the output decline. Thus countries that entered reform early also recovered most quickly, and hence the timing of reform affected the timing of adjustment, but the cross country differences in output decline in formerly socialist countries primarily reflect underlying structural factors as well as reform strategies during 1991 to 1995.

Unemployment

In the model of Blanchard, Commander, and Coricelli (1995), which is closely related to Aghion and Blanchard (1994), reform means a reduction in subsidies which directly causes employment cuts in

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[21]Lithuania also did worse than Latvia which was more radical in terms of stabilization, and about the same on liberalization, but which was not as radical as Estonia.

[22]A recent study by the IMF concluded that within the former Soviet Union through 1994, the Baltics, the Kyrgyz Republic, and Moldova had done best against inflation, while the Baltics, the Kyrgyz Republic, and Russia had achieved most structural change (Citrin et al 1996). This is essentially the same relative ranking as given in our Tables 1 and 2.

[23]It seems likely that Uzbekistan continues to maintain subsidies that support industry. Sooner or later these will fall in real terms and industrial output will decline. However, its data appear highly unreliable and reported output may well remain overstated.

[24]Mongolia is excluded, due to lack of data, from the regression with cumulative liberalization on the right-hand side. Mongolia, Tajikistan, and Turkmenistan are excluded from the regression with 1995 inflation on the right-hand side. If the 3 former Yugoslav countries for which we have data are dropped, the only effect is that the war dummy becomes significant and negative in the regression with inflation on the right-hand side.

the state sector. People fired from the state sector become unemployed and need to search for a new job in the private sector. Search externalities mean that it takes time to find new work and unemployment is created. The optimal policy for a government which takes into account this externality is to slow reform (compared to the standard neoclassical prescription, for example in the Mussa (1986) model).

The relevance of this model depends on whether faster reform leads to higher unemployment. This view is again influenced by the early experience of Poland, which had radical early reform and relatively high unemployment, but again cannot be maintained as a general proposition. Table 6 shows the overall unemployment rates across the region, using the same classification of countries. Radical reform does not necessarily imply high unemployment, and slow reform does not always mean low unemployment. The Czech Republic has reformed very rapidly, and has low unemployment. Bulgaria and Romania have proceeded much more slowly, but have high unemployment. The former Soviet Union has consistently lower unemployment than most of Central Europe.

The theoretical model assumes the creation of new jobs is either constant regardless of reform strategy or slower if reform is more radical. The empirical evidence, on the contrary, suggests there is no consistent relationship between output and employment across countries. Throughout the former Soviet Union unemployment has remained low despite the much higher falls in output and a highly flexible labor market. When unemployment benefits are low in real terms, people do not register as unemployed. Direct survey evidence suggests labor markets are extremely flexible and workers tend to find new jobs at the same time as they leave their old jobs. No less than one fifth of all Russian workers found new jobs in 1993. Thus they do not enter the pool of unemployed (Layard and Richter 1995).

This lack of correlation between unemployment and reform strategies is confirmed by cross-country regression analysis. As Table 8 shows, there is no correlation between unemployment (e.g., in 1994) and cumulative liberalization through 1994 or log inflation 1991-94 (measuring the intensity of reform), once we include a dummy for the former Soviet Union and being adversely affected by war.[25]

Unemployment outcomes remain a considerable puzzle.[26] Table 8 shows unemployment is actually higher if a country's 1994 output is higher relative to its 1989 level. However, once we include the usual two dummies, this coefficient also loses its significance.[27] Surprisingly, it appears that unemployment is simply not correlated with the output decline or with any measure of the intensity of

[25]The coefficient on cumulative liberalization ceases to be significant when the rouble zone dummy is included. The coefficient on log cumulative inflation is insignificant when both the rouble zone and war-affected dummies are included. The same results are obtained if we use the 1993 level of unemployment, regressed on policy measures through 1993.

[26]Again there is measurement error, but taking this into consideration is likely to make more radical reform look better not worse. Registered unemployment is almost certainly lower than real unemployment in the former Soviet Union. For example, in Ukraine estimates suggest that unemployment may be above 10 percent and significantly higher than in Russia, where there has been more reform (International Labour Office 1995).

[27]The war dummy is not itself significant, but adding it reduces the absolute value of the t-statistic for the output decline from 1.77 to 1.14. Dropping the ex-Yugoslav republics does not change the significance of any coefficients.

reform. Figure 5 provides a visual representation of this result with a plot of 1994 unemployment against the log of inflation from 1991 to 1993.

Direct comparisons between similar countries are again useful, particularly because there appears to be a large difference in outcomes between Central Europe and the former Soviet Union and, in this case, some evidence that radical reform is more costly. Table 6 shows Poland's unemployment rose by 6 percentage points in the first year of reform, and then increased by a further 7.5 percentage points over the next two years. In Albania too there was a large increase in unemployment during the most radical reform year, although there was a subsequent fall. Slow reforming Bulgaria had an increase of 9.6 percentage points in its relatively intense reform year of 1991. Unemployment in Hungary, however, has risen by almost as much (to 10.9 percent in 1994). Unemployment in Romania grew steadily, and even surged 5.4 percentage points in 1992, despite slow reform. The case against radical reform is weakened substantially by the experience of the Czech Republic which had intense reform (measured by the liberalization index) but has experienced rather low unemployment: a 3.3 percentage point increase in the year reform began, and a 0.6 percent fall over the next two years.[28]

In general, output decline in the former Soviet Union has been larger but unemployment remains lower than in Central Europe.[29] Estonia's reform policies were almost as intense as those in Poland, in terms of liberalization, and the stabilization was even more dramatic, but unemployment increased only 3.7 percentage points in the first year and 3.3 percentage points in the following two years. The increase in Latvia was similarly moderate. Within the Baltics there is some confirmation that more radical reformers might have more unemployment. In 1994, Estonian unemployment was 8.1 percent, only slightly higher than in Latvia (6.5 percent) but considerably above that of Lithuania (3.8 percent).

The Baltics also have significantly higher unemployment than the rest of the former Soviet Union (although as we saw above the Baltic countries' output losses are comparable or perhaps a little less). The explanation is that in most of the former Soviet Union, there has been very little unemployment irrespective of reform intensity. Russia's 1992 reform hardly produced any unemployment, and in November 1995 the official rate of registered unemployed was only 3.1 percent, while the official estimate of actual unemployment was 8.1 percent (Russian Economic Trends 1996, p.13). Presumably, registered unemployment remained below actual unemployment because unemployment benefits were so low. However, even the estimated actual unemployment, which is based on OECD/ILO methodology, is

[28]The unemployment differential between the Czech Republic and Slovakia fits the sectoral shift model of Mussa (1986) and Blanchard (1995). Heavy industry and other contracting sectors were concentrated more in Slovakia. The high growth service sector, particularly related to tourism, is more in the Czech Republic.

[29]A full explanation of this phenomenon is outside the scope of this paper, and requires more empirical work. But it appears likely that a large self-employment sector offers opportunities to earn a survival wage for some, and that inter-household transfers take care of the rest (Johnson, Kaufmann, and Ustenko 1995). Also labor force survey data generally show higher unemployment rates than those calculated using registration data. Nevertheless, it is still something of a mystery why more people do not register as being unemployed.

not very high. Other former Soviet republics had even lower registered unemployment in spite of huge declines in official output.

Reasonably interpreted, these data suggest that unemployment has been a surprisingly limited problem in the post-communist transition, and they give very little support to the proposition that radical reform leads to higher social costs.

Private Sector Development

In Aghion and Blanchard (1994) there is an additional negative externality because unemployment benefits are assumed to be paid for by taxes on the private sector. If faster cuts in subsidies mean higher taxes, then they can slow private sector development and worsen unemployment: "even if restructuring increases output, its indirect effects through unemployment on private job creation may make it undesirable if unemployment is already high (p.317)." Their prediction is that more radical reform leads to slower private sector growth, and this position is supported by the "evolutionary" arguments of Murrell (1992). However, the evidence does not appear to support this position.

It is empirically hard to separate out private sector development and privatization, but some conclusions are possible. Private sector development is generally higher in countries with more liberalization and stabilization. Figure 6 shows the relative size of the private sector plotted against log inflation from 1991 to 1995. Figure 7 shows the same measure of private sector development plotted against cumulative liberalization.

Table 9 shows cross-country regression results using our usual sample. Both cumulative liberalization and the log of cumulative inflation are significant with the right signs (positive and negative respectively) in a regression with share of the private sector in 1995 on the left-hand side and the usual dummies also on the right-hand side.[30] We obtain similar results when the dependent variable is instead the change in the share of the service sector in GDP from 1989-94 (measured at current prices). The growth of the service sector reflects the rise of new activities, usually provided by private entrepreneurs.

Table 7 shows the detailed pattern of private sector development as far as it can be ascertained. Rapid growth in the private sector's share of the economy is only seen in radical reforming countries, although Hungary has also done well. In some of these countries the private sector has grown through privatization (e.g., the Czech Republic) while in the others the driving force has been the creation of new start-up firms (e.g., Poland).[31] Bulgaria and Romania, on the other hand, now have private

[30]This result is not affected if we drop the Czech Republic and Russia (the countries in which most of the private sector growth is due to mass privatization.) Dropping the ex-Yugoslav republics causes the war-torn dummy to lose significance in the regression of service sector change on cumulative liberalization, and causes the rouble zone dummy to lose significance in the regression of private sector share on log cumulative inflation.

[31]The EBRD 1995 (pp. 147-152) provides a very useful survey of the available quantitative and qualitative evidence on small enterprises. The latest numbers indicate that 60 percent of total employment is in small and medium scale enterprises in Poland (p.150), compared with only 37 percent in the Czech Republic and 10 percent in Russia. Estonia has 45 percent of total employment in this sector, while Romania has 27 percent, and Belarus has only 6 percent (EBRD 1995, Table 9.1). Economies which have completely broken down may also have a lot

sectors significantly smaller than that in Poland. The pattern in Estonia and Poland looks very similar, although Latvia's private sector may have grown somewhat faster. For the rest of the former Soviet Union the numbers are not very reliable -- see for example the odd discrepancy between the 1994 and 1995 levels in Russia and Uzbekistan. Once again, however, there is no evidence that faster reformers have done worse in this regard.

If anything, the cross-country regression evidence suggests that radical reformers have had more private sector development, and more growth in the service sector (which tends to be mostly start-up firms), irrespective of whether they have also managed to introduce a mass privatization program. The Aghion and Blanchard (1994) externality has not proven empirically important. The explanation is first that the new private sector has invariably begun in the service sector, where companies are small, and it has proved extremely difficult for the authorities to collect taxes from these firms. In fact governments have generally faced the opposite problem: as the private sector grows, tax revenues decline and they are forced to cut state expenditure or raise taxes on the state sector. Second, as discussed above, a low level of unemployment benefits has kept registered unemployment down in many countries.

Institutional Development

There is also an argument, put forward by Murrell (1992) that rapid reform slows the development of new institutions. The idea is that institutions take time to develop and gradualism provides the necessary opportunity. In addition, the argument is often made that without new institutions, such as a judiciary that enforces property rights, economic reforms such as privatization may be ineffective or harmful (Frydman and Rapaczynski 1994, chapter 6).

The first question to ask is whether institutional development is hindered by more rapid reform. Measuring institutional development is hard, but the EBRD has attempted to do this for two important measures: laws and legal practices; banking and financial markets (EBRD 1995, Table 2.1).[32] The IMF has also ranked institutional reform and development of the government/legal framework in the former Soviet Union (Citrin et al 1996).

Table 10 shows regression results with these alternative indices of institutional development as the dependent variable, and the usual right-hand side regressors. The cumulative liberalization index is positive and significant in both cases, and the log of cumulative inflation 1991-95 is significant and negative for the IMF's measure for the former Soviet Union (and misses being significant for the EBRD measure by the narrowest possible margin.)

The early stabilizing countries show at least as much institutional change as those with slower overall reforms. The key problems, such as with the banking system or lack of enforcement for

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of activity in the small scale sector, although this is very hard to measure. The EBRD estimates Georgia had 58 percent of employment in this sector in 1994.

[32]The EBRD index is available for all 26 countries shown in Tables 1 and 2, with the exception of Mongolia.

property rights, can usually be attributed to the postponement of real reform. If anything, the evidence suggests institutional development is stimulated by early and radical reforms.

There is a good deal of logic behind a positive correlation between radical reform and the evolution of pro-market economic institutions. A government that embraces radical macroeconomic stabilization and fast liberalization is also likely to speed up the introduction of all kinds of accompanying legal changes -- these are complementary policies. At the same time, the existence of private enterprise and market relations creates demands for the defense of property rights, the enforcement of contracts and similar institutions -- this is an example of positive externalities at work.

The Role of Complementarities and Positive Externalities

Most of the formal academic literature on transition has focused on reasons why market externalities and imperfections would lead a benevolent reformer to choose to slow reform relative to the prescriptions of Mussa's (1986) standard neoclassical model. In fact there are two important economic mechanisms that might induce such a reformer to accelerate reforms: policy complementarities, and positive externalities. These factors have been implicit in some of the policy analysis literature, but until recently have been missing from formal models.

There are at least six categories of policy change required in moving from a planned to a market economy: macroeconomic stabilization, price liberalization, liberalization of trade, privatization, promotion of new business development, and development of a supportive legal framework. The impact of each of these policies may depend on whether the other reforms are pursued. For example, freeing domestic prices will encourage firms to alter their operations to take advantage of the new opportunities. Firms will be prompted to upgrade their operating efficiency and to alter their product mix and marketing strategies. But if particular industries are monopolistic, then welfare may be reduced with price liberalization. This can be countered by trade liberalization so that domestic industries face foreign competition. The two policies combined may increase overall welfare.

When reform policies are complementary as described above, then any one has greater benefits if it is introduced along with others, and changing one kind of policy to be more "market-system" does not preclude changing other policies in the same direction. To take the obvious example, merely liberalizing *prices will have fewer benefits than liberalizing prices at the same time as stabilizing the macroeconomy* and opening up to international trade.

Friedman and Johnson (1995) develop a general formal model with complementarities, while retaining the convex adjustment costs of other formal models (so that taking large reform measures is more costly than taking small measures).[33] Even when there are market imperfections and externalities

[33]This work builds on recently developed mathematical tools which make it possible to model complementarities formally and to incorporate assumptions about complementarities in a wide range of models (see Athey 1995, Milgrom and Roberts 1990 and 1994, Milgrom and Shannon 1994). Gates, Milgrom, and Roberts (1996) also study complementarities in transition economies.

imposing social costs, it may be more beneficial to conduct reforms in a package, and hence take advantage of the complementarities across measures, rather than postpone particular reform measures. A benevolent planner would want to consider both benefits and costs of various reform speeds. In general, it is not the case that the optimal reform path minimizes adjustment costs.

The complementarites approach can be extended to allow also for positive externalities. As far as we know there are no other models of positive externalities applied to the economic transition process. This is surprising since they appear more obvious than negative externalities. For example, if rapid adjustment of one firm permits others to learn how to operate more efficiently in a market system, then there will be externalities associated with learning. A greater number of private suppliers means more competition and hence a better functioning market, with more widely available information and lower costs of doing business.

The Friedman and Johnson (1995) model provides a stronger theoretical basis for thinking that radical reform had important advantages in Central Europe and the former Soviet Union. Established models probably have the right assumptions in terms of adjustment costs, but by ignoring complementarities they inaccurately represent the benefits of reform. Because it fails to take advantage of these complementarities and positive externalities, slow reform has not proved superior to radical reform.

III. The Politics of Reform

The fact that slow reforms had no positive impact on social costs or economic outcomes begs several questions. Why did so many nations choose to introduce gradual reforms? Was it due to false expectations that gradual reform would improve the situation, in which case slow reform was simply an error arising from misjudgment? Or was there a deeper reason in the political economy of transition?

When analyzing these questions, it is essential to keep in mind the initial political conditions in these countries. With the collapse of communism, there was a political vacuum in many countries. This vacuum had two major aspects which varied according to regions and countries.

First, there was a lack of well-defined political process for choosing leaders and defining their powers. Elections are the most clear means of picking leaders, and where early compromises were resolved by elections, such as in Poland and Czechoslovakia, the powers of the leadership could be consolidated. In other nations, such as most of central Asia with the exception of the Kyrgyz Republic, the former elite simply reinforced their position when Moscow's hegemony collapsed. But in other countries, most visibly Russia, a battle emerged where parliaments, presidents, and government leaders fought actively for power. Invariably this battle set the interests of the old elite, such as enterprise directors and former communist party officials, against the goals of younger liberal reformers that aimed to break the old system.

Regardless of who managed to gain power, the second key characteristic of the political process was that there were few checks and balances on the behaviour of the groups who became leaders. There

were no political parties with long reputations to uphold, there was limited press and investigative journalism, and there had never been a fair system of courts and judiciary prepared to challenge and penalize leaders who took actions for personal gain. Historical legacy added to the problems: communism left society deprived of moral or religious standards. Everything was allowed to those who controlled public resources, and they prided themselves on exploiting their opportunities.

The lack of political process, lacks of checks and balances, and the historical legacy of exploitation provided great opportunities to political leaders for both abuse of power and for enlightened change. The ultimate outcome and economic policies can best be understood in this light. The crucial issues in analyzing outcomes are hence: which factors determined who would gain the levers of power at the start of reform; and once a power structure is in place, what incentives did the political leadership face when making economic policy decisions?

A Model of Rent-Seeking in Transition[34]

The relative power of interest groups at the start of reforms gave clear advantage to the former elites. Both politically and economically, the state enterprise managers entered the transition period as the strongest organized group. This was most pronounced in the former Soviet Union where they became dominant (Aslund 1995).

The market socialist reforms that started in Hungary in 1968 and spread to the Soviet Union in the late 1980s aimed at making enterprises more independent of branch ministries. The idea was to depoliticize state enterprises and thus make the managers focus on economic performance. As a result, state enterprise managers were relieved of most supervision by the branch ministries, their formal owners, but no other owners entered the stage, with partial exceptions in the workers' councils of Poland and Hungary. In effect, the state enterprise managers gained ever more freedom but no responsibility.

As communism and the state collapsed, the enterprise managers became more firmly in charge of the formally state-owned enterprises, and the formal threat of their sacking was removed. Contrary to many predictions, no labor or social unrest erupted, and unions remained weak and disorganized. Their disorganization made them unable to fight as a student of the logic of collective action (Olson 1965) would predict.

These observations place the interests of enterprise directors, along with private interests of leaders, at the heart of the decision making process. This motivates our simple formalization of rent seeking as an explanation of inflation which is illustrated in Figure 8.[35]

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[34]A rent is defined as those earnings above what is necessary to attract a factor into a particular use. "Rent-seeking" activities serve no social purpose other than to create or transfer rents. For further discussion see Buchanan, Tollison and Tullock (1980).

[35]Throughout this section we consider the government as a single agent with leaders that maximize own welfare. Uncoordinated decision making can also lead to socially costly polices - see Shleifer and Vishny (1993, 1994) on corruption and Aizenman (1992) on inflation.

At the end of communism most countries had a political elite that was in control of the money creation process. The revenues from credit issue directly leads to inflation (denoted π). The benefits to the political leaders of credit issue associated with a given level of inflation is $U(\pi)$.

The perceived costs of inflation to the elite depend on who they represent, and more generally on the penalties imposed by the political process on leaders that take socially harmful actions. We define their costs as $\alpha C(\pi)$, where $0<\alpha<1$ is a number which indexes the representativeness of political leaders - i.e., their willingness to take society's social costs of resulting inflation, $C(\pi)$ into account in their calculations of welfare. We also assume that α captures the system of checks and balances on a politician's behavior: when α is low society and the political system do not penalize leaders who take socially costly actions.

A benevolent reformer cares about all of society, so $\alpha=1$, while a rent seeking elite might represent only a fraction of the population. Figure 8 shows a static characterization of socially optimal inflation in this rent seeking political environment. The government weighs the marginal costs and benefits of inflation when deciding how much credit to issue. Higher credit issue leads to higher inflation, and this raises marginal costs since the inflation tax is distortionary. The marginal benefits of credit issue falls as the inflation rate rises.[36]

If the government represents only the rent-seeking elite, and if there are no checks and balances in the political system that penalize self-interested leaders, then α will be low and hence the political leadership's perceived costs of inflation may be quite low. This is shown by a marginal cost curve shifted to the right in Figure 8. Likewise, if the financial system is undeveloped so that enterprises and households have difficulty avoiding the inflation tax, then money demand will stay high even when the credit issue is large. This will raise the marginal benefits to the political leaders from higher inflation at every level of inflation, so the marginal benefit curve shifts to the right. In such a situation credit issue would be high leading to high inflation π^* in Figure 8. This leads to several explanations as to why credit issue may be so large, and why it should fall over time in reforming countries.

High inflation countries will be characterized by governments that represent narrow elites, and where it is difficult to avoid the inflation tax due to archaic payments systems and financial sectors. But if a new leader comes to power who is more representative of the population, this model predicts inflation would fall since the new leader perceives higher costs of inflation.

Also, if the political system "normalizes" over time, for example as new interest groups develop and a free press emerges, so that more checks are placed on the leader's behaviour, then the incentive to inflate will be reduced. As people realize that the leader's actions are harmful, and that "subsidized"

[36]A sufficient assumption here is that the marginal revenue from credit issue associated with a unit increase in inflation declines as the inflation rate rises. Steady-state marginal revenues would be constant in a model where money demand is insensitive, but in a model such as the Cagan model, where agents conserve on money balances as inflation rises, there will be a maximum level of seigniorage the government can obtain (i.e. $U'(\pi)$ eventually reaches zero).

bread does not reach the stores, they will be less tolerant of governments that use such policies to make transfers.

Finally, if the financial sector gradually improves, seigniorage will be lower for every level of inflation and the benefits of inflation decline, so we can expect inflation to fall. As the unwillingness to hold domestic currency increases, dollarization proceeds, and the velocity of money rises, the revenues from the inflation tax will fall sharply.

Evidence on Rents after Communism

In the political vacuum at the start of reforms, it is no wonder that some leaders chose or accepted a regime of high inflation and restrictive policies. The extent of potential gain to leaders choosing to use office to make transfers has been staggering, particularly in the former Soviet Union. To understand how these incentives impede reforms, we need to scrutinize the prime methods of rent-seeking used by state enterprise managers and government officials.

Table 11 shows the revenues from net credit and export rents in 16 formerly socialist countries for which we could obtain data. Beside subsidized credits, the most popular means of capturing rents was probably through trade restrictions. In virtually all FSU countries there are substantial quantitative restrictions on natural resource exports. In Turkmenistan, Tajikistan and Kazakhstan extensive systems of trade taxes, licenses, and quantitative controls secured a near monopoly for the state over sales of cotton and energy. In each case the President's office or government Ministries would directly approve export licenses and sales. The result is an opaque system of transfers which generates little direct revenue to the budget and undoubtedly breeds corruption.

The potential rents from subsidized credits, import subsidies and export controls added up to a staggering 55-75% of GNP in Russia in 1992.[37] The battle for such resources is bound to be politically difficult and it is no wonder the reformers faced strong battles against liberalization. These rents varied substantially across countries. Countries without natural resource exports, or countries where potential seigniorage revenues were smaller (notably small countries) would be predisposed to less rent seeking behaviour. It is not surprising that Russia and the cotton and energy rich Central Asian republics are the ones that have experienced the greatest resistance against foreign trade liberalization and stabilization.

There are of course many other methods by which rents can be extracted which we have not quantified. The most straightforward means to extract rents was to demand subsidies from the state

[37]During 1992 the Russian central bank issued 32.7% of GNP in net credits to commercial banks and enterprises, the government, and former republics of the Soviet Union at minimal interest rates (see Table 11). In addition the government received $12.5 billion in bilateral credits which financed import subsidies that covered 99 percent of the cost of some imports. Finally, the potential revenues from export taxes and the implicit values of export quotas and remaining quantitative trade restrictions had an approximate value of $10-25 billion (see Aslund 1995 and 1996, Boone and Fedorov 1996). Considering that Russia's GNP was approximately $80 billion in 1992, these gross rents add up to 55%-75% of GNP. Of course a part of the seigniorage gains were simply transferred back to the same enterprises that paid the inflation tax, so these numbers are in gross terms and do not reflect the net redistribution resulting from seigniorage.

budget. The bargaining power of enterprises rested primarily with their ability to threaten strikes and unemployment. It was primarily large enterprises, coal mines, and other well organized groups of importing enterprises that gained from these threats. Direct credits from the budget were used only modestly, because they have been relatively transparent and therefore difficult to defend in the political process.[38]

Finally, it would appear that the greatest scope for gains was through directly stealing state enterprises, particularly those possessing large natural resources, notably oil and gas. The reforms opened enormous scope for joint ventures, asset sales, and other means to effectively transfer assets and profits to the non-state sector and personal control. Confusion over asset ownership and pricing policies naturally aids those trying to transfer resources. As an indication of the scale of this transfer, the market capitalization of the 200 biggest Russian companies traded on the stock market -- many of which are in the energy sector -- was only 6 percent of GDP in early 1996 (Brunswick Brokerage 1996). However, such transfers may ultimately force full reform. The asset transfers strengthened the private sector, and when transfers were legal (or later legalized) they helped define property rights over resources. While the transfer may be extremely unequal, we can expect that as additional resources are fully transferred to new owners, the new owners will begin to lobby for greater liberalization in their sectors.

Could this large transfer of resources be explained as benevolence and economic rationale rather than rent-seeking? The answer for most countries is decisively no. The enormous size of rents in these countries shows they are well beyond the scope needed for benevolent social programs or well targeted subsidies. A 1991 study by the IMF and other international organizations estimated that a well targeted social safety net would have cost approximately 2.4% of GNP,[39] and it would be hard to justify other subsidies to industry and sensitive sectors more than 5% of GNP. In most reforming countries low wages generally ensured high profitability of industry, thus it would be hard to justify much additional subsidies to sensitive industries.

Yet Russian credit issue in 1992 was 33% of GNP, and all of it was highly subsidized. For the bulk of these credits, the interest rate was 10 or 25 percent per annum, while annual inflation in 1992 was 2500 percent. The only plausible explanation for this massive issue of subsidized credits is that the political system was too weak to hold it back, and that these credits permitted the anti-reform leaders to transfer enormous gifts or rents to their supporters (Aslund 1995).

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[38]Tax breaks have been widely used because they are less transparent. The most blatant example here has been the exemption of the enormously profitable Russian gas monopoly Gazprom from most taxes. Similarly, the Russian "Sports Foundation" run by President Yeltsin's tennis trainer imported most alcohol to Russia in 1994 and 1995 as it was exempt from import tariffs and excise taxes. For 1995, the Russian Ministry of Finance valued the tax exemptions of the Sports Foundation at no less than $6bn, or 2 percent of Russia's GDP in 1995. Anatoli Chubais' opposition to this exemption probably contributed to his dismissal as deputy Prime Minister in January 1996.

[39]See OECD (1991), page 188.

This explanation also provides the most convincing rationale for the close correlation between inflation and liberalization shown in Figure 1. It is not only ignorance or poor judgement that leads to such extreme levels of distortionary policies. Those governments that avoided a period of extreme rent seeking avoided both large credit issue and trade and price regulations causing rent seeking. It could be argued that an optimizing benevolent planner would have carefully planned subsidies and interventions to minimize social costs, but the pattern of restrictions and credit issue in slow reforming formerly socialist countries do not reflect such a purpose.

A simple rent-seeking explanation matches empirical outcomes well, and it is a useful framework to understand the time pattern of reform. Several purely economic factors tend to reduce the scope for rents after reform has begun.

First, as the financial system improves enterprises and households can better economize on money balances, seigniorage will fall. Second, with financial stabilization the real exchange rate tends to appreciate and this reduces the rents from natural resources, as domestic costs rise towards world prices. Finally, commodity credits from foreign sources, as distinct from the IMF or other donors insisting on financial conditionality, dried up in 1992 and this reduced the third main source of financing to the government.

The diagram in Figure 8 shows that a reduction in seigniorage -- which all countries have experienced with the improvement in the financial sector -- would reduce the benefits of rents, thus causing the marginal benefit curve to shift leftwards. Indeed, as shown in Figure 9, the net credit issue in Russia declined sharply after 1992. Improvements in the financial system, and the ensuing opportunity to avoid the inflation tax, gave enterprises and households more opportunities to conserve on rouble balances, thus reducing state revenues from credits sharply after mid-1992.

There are also important political factors that explain changing incentives for rent seeking. In democratic countries politicians were increasingly held responsible for harmful policies by a free press and popular opinion (see section IV below). This reduces their incentives to maintain a regime of distortionary policies, i.e. the cost curve in Figure 8 shifts left. Even when elections were not held, opposition groups gained strength and organization over time both as their economic powers changed and with improved logistics. The harmful effects of high inflation helped unite society against inflationary policies. *Ever more people understood -- and reacted against -- the ongoing rent-seeking.*

Summarizing the Reformer's Political Choices

The political vacuum at the start of reforms, and the enormous opportunities for rent seeking, meant that any group vying for reform faced an uphill battle. Hardly any norms existed. The state was weak as were popular representation, civil society, and public understanding of economics. The legal system was rudimentary with irrelevant laws and a weak judiciary. The legacy of price distortions was staggering, and a multitude of obsolete economic regulations persisted.

But this need not prevent reforms from being carried out and the political vacuum gave both reformers and rent-seekers great opportunities. The political leaders in formerly socialist countries came to power for many different reasons, and once in power they generally had leeway to design and carry out policies as they chose. President Leonid Kravchuk of Ukraine was elected on a wave of nationalism and then chose to buy support from vested interests through credits. But Prime Minister Tadeusz Mazowiecki and Deputy Prime Minister Leszek Balcerowicz in Poland chose to implement real reform. Similarly, Russian President Boris Yeltsin decided to back Yegor Gaidar and his radical reform program. In all these cases leaders had choices based on a popular mandate to conduct reform.

The main question facing a benevolent reformer is: what is the optimal speed and design of reform so as to maximize social welfare? Just as with the economic arguments discussed in Section I, there are political arguments that would suggest optimal reform could be either slow or fast.

For example, Dewatripont and Roland (1995) argue that gradual reform is politically optimal since it allows the government to buy compliance from interest groups that are hurt by reforms. If the government does not buy off the opposition, the opposition will prevent or reverse reforms. In their framework it can become too costly to buy off all groups at once, so instead the government sequences its reforms and buys off each group in a piecemeal fashion. Gradual reform becomes the only politically sustainable outcome.[40]

An alternative view of the political process is that a politician, once coming to power, has a brief grace period in which to succeed or fail. Balcerowicz (1994) calls this period the time of "extraordinary politics" when much can be done with relative ease that later will prove all but impossible. Soon opponents will mobilize strength and coordinate to oppose him. Once opponents are strong, a political battle ensues, and either the reformer maintains power or is eventually toppled. In such an environment the goal of a politician in favor of broad reform will be to maximize overall social welfare to raise his chances of winning these battles, and also ensuring that reforms are irreversible.

We can formalize this argument by modifying our political economy model. Suppose a benevolent politician who wants to conduct reform comes to power. This is a politician who cares about a large fraction of the population in our previous framework, i.e., $\alpha=1$. His subsequent choice of policies will affect both the returns to society today, and his chances to win an election. If in the next period an antireform group comes to power, they choose a different (high) inflation path $\pi=\pi^*$. He wins the election with probability p(pi) which depends on policy choices today. In a two period framework the benevolent reformer today then chooses π_t, to maximize:

[40]The same result is in Wei (1993), who expands on a paper by Fernandez and Rodrik (1991) to show why it may be optimal to gradually reform. Laban and Wolf (1993) argue that more radical reform can lower real wages and lead to social backlash preventing reform. In these models, if the government could buy off the losers, they could ensure reforms were rapid.

$$\max_{\pi_t, \pi_{t+1}} U(\pi_t) - C(\pi_t) + p(\pi_t)[U(\pi_{t+1}) - C(\pi_{t+1})] + (1 - p(\pi_t))[U(\pi^*_{t+1}) - C(\pi^*_{t+1})]$$

which has a solution based on the first order conditions with:

$$\pi_t > \pi^s_t \quad if \quad p'(\pi_t) < 0$$
$$\pi_t = \pi^s_t \quad if \quad p'(\pi_t) = 0$$
$$\pi_t < \pi^s_t \quad if \quad p'(\pi_t) > 0$$

where π^s_t is the socially optimal inflation rate.[41] This illustrates two clear mechanisms by which today's choices affect future outcomes. First, if today's policies have no effect on the probability of staying in power next period, then $p'=0$, and it is clear that the leader would choose to reduce inflation according to broad social benefits (setting the marginal social benefit equal to the marginal social cost of inflation).

But in theory, the effect of current policies on the probability of reelection can go either way. Consistent with the model of Dewatripont and Roland (1995), if a rapid reduction in inflation reduces the probability of winning the next election then even a benevolent reformer would prefer gradual reform.

In contrast, if reform actually raises the probability of winning elections, then $p'>0$, and the party in power would generally want to move more rapidly. This could be the case if reform undermines opposition and builds support sufficiently rapidly.

The second mechanism through which today's choices affect the next period outcome is through their impact on the antireformer's optimal choice of π_{t+1}. As we discuss in section V, it may be possible to introduce policies which change the payoffs to subsequent politicians from high inflation. There are both economic measures and modifications to the political process which can reduce the scope for further distortionary policies. If today's policies reduce the optimal level of inflation for all future leaders, then reforms may be sustainable even when the government that introduces the reforms loses subsequent power struggles. Section V examines several examples of lessons from post-communist countries.

The framework here also demonstrates the critical role empirical analysis can play to better answer questions which are essential when deciding the speed of reform. Does the public tend to penalize rapid reform or support it? Are the chances of reform being sustained enhanced by rapid change or hurt by it? These are questions which theory cannot unambiguously answer. A careful examination of political and social outcomes can help to sort through plausible answers to these questions. We turn to these issues in the next section.

IV. The Electoral Fortunes of Reform

This section addresses two questions. Which policies lose elections? And does the public prefer gradual or rapid reform?

[41] Assuming U and C are strictly concave and convex respectively.

Which Policies Lose Elections?

Since 1992 a general impression has formed that reformers have lost most elections in the former communist countries to revived communist parties, sometimes in alliance with other anti-reform groups such as peasant parties. This perception began when the former communist party regained a parliamentary majority in Lithuania in November 1992, and strengthened as pro-reform losses followed in Poland in September 1993, Russia in December 1993, Hungary in May 1994, Bulgaria in December 1994, Estonia in March 1995, and Latvia in fall 1995. Leaving not very democratic Central Asia and the war-torn Caucasus aside, there are fourteen formerly Soviet-type countries in Europe with at least formal democracy, which makes a backlash against pro-reform parties in seven countries appear to represent a serious trend.

However, the election results are not as straightforward as these numbers suggest. In almost all countries the center-right parties have been much more fragmented than the former communist parties and the peasant parties. Because of mostly proportional representation with a minimum threshold for obtaining seats (e.g., five percent of the votes cast), the popularity of former communists amongst the voters has generally been lower than their share of the parliamentary seats.

Table 12 shows results for each country in the first two or three freely contested parliamentary elections leading up to or following the end of the communist regime.[42] In the table, an ex-communist party is rather narrowly defined as a party arising directly out of a former communist party. In several cases the communist party split into more than one party which should be considered ex-communist in the sense that they have a clear organizational legacy.

Table 12 shows that only in Moldova did ex-communist parties gain an absolute majority of the votes cast in the second parliamentary elections. In two other countries, Bulgaria and Lithuania, such parties surpassed 40 percent of the votes. However, throughout the region, the electoral system repeatedly turned a modest plurality of votes into an absolute majority of legislative seats.

In Lithuania the ex-communist Democratic Labour party received 43 percent of the votes cast in October 1992 but 52 percent of the seats. In the Hungarian parliamentary elections, the Socialist Party increased its share of the votes cast from 10.9 percent in April 1991 to only 33.0 percent in May 1994, but that sufficed for 54.4 percent of the seats. In Poland, the ex-communist Democratic Left Alliance increased its share of the votes cast from 12.0 percent in October 1991 to 20.4 percent in September 1993, while its ally the Polish Peasant Party rose from 8.7 percent to 15.4 percent. However, their combined 35.8 percent of the votes was enough to win 66 percent of the parliamentary seats, because no less than 34.5 percent of the votes were cast for centrist and right-wing parties that did not cross the minimum threshold. A reasonable conclusion is that if the non-socialist parties had maintained sufficient cooperation, the ex-communists would have remained a minority in Lithuania, Hungary and Poland.

[42]To help comparisons we show only the first two Estonian elections, but discuss the third one below.

Table 12 can also be used to examine further the relation between the speed of reform and the ex-communist comeback. Of the six countries which pursued immediate radical reform, in four cases similar party coalitions have won the ensuing parliamentary elections. We might exclude Slovakia because although it has effectively been a radical reformer, the reforms originated in the former Czechoslovakia, and the Slovakian governments have been highly unstable because of vagaries within parliament. This leaves three out of five radical reforming governments having won the subsequent elections (the Czech Republic, Albania, and Latvia.)[43]

Only two governments pursuing radical reform were beaten in post-reform parliamentary elections: the Polish government in September 1993, and the Estonian government in the third elections in March 1995 (Table 12 gives only the first and second Estonian elections). The primary cause of the Polish result was the fragmentation of the non-communist vote discussed above. The Estonian government headed by Mart Laar was arguably the most purely liberal government in the region. It insisted on fully liberal trade, cut subsidies massively, liberalized all prices, cut entitlements (notably pensions), raised the retirement age, and implemented a Treuhand-style privatization which sold enterprises to the rich and foreigners. While their radical reforms appear to gone beyond what was publicly acceptable, the subsequent centrist coalition has not revoked these policies so far.

But what happens to governments which choose not to reform? Table 12 shows that all of the four European gradualist non-socialist governments lost the next election. Furthermore, few governments have been as badly beaten as the Hungarian and Lithuanian governments. The Russian government managed to hang onto power but effectively lost the elections in December 1993. The Bulgarian Union of Democratic forces has suffered splits, and the government fell apart after an attempt at rapid reform in February 1991, but there was also a substantial swing to the ex-communist party in the elections of December 1994.

Ex-communist governments that delay reform can also have electoral troubles (assuming they accept some democracy). Although none of these countries has been fully democratic (Freedom 1995), two out of four governments in this group have lost elections. In spite of several restrictions on the electoral process, the incumbent Presidents in Ukraine and Belarus were beaten in the summer of 1994. In Moldova the government won the election after delaying reform, and subsequently embraced radical economic policies. The Romanian government won but with a sharply reduced majority -- the ex-communist vote fell from 67.4 percent in May 1990 to 37.9 percent in September 1992.

This analysis of election results does not suggest that slowing reform raised the odds of winning elections. The simple empirical record shows that as a strategy for survival radical reform may actually raise chances of winning subsequent elections. Further, apart from Estonia, there is no clear sign of a

[43]In Albania, radical reforms were launched by democrats in a communist-led coalition government and the democrats won the 1992 elections. The Latvian parliament was effectively hung after the third elections in fall 1995.

popular backlash against radical reform, and in all the cases where a reforming government has lost the elections, the reforms have not been reversed.[44]

The second conclusion is that under post-communist transition most incumbent governments become unpopular regardless of their economic programs. In countries with slower reforms, incumbent governments were likely to be thrown out if democratic elections were permitted. In all countries the ex-communist parties benefitted from better organization and less fragmentation than newer parties, and this helped them gain disproportionately large representation after the initial reform period.

Finally, the former communist parties have in many cases transformed themselves so that they are effectively social democratic parties. There is very little backtracking even in the countries with the most radical early reform programs. The observer is left with the impression that people have taken all the economic suffering surprisingly well, and once reforms are implemented they appear irreversible.

Does the Public Prefer Gradual or Rapid Reform ?

Most of these elections have been characterized by low participation, and do not necessarily reveal broader public opinion. In fact it has been claimed that disillusionment with reform goes much deeper than actually reflected in election results. To assess this position we turn to opinion poll data. In order to have comparable numbers for the most possible countries over several years, we shall use the Eurobarometer, carried out by the European Commission for up to six years in 18 post-communist countries (European Commission 1995).

The first relevant question is whether people perceive that their country is moving in the right direction or not. Table 13 contains only the net, that is, the percentage of positive replies minus the percentage of negative responses. The overall pessimism is striking. Only three nations displayed a positive outlook in 1994: Albania, the Czech Republic and Estonia. Curiously, these three happen to be the three most radical reformers. In 1995, the average among the radical reformers is a net of 13 percent positive, in comparison with 44 percent negative among the non-socialist gradualists. Again, Slovakian politics are an anomaly. Not all radical reforming countries show optimism. Yet, irrespective of regime, gradual reforms do not appear to breed greater optimism.

Table 14 shows responses to a question directly about the desired speed of reform. Strikingly, more people find reforms too slow, or simply absent, compared with those who find reforms too fast in all the countries investigated. Only the Czech Republic maintains a balance between the two. Even after a great deal of difficult structural change with radical reform in Albania and Estonia, a large majority desires faster reforms.

This picture can be further corroborated with other questions such as future expected household incomes and alternative systems, showing that while the market economy is not all that popular in itself,

[44]In both the de Melo, Denizer, and Gelb (1995) and EBRD (1995) indices there has been almost no backtracking. According to these measures the only country to have gone backwards on any dimension of policy is Ukraine in 1993, i.e., before it started real reform.

households expect their future incomes to rise and few see any alternative to the market economy. Although radical reforms hardly raise the standard of living immediately, people expect they will do so later on. In most of the former Soviet republics, however, people are deeply dissatisfied.

In terms of the reversibility of reforms, an important indicator should be people's attitudes to the market economy overall. Table 15 shows attitudes were positive in all of the fast reforming countries, but negative among most gradual reformers in 1995. The market economy is distinctly unpopular in countries where the reforms remain far from complete.

Thus, our conclusions from the election results are reinforced by the opinion polls: rapid reform does not meet with a groundswell of political opposition that would threaten to reverse it. If we were to use this evidence to infer the impact of rapid change on probabilities of winning elections, we would at worst conclude there is no correlation. Second, this evidence suggests that rapid and early reform raises the odds of the reform government winning elections and diminishes the risk of reversal. Experience so far indicates that once entered into, even subsequent ex-communist governments generally support the continuation of reform and do not try to reverse reformist policies.

V. Economic Strategies for Irreversible Reforms

In Sections II and IV we showed there is no strong empirical evidence that economic outcomes or popular support were adversely affected by rapid reforms. Further, gradual reform reflected underlying rent-seeking which contributed to slow structural adjustment and enormous income redistribution. And country examples suggest that once reforms are embarked on, they become extremely difficult to reverse.

The goal of a reform leader should hence be to promote reforms by limiting the possibilities of rent-seeking through multiple methods. Programs should include: rules which limit policies aimed at squandering resources including full price and trade liberalization; measures to raise the penalties associated with distortionary policies such as legislation on corruption and activities of public sector employees; and also measures to ensure more intense monitoring of political leaders. Thus both economic and political measures should form part of well-designed stabilization programs in the post communist countries.

But implementing such measures is no easy task. A stark battle rages over stabilization. On the one hand, the state enterprise managers insist on receiving subsidized credits and the like from the government. They use the ongoing sharp decline in output -- both before and after stabilization has been attempted -- as an argument for more funds. However, the more subsidies or rent they obtain, the less effort they put into restructuring and raising production. The managers benefit from a prior high reputation and the system in place already subsidizes them. They argue they need time for adjustment, but when they get the money they use it for anything but adjustment. This lobby demands loose credit as the principal means to postpone the decline, and transfers resources to itself.

The reformers are in an unenviable position. They need to stop the flow of subsidies to the big state enterprises, which will force them to adjust and after some time put an end to the decline in national output (Bruno and Easterly 1995). However, it is counterintuitive that a disruption of subsidies to producers would lead to the revival of production. Moreover, post-socialist society maintains a Marxist preoccupation with material production and large-scale industry.

Despite the apparent difficulties for reformers, post-communist experience shows an immediate stabilization can be politically self-sustaining. Whenever a stabilization is launched, the industrial lobby cries out. However, its resistance is highly dependent on the determination and intellectual and political credibility of the reformers. When stabilization starts to bite, many industrial managers give up hope of state subsidies and start adjusting to survive in the market. At this point the industrial lobby breaks up and reform wins.

The best example is Czechoslovakia where, at the time of radical reform, the reformers had won the public debate, prevailed in parliamentary elections, and controlled all relevant government agencies. In Poland all these mandates were weaker but that was partly compensated for with a vigorous introduction and pursuit of a radical reform program. In Russia, on the contrary, lacking credibility of radical reform aroused massive resistance from the industrial lobby, which succeeded in breaking the attempted radical reform.

The conclusion is unequivocal: the more determined and thus credible a stabilization attempt is, the less the state industry protests and the earlier it starts adjusting. Soon industry is divided into progressive market-oriented managers and regressive state-oriented managers, and the militant subsidy-seeking industrial lobby fades away.

We now consider elements of stabilization programs that have played an important role in making policies hard to reverse. We focus on five issues: the main ingredients of reform packages, preemptive policy changes, poison pills, conditional assistance, and deadlines within the budgetary process.

The Main Ingredients of Reform Packages

The best way to ensure continued reforms is to break rent-seeking. In this regard our analysis provides further support for the position of Balcerowicz (1995) and Lipton and Sachs (1990). Programs must include near complete price and trade liberalization, elimination of subsidies to and preferential treatment of producers, and early measures to better define property rights and governance over state assets. Programs must also include measures which limit political payoffs and opportunities for rent-seeking and corruption. For example, in Poland the old communist associations which threatened reforms were dismantled: including the formal structures of the coal lobby, the union of cooperatives, and other important bastions of the nomenklatura (Johnson and Kowalska 1994).

These policies must be matched by measures that penalize corruption: this must include a clear commitment to democracy and transparency. There is no greater force to seek out corruption than a free press. And a democratic process in combination with a free press can limit the most extreme forms of

rent-seeking. Facing social criticisms, the threat of losing power, and even punishment, politicians will undoubtedly weigh the costs of corruption carefully.

One clear lesson from the post-communist countries is that political checks and balances should be added at the top of the list of policy changes. Many of these can be added directly to IMF programs as part of regular conditionality. But such measures are sometimes impossible to implement at the start of reforms, or out of control of the leaders attempting to carry out reforms. In the following subsections we examine a range of more specific policies which have proven successful in particular circumstances in these countries.

Preemptive Policy Changes

Partial or preemptive policy changes may change the payoffs to political actors so that reforms are maintained. In Ukraine there was a relative power vacuum in fall 1993 after a coal miners' strike incited a political battle between the parliament and President. The result of the struggle was a compromise agreement to hold new elections for the parliament and President. As the various groups waited for the elections, in December 1993 the governor of the central bank launched a single handed attempt to reduce inflation from hyperinflationary levels. He virtually stopped credit issue and there was an immediate decline in inflation and output (Figure 10). The policies met with substantial criticism from President Leonid Kravchuk, and he vowed to fire the governor once elections were over.

In surprise results Kravchuk lost the elections to former Prime Minister Leonid Kuchma, and once Kuchma came to power he faced the choice of reversing the stabilization or agreeing to it. Given that many of the costs of stabilization had already been borne, and if stabilization was maintained he would receive conditional aid from the IMF, Kuchma was faced with a much different environment from that of December 1993. By making a preemptive attack on inflation the central bank governor changed the incentives enough for Kuchma, which presumably contributed to his decision to continue with relatively tight monetary policies.[45]

A similar pattern was seen in Serbia. After hyperinflation in 1993, in January 1994 the Minister of Finance announced a stabilization program with a pegged exchange rate. At the same time the Serb government announced their budget deficit would be 15% of GNP, and without other sources of financing this could only be financed through money issue. Since they had built up enough reserves to more than cover outstanding reserve money, the pegged exchange rate was credible for approximately four to five months if the budget deficit was implemented as planned.[46] After this time we could have

[45]It was not at all clear that Kuchma would have chosen stabilization in any case. He had previously been Prime Minister in Ukraine during a high inflation period, and in the election campaign he did not advocate stabilization or radical reform.

[46]See the discussion in Rostowski (1995) and Beogetic, Dragutinovic, and Petrovic (1995).

expected a run on reserves and move to higher inflation as domestic money rose above outstanding reserves.[47]

As in the Ukrainian case, the initial public support for the stabilization changed the nature of the political game. The reformist ministers within the government were strengthened by the early support and success of the program as inflation fell. It was then clear that unless the budget was adjusted the program would break down. In April the cabinet finally agreed on a reduced deficit so failure was avoided. Once again it seems likely that the early stabilization, and the subsequently changed payoffs to those supporting and opposing budget cuts, turned out to be sufficient to shift the balance of opinion in favor of budget cuts by April.

The game tree in Figure 11 helps to explain what happens. A preemptive action on the part of a small group with some temporary power over exchange rate policy, or monetary policy, changes subsequent incentives for political actors. The essential point in Figure 11 is that the costs of adjustment (labelled E) are sunk and occur at the start. Thus the cost of maintaining stabilization is less for leaders who come to power after the sunk costs are paid.

This is consistent with the discussion of the industrial lobby above. A partial stabilization program that hits hard enough and remains in place long enough will cause the industrial lobby to lose power. Before the first attempt at stabilization the industrial lobby is at its strongest, but its power steadily weakens if reform continues. The reformer's problem is therefore getting the policy started and achieving sufficient reform before the opposition becomes too strong. In order to break the asocial endeavors of the industrial lobby and turn it to industrial restructuring, as hard a stabilization as possible seems desirable.

In practice it will not be clear whether these temporary changes will be enough to ensure that reforms are not reversed. In Ukraine the decision to maintain course was in part due to the change of leadership, but also IMF financing and a growing popular understanding. In Serbia the decision to stop financing the war ensured the budget could be kept in reasonable balance, and fingers had already been burnt from the severe hyperinflation in 1993.

Preemptive strikes will obviously work best in an environment where the costs and benefits of inflation are nearly balanced, but when there are still some actors opposing deflation. It requires that one group favoring stabilization gains control of money issue for some period. It is also helpful if the temporary stabilization creates costs of undoing the reform, for example because a fixed exchange rate has become popular, or people learn the benefits and possibilities of low inflation. In this case the temporary policy not only incurs the sunk cost, but also sets up a type of poison pill -- any policy retreat will run counter to popular opinion.

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[47]In the case of perfect foresight, the run on reserves occurs in theory when the difference between the existing stock of base money and the stock of base money demanded at the subsequent higher inflation rate, equals outstanding foreign reserves of the central bank.

Poison Pills

Poison pills are a well known device employed against corporate takeovers, but some post-communist countries have used similar methods in their macroeconomic policies.[48] The leading example is a currency board. For example, in July 1992 the Estonian central bank governor announced a fixed exchange rate, and introduced a currency board system. This was just prior to elections. By introducing such a system they effectively changed the incentives of subsequent governments.

The poison pill aspect of a currency board is that it is extremely difficult to reverse without risk of financial turmoil.[49] Under the rules of operation: the Bank of Estonia must always buy or sell foreign exchange on demand at a given exchange rate from all domestic entities; there are no provisions for suspension of foreign currency sales; and the exchange rate is pegged with onerous procedures required to change it. The parliament must approve any change in the exchange rate, and this ensures there will be a real risk of news leakage and hence a run on foreign reserves prior to an agreement being reached in parliament. Unless there was wide consensus on changing the rules, it would be dangerous for any one group to open a Pandora's box by trying to change the system.[50]

The second example of a poison pill also comes from Estonia. After fixing their exchange rate the Bank of Estonia sold future contracts up to eight years ahead, at low fees, promising to sell foreign exchange at 8 Kroon per DM. Approximately 4% of GNP in contracts have been sold to date - this is a very clear example of a poison pill. Any central bank governor who in the future chooses to devalue the currency will face losses on these outstanding futures contracts.[51]

The poison pill aspect of the currency board system means that it changes the political payoffs to policy reversals. Figure 12 shows how payoffs might change. Suppose in the first stage of a game the government is unsure of whether it will win an election and stay in power in the second stage. The alternative second period government is less representative of social interests ($\alpha < 1$) and hence has greater incentive to cause inflation.

Suppose further that if reforms last long enough, which in this case means two periods, they will not be reversed since the major proponents of reversal will be sufficiently weakened. The payoffs to alternative policies are shown in Figure 12. If in the second stage of the game the opponents come to power the net payoff from reversing reforms is $U(\pi^h)-\alpha C(\pi^h)-P$ when there is a poison pill and simply $U(\pi^h)-\alpha C(\pi^h)$ *when there is no pill. Here "P" is the cost imposed on the political leaders who initiate* the poison pill. This makes it clear that there are two key criteria necessary for a poison pill to work:

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[48]See Dower, Johnson, and Jensen (1995) for a discussion of poison pills in corporate finance.

[49]Boone and Horder (1996) discuss issues related to poison pills in stabilization policy.

[50]Of course politicians might not want to tie themselves irrevocably to such rules. For this reason it may make sense to limit the legal duration of such rules, and to prespecify the transition to a more flexible system (e.g., a crawling peg).

[51]Personal communications with Ardo Hansson, adviser to the Prime Minister and Bank of Estonia 1992-1995. This is obviously a dangerous policy. The Bank of Estonia runs the risk of creating interest groups, i.e. those holding the futures contracts, which will lobby for a devaluation!

the opponent must pay and expect a penalty when they reverse reforms; and the opponent's expected penalty must be greater than the perceived net gains from policy reversal. Note that a poison pill may also be painful for other members of society, and the risk is that if the two criteria are not satisfied, poison pills will backfire. It is also important to be able to limit the duration of the pill.[52]

The Estonian examples are clear cases of poison pills, but the argument can be extended to other policies. As described below, conditional foreign aid can have the attributes of a poison pill. Pegged exchange rates can also lock in policies if they are popular with the public so that politicians are penalized if they revoke the peg. Short term debt also serves as a pill. If financial markets believe the government may alter monetary policy in the future, they will bid up interest rates today, thus immediately penalizing a government that needs to roll over outstanding bonds.

However, when potential gains from breaking the rules are large, such a system would be politically ineffective. It is also a question of whether those who would suffer are those who decide. For example if a poison pill were used to lock in stabilization which reduced rents reported in Table 11, then in countries and periods where potential seigniorage revenues were largest, any plausible pill might be too insignificant to prevent reversals. Seigniorage revenues are likely to be greatest in large countries where there is less indexing to the exchange rate, and opportunities for other rents are largest in countries where there are substantial natural resources. In these countries poison pills are likely to be infeasible as mechanisms to lock in stabilization or liberalization since they would not satisfy the second criterion - i.e. that the penalty is greater than potential benefits of breaking the rules.[53]

Conditional Assistance

In post-communist countries where rent seeking is an important hindrance to reform, and where reforms eventually weaken the opposition, conditional aid can shift the balance of power in favor of reform when it is highly conditional on reform measures. Such reforms will be sustainable if they change the future political equilibrium - in this case weaken the old elite, or prevent the old elite from reversing reforms or returning to power.

The chief mechanism of conditionality in the formerly socialist countries has been IMF programs. These generally contained requirements that countries aim to reduce seigniorage/inflation, remove price and trade restrictions, and liberalize foreign exchange markets. Each of these measures sharply reduces the scope for rents and hence will meet with opposition. These conditions illustrate how the success of conditional aid programs will depend on the scope for rents. For example similar amounts of aid when measured as a fraction of GNP would be more effective in the Kyrgyz Republic or Latvia, both countries

[52]It may be possible to find a poison pill which should not be of limited duration. In his analysis of restitution, Costello (1996) suggests that returning property to the original owners may be more politically costly to undo than other forms of privatization. Under the right conditions restitution could act as a form of poison pill.

[53]The standard argument is that currency boards do not work in large countries because they are less open. However, our reasoning is different because it is based on political economy.

with few natural resource and little scope for seigniorage, than in Russia or cotton and energy rich Turkmenistan.

The main question facing reformers and aid agencies is whether once implemented, such reforms will eventually become irreversible. If reforms do become irreversible in a short period of time, then early financial assistance provided highly conditional on reform measures will ensure policy measures remain implemented. But if reforms are reversible, then aid risks being wasted as measures are changed the moment conditionality ends, or a new government reverses the measures.

There are good reasons to believe that the post communist era has unique aspects which made sustainable reform more likely. The power of the old state enterprise managers peaks just before radical economic reforms are launched. If the reforms are successful, the old industrial elite will lose out. They no longer have free access to state funds, and they are checked by both domestic and foreign competition. The main resistance against reform tends to coalesce around mechanisms generating rents. Energy pricing has been one mainstay of rents; collective action among *kolkhoz* chairmen for state procurement backed by budget financing has been another focus; a third kind of resistance has been the largest enterprises because of their sheer size. The political instability and redrawing of forces in CIS countries has made the case for sustainability particularly strong. This makes a strong case in favor of large and early up front aid to buttress governments that are implementing reform programs.

Aid can also be designed specifically to raise the chances of sustainability. The most clear example of this is a conditional stabilization fund. In the cases of Poland and Czechoslovakia, a large stabilization fund gave political benefits to leaders, and it also came with implicit monetary and exchange rate rules. If a stabilization fund is withdrawn it would substantially reduce the government's credibility in financial markets and provide direct evidence to the population that policies are not consistent with stabilization and liberal market reforms. Thus stabilization funds can then act like poison pills. A program designed with such a fund is more likely to be sustainable than a program with conditional aid only. But of course, if the potential rents are large, then a country would still refuse to enter into such an agreement.

Budget Process and Deadlines: Checks and Balances

While we have focused on cases where reformers are fighting off opposition from those demanding subsidies or rents, sometimes the risk to reforms comes from a breakdown of political process which is used by opponents of reform. Then it is vital to have checks and balances that defend the achieved system.

In theory poor economic policies can represent lack of coordination or rational indecision rather than outcomes chosen by any single agent. Alesina and Drazen (1992) argue that wars of attrition, where one party has a veto right over decisions needed to stabilize the economy, can result in long periods of socially costly inflation. In their model it is possible to introduce mechanisms that change the incentives of each group such that they are more willing to make early agreements and concessions.

According to Aizenman (1989), lack of coordination amongst policy makers drives the inflation process. In his model each Ministry has the opportunity to effectively issue credits, say by precommiting to spending and building up arrears. If each of the spending agencies does not take into account the costs to other groups of their actions, there is a potential for high subsequent inflation in part driven by lack of coordination.

Similarly in post-communist societies rent-seeking groups use the lack of coordination to their own advantage. As opposition to reform grows, rent-seeking groups find ways to obstruct and delay change. Rules which force coordination and early decision making may help the reformer to ensure stabilization is sustainable. Indeed, in many countries lack of coordination between agencies has been an important contributing cause of inflation.

In Ukraine the parliament had the legal right to make special demands for emergency credits and spending. This meant the government, parliament, and central bank were all effectively able to issue credit demands. In Russia in the early years after stabilization there was no clear process for credit coordination. This was further exacerbated by the right of both the government and President to grant tax waivers and make spending promises, and of the parliament to legislate similar changes. A great deal can be done to introduce more transparency and rigor in the process and control of budgeting.

First, it is vital to bring all expenditures under the central control of the Ministry of Finance. Under communism, the Ministry of Finance was weak and did not control all central expenditures. In the early transition period, quasi-fiscal expenditures such as subsidized credits, exchange rate subsidies, and extrabudgetary funds proliferated, as well as tax exemptions.

Second, another weak institution is the central bank. Financing of the government must no longer be automatic nor at a minimal interest rate. The central bank should receive statutory independence, so that it not only can but is also supposed to refuse funding for the budget.

Third, the budget process should be regularized with penalties attached which help to limit debates, and measures that ensure coordination between the main political actors.

In Russia the stabilization program was designed with a set of clear rules to ensure coordination. The budget has to be adopted by the state Duma in three readings. Next it must be adopted by the Federation Council -- the upper chamber of parliament. The President can veto draft budget laws three times and then call for the resignation of the parliament. The program also integrated a Presidential decree which required that any spending outside of the budget agreement must be explicitly approved by the President. Otherwise the budget can only be revised by going through all the above procedures once again. There was also a clear mechanism under the new constitution which outlined the formation of reconciliation teams including delegated members of the parliament and government.

The Russian rules effectively make the President the main coordinating agent. He must approve the budget agreement reached between the parliament and the government, and he also can dismiss the parliament if they miss the prescribed deadlines for approval of the budget. He is responsible to ensure that the budget is subsequently implemented as planned and he can veto spending order from all other

groups that are outside the budget. The rules have lead to an effective system that prevents excessive credit issue for reasons related to lack of coordination.

The Estonians have put in place similarly stringent rules. Under the currency board system it is illegal for the Bank of Estonia to issue credits, hence there can be no monetary financing of the government deficit. In addition they have extremely rigid rules ensuring policy coordination in the budget process. The constitution requires that the Parliament approve a budget no later than two months into the fiscal year. If no budget is approved the Parliament is automatically dissolved and new elections are held.

In the formerly socialist countries the disintegration of the political decision making process meant that such rules and processes were often lost. There is both the need and opportunity to design the budget process anew at the beginning of a stabilization program. The specifics will depend on the country in question, but the following are some basic rules:

(1) There should be an ultimate arbiter who has the opportunity to penalize groups which do not make decisions. Such penalties should be obligatory though there may be discretion as to which group is penalized;

(2) there must be a mechanism which ensures participation and encourages agreement between all major political groupings in the process;

(3) there should be clear costs which can be attributed to each group when the process breaks down and deadlines are not met, and there must also be means for resolving the crisis (such as an election) if no ultimate agreement can be obtained;

(4) there should be a mechanism for ensuring implementation of the budget as planned and a legal requirements that prevent deviations outside of emergencies. There must be one arbiter held responsible for deciding when deviations are legitimate.

Even when such procedural rules are included in a stabilization program, there may still be a problem of adherence. Such rules can only work when they are part of a program which is legitimately accepted by most political groups. In practice the new leaders in these countries appeared to have the most power at the start of their period in office. If there is a "window of opportunity" when a leader can implement such rules, than they may in turn become difficult to change later in time, thus locking in a stable budget making process which prevents wars of attrition, or inflation driven by uncoordinated policy making.

VI. Implications for the Design of Political and Economic Reform

The first six years of post-communist economic transformation strongly suggest the way in which macroeconomic stabilization is undertaken is a key determinant of both overall performance and the distribution of benefits from reform. Macroeconomic stabilization and economic liberalization are closely related because effective stabilization requires both price and trade liberalization.

The experiences of various countries make clear that governments can make important choices. Some governments have tried to undertake early and radical stabilization and liberalization, while others have chosen to delay implementation of these policies.

Is there an economic case for delaying reform or slowing it down? On this point there is a stark contrast between the policy prescription literature, which tends to favor radical macroeconomic stabilization policies, and most of the formal models, which advocate considerably slower stabilization. The formal models tend to be based on the perception that radical stabilization causes negative externalities which lead to some combination of larger output decline, less private sector growth, higher unemployment, and less pro-market institutional development.

Empirically, the evidence appears rather to suggest that immediate radical reform leads to an earlier but smaller total decline in output, and to an faster and larger development of the private sector. Unemployment does not vary systematically with the pattern of reform.[54] The development of pro-market institutions is more difficult to measure, but the early stabilizers appear to do rather well. Given this evidence, it appears quite plausible that complementarities and positive externalities at least balance the adjustment costs and negative externalities. In fact, the balance of evidence available so far suggests radical reforming countries perform better.

Why then do governments opt for gradual or delayed reform? One of the most striking facts about post-communist economies is that a limited number of people have gained greatly from rent-seeking. Unlike the externalities discussed in all the formal models, rent-seeking is closely correlated with slow or delayed stabilization.

The delay of reform is best explained by a model of rent-seeking in transition in which the transfer of resources occurs through cheap credits, which in turn directly influences the development of inflation. The other main source of rents appears to have been arbitrage in foreign trade made possible by domestic price controls, multiple exchange rates, and foreign trade controls. The beneficiaries of these kinds of rents are a small elite of traders, financiers, enterprise managers, and corrupt officials.

It therefore follows that a more representative government will tend to restrict rent-seeking more, it understands the effects of its policies. For a limited subset of rents (subsidized credits and arbitrage in regulated foreign trade) we find that the gross rents were probably as high as 75 percent of GDP in Russia in 1992, but these rents have declined sharply with subsequent liberalizations to just several percent of GDP in 1995.

Greater rent-seeking explains why inflation has been higher in the former Soviet Union than in Central Europe. Thus inflation reflects primarily the strength of the elite of old economic managers. It can also be seen as a reflection of the extent to which ordinary social norms and the "rule of law" exist in society.

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[54]The variation in unemployment rates is probably due more to labor market policies -- wage controls, wage flexibility, and unionization -- than to overall economic policies. But there is still no fully satisfactory theoretical and empirical explanation for cross-country unemployment pattern.

When reformers have a real opportunity, they must aim to minimize the rent-seeking early on, as protracted rent-seeking leads both to greater inequality and higher social costs of transition. It is true that sooner or later most countries do stabilize, but in the cases of late stabilization, the cause appears to be that the scope for extracting rents falls as enterprises, banks, and the new private sector find means to avoid the inflation tax. It is probably also the case that a sufficient number of members of the old economic elite have accumulated sufficient wealth. In any case, the costs to society are almost certainly higher than if stabilization had been earlier.

From this perspective, the democratic political task is complementary to the essential economic package of stabilization and liberalization. Politically, the task is to deprive the old communist economic elite of its disproportionate political power. Economically, the task is to prevent these people from receiving a disproportionate share of GDP. The aim is to establish a new political and economic system through "locking-in" reforms.

The most sensible policy is to undertake an early full-fledged economic reform which is as consistent as possible. Any lingering trade or price regulation invariably leads to the emergence of rents. Reforms lead to effective adjustment in state enterprises when managers decide that they are better off trying to make profits on the market rather than garner extra subsidies from the government.[55]

If the full-fledged reform is not an immediate possibility for any reason, the standard analysis suggests that little can be done. The evidence from previously communist countries, however, suggests at least four useful measures are still available. One option is to introduce a preemptive blow which makes firms adjust to lower inflation. Another is to introduce a "poison pill," i.e., pro-reform measures which are hard to undo. Currency boards have worked well in this regard. A third means is conditional international assistance, which is the basis of IMF programs. A fourth means is a regularized budget process with the introduction of checks and balances. Ideally, bad decisions should be blocked and sound decisions "locked-in" so they cannot be undone.

The conventional wisdom has become that radical reformers lose elections. Of six countries which pursued radical reform, four won the first elections after launching the reforms. Of these countries, the Czech Republic stands out as the country which has done everything right, introducing a radical liberal reform in such a way as to minimize rent-seeking. Moreover, the only countries in which the population is reasonably optimistic are three of the radical reformers. Contrary to expectations, there has so far been no backtracking in any of the reform countries. In fact it appears that a more radical reform means that its achievements are safer.

In contrast, non-socialist governments that pursue gradual reform or fail to carry out radical reform invariably lose elections. Voters do not like massive rent-seeking and, quite rightly, blame the

[55]For instance, in hindsight, we can see that Russian oil executives who resisted price hikes for oil have made massive fortunes by selling oil on their private account abroad, reaping a hefty profit margin, rather than bothering about the profits of the state enterprises they are supposed to run.

incumbent government.[56] Nor do the post-communist governments do well. The presidents of Ukraine and Belarus were thrown out by the voters in 1994 following hyperinflation. Gradual reform is very unpopular, and whoever is responsible is likely to lose any election.

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[56]Rent-seeking is the focal point of popular disapproval, even if it is frequently diverted to other objects, such as privatization. Privatization is noticed because it is more apparent and transparent than the manipulation of financial flows, but these flows tend to be worth far more than the enterprises that are privatized.

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Table 1: Inflation

	Country	Year of Peak Inflation	Highest Inflation	Level in Next Year	Level Two Years Later	Level in 1994	Level in 1995
Type 1: Non-socialist government	Poland	1990	586.0	70.3	43.0	32.2	31.7
	Czech Rep.	1991	56.7	11.1	20.8	10.2	10.0
	Slovakia	1991	61.2	10.1	23.0	14.0	11.4
Radical Reform	Albania	1992	225.9	85.0	28.0	28.0	9.3
	Estonia	1992	1069.0	89.0	48.0	48.0	30.0
	Latvia	1992	951.2	109.0	36.0	36.0	27.4
Type 2: Non-Socialist government	Hungary	1991	34.2	22.9	22.5	19.0	29.0
	Bulgaria	1991	333.5	82.0	72.8	89.0	70.0
	Lithuania	1992	1020.3	390.2	72.0	72.0	25.0
Gradual Reform	Russia	1992	1353.0	896.0	220.0	220.0	184.0
	Kyrgyzstan	1993	1208.7	280.0	n.a.	280.0	48.6
Type 3: Ex-Communist with Democratization	Romania	1993	256.0	131.0	n.a.	131.0	33.4
	Moldova	1992	1276.0	789.0	327.0	327.0	25.4
	Belarus	1994	2200.0	n.a.	n.a.	2200.0	703.1
	Ukraine	1993	4735.0	842.0	n.a.	842.0	342.0
Type 4: Ex-Communist without Democratization	Kazakhstan	1994	1980.0	n.a.	n.a.	1980.0	177.1
	Uzbekistan	1994	746.0	n.a.	n.a.	746.0	254.0
	Turkmenistan	1993	3102.0	2400.0	n.a.	2400.0	2,500 (EBRD)
Type 5: War-torn	Georgia	1994	18000.0	n.a.	n.a.	18000.0	163.9
	Armenia	1994	5458.0	n.a.	n.a.	5458.0	179.0
Former Soviet Union	Azerbaijan	1994	1500.0	n.a.	n.a.	1500.0	535.7
	Tajikistan	1993	2195.0	452.0	n.a.	2195.0	240 (EBRD)
------- Former Yugoslavia	Macedonia	1992	1925.2	248.0	65.0	65.0	17.8
	Croatia	1993	1516.0	98.0	n.a.	98.0	2.9
Other	Slovenia	1992	201.0	32.0	19.8	19.8	10.0
	Mongolia	1992	321.0	183.0	145.0	145.0	65.0

Notes to Table 1

The series used is the Consumer Price Index, average in current year to average in previous year.

n.a. denotes not applicable.

Source: World Bank and IMF, as reported in de Melo, Denizer, and Gelb (1995) for all columns except the last. The last column is also World Bank data, but from a computer database, with the exception of Tajikistan and Turkmenistan which are EBRD estimates.

Notes to Table 2

n.a. denotes not applicable or not available.

Source: World Bank and IMF, as reported in de Melo, Denizer, and Gelb (1995) for all columns except the last. The last column is an average calculated by Sten Luthman (1995) from the EBRD (1995).

The EBRD index is out of 4 (although a 4* rating is used for some measures).
World Bank index is a weighted average of change from 0 to 1 along three dimensions: internal prices, external markets, and private sector entry. It does not include the level of inflation.

Table 2: Liberalization

	Country	Year of Most Intense Reform	Prior Reform Level	Most Intense Reform	Change over next 2 years	Level in 1994 (World Bank)	Level in 1995 (EBRD)
Type 1: Non-socialist government	Poland	1990	0.24	0.44	0.14	0.86	3.4
	Czech Republic	1991	0.16	0.63	0.11	0.9	3.6
	Slovakia	1991	0.16	0.63	0.07	0.86	3.4
Radical Reform	Albania	1992	0.24	0.42	0.04	0.7	2.6
	Estonia	1992	0.32	0.32	0.25	0.89	3.4
	Latvia	1992	0.29	0.22	0.26	0.78	2.9
Type 2: Non-socialist government	Hungary	1990	0.34	0.23	0.21	0.86	3.6
	Bulgaria	1991	0.19	0.43	0.04	0.7	2.6
	Lithuania	1991	0.33	0.22	0.22	0.82	3.0
Gradual Reform	Russia	1992	0.1	0.39	0.17	0.66	2.7
	Kyrgyzstan	1992	0.04	0.29	0.43	0.76	3.0
Type 3: Ex-Communist with Democratiz-ation	Romania	1990	0	0.22	0.23	0.71	2.6
	Moldova	1992	0.1	0.28	0.19	0.55	2.7
	Belarus	1993	0.2	0.13	n.a.	0.36	2.1
	Ukraine	1994	0.13	0.13	n.a.	0.26	2.3
Type 4: Ex-Communist without Democratiz-ation	Kazakhstan	1992	0.14	0.21	0.04	0.39	2.1
	Uzbekistan	1992	0.04	0.22	0.17	0.43	2.1
	Turkmenistan	1994	0.16	0.06	n.a.	0.22	1.1
Type 5: War-torn FSU	Georgia	1992	0.22	0.1	0.03	0.35	2.1
	Armenia	1992	0.13	0.26	0.03	0.42	2.3
	Azerbaijan	1992	0.04	0.22	0.09	0.35	1.7
	Tajikistan	1992	0.11	0.09	0.1	0.3	1.7
---------- Former Yugoslavia	Macedonia	1990	0.41	0.21	0.06	0.78	2.7
	Croatia	1990	0.41	0.21	0.1	0.86	2.9
Other	Slovenia	1990	0.41	0.21	0.16	0.82	3.3
	Mongolia	1991	0.0	0.44	0.17	0.67	n.a.

Table 3: Explaining Cumulative Output Decline

	Dependent Variable			
	Cumulative Output Decline	Cumulative Output Decline	Cumulative Output Decline	Cumulative Output Decline
Constant	0.32* (0.074)	0.84* (0.13)	0.89* (0.056)	0.86* (0.046)
Cumulative Liberalization Index	0.13* (0.029)	0.003 (0.35)	-	-
Log of Cumulative Inflation 1991-95	-	-	-0.045* (0.0075)	-0.0054 (0.013)
Dummy for Rouble Zone	-	-0.32* (0.082)	-	-0.31* (0.09)
Dummy for War-torn	-	-0.19* (0.059)	-	-0.19* (0.081)
R^2	0.46	0.77	0.64	0.79
Number of Observations	24	24	22	22

* denotes significant at the 5 percent level.

Standard errors are in parentheses
"-" denotes that a variable was not used in this regression

Sources:
1) The war-torn dummy is one for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan.
The rouble zone dummy is one for all members of the former Soviet Union, including the Baltics.
2) The cumulative liberalization measure is from de Melo, Denizer, and Gelb (1995). Output and inflation data are from a computerized World Bank data set.

Data from all the countries listed in Tables 1 and 2 are used in these regressions, with the following exceptions due to lack of information: the first two columns exclude Macedonia and Mongolia; and the last two columns exclude Macedonia, Mongolia, Tajikistan, and Turkmenistan.

Table 4: Output Decline

	Country	Year of Most Intense Reform	Decline from end 1989 to start Year of Most Intense Reform (percent)	Decline in Year of Most Intense Reform (percent)	Level 2 years later (end 1989 = 100)	Level at end of 1994	Level at end of 1995
Type 1: Non-socialist government	Poland	1990	n.a.	-11.6	84.3	91.9	97.4
	Czech Rep.	1991	-1.0	-14.2	78.6	80.7	83.8
	Slovakia	1991	-2.5	-14.5	74.3	77.9	81.4
	Albania	1992	-35	-7.2	72.1	72.1	77.7
Radical Reform	Estonia	1992	-18.8	-25.8	60.1	60.1	63.7
	Latvia	1992	-11.2	-43.9	42.6	42.6	42.6
--- Type 2: Non-socialist government	Hungary	1990	n.a.	-3.5	82.5	83.5	84.2
	Bulgaria	1991	-9.1	-11.7	72.3	73.3	74.8
	Lithuania	1991	-6.9	-15.0	36.6	37.3	39.2
Gradual Reform	Russia	1992	-15.9	-18.5	51.2	51.2	49.1
	Kyrgyzstan	1992	-2.0	-19.0	49.0	49.0	49.5
Type 3: Ex-Communist with Democratiz-ation	Romania	1990	n.a.	-5.6	75.0	78.6	81.9
	Moldova	1992	-19.9	-25.0	42.7	42.7	43.3
	Belarus	1993	-15.5	-10.6	52.0	60.4	52.0
	Ukraine	1994	-31.3	-23.0	n.a.	52.9	47.6
Type 4: Ex-Communist without Democratiz-ation	Kazakhstan	1992	-12.8	-13.0	49.6	49.6	43.2
	Uzbekistan	1992	+3.4	-9.5	88.2	88.2	83.6
	Turkmenistan	1994	-18.6	-20.0	n.a.	36.0	62.7
Type 5: War-torn FSU	Georgia	1992	-36.1	-43.4	14.2	14.2	13.5
	Armenia	1992	-16.4	-52.3	35.7	35.7	37.4
	Azerbaijan	1992	-12.4	-35.2	35.7	35.7	32.6
	Tajikistan	1992	-9.3	-28.9	45.1	45.1	43.6
--- Former Yugoslavia	Macedonia	1990	n.a.	n.a.	n.a.	n.a.	n.a.
	Croatia	1990	n.a.	-8.5	67.8	66.2	68.5
Other	Slovenia	1990	n.a.	-3.4	82.8	88.5	92.9
	Mongolia	1991	-5.6	-9.2	75.2	73.7	n.a.

Notes to Table 4

Source: The World Bank (computer database).

Notes to Table 6

Source: The World Bank, as reported in de Melo, Denizer, and Gelb (1995).

Table 5: Explaining Growth in 1995

	Dependent Variable			
	Growth in 1995	Growth in 1995	Growth in 1995	Growth in 1995
Constant	-8.6* (2.03)	-7.7 (5.3)	13.4* (2.36)	13.2* (2.65)
Cumulative Liberalization Index	3.52* (0.78)	3.31* (1.43)	-	-
Log Inflation in 1995	-	-	-3.47* (0.57)	-3.40* (0.83)
Dummy for Rouble Zone	-	-0.60 (3.45)	-	-0.28 (2.38)
Dummy for War-torn	-	-0.14 (2.26)	-	-0.10 (2.08)
R^2	0.47	0.47	0.64	0.64
Number of Observations	25	25	23	23

* denotes significant at the 5 percent level.

Standard errors are in parentheses
"-" denotes that a variable was not used in this regression

Sources:
1) The war-torn dummy is one for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan.
The rouble zone dummy is one for all members of the former Soviet Union, including the Baltics.
2) The cumulative liberalization measure is from de Melo, Denizer, and Gelb (1995). Growth and inflation data are from a computerized World Bank data set.

Data from all the countries listed in Tables 1 and 2 are used in these regressions, with the following exceptions due to lack of information: the first two columns exclude Mongolia; and the last two columns exclude Mongolia, Tajikistan, and Turkmenistan.

Table 6: Unemployment

	Country	Year of Most Intense Reform	Unemployment Prior to Most Intense Reform Year	Unemployment Rise Most Intense Reform Year	Change over next 2 years	Level in 1994 (World Bank)
Type 1: Non-socialist government	Poland	1990	0.1	6.0	7.5	16.0
	Czech Rep.	1991	0.8	3.3	-0.6	3.2
	Slovakia	1991	1.5	10.3	2.6	14.8
	Albania	1992	8.6	18.6	-7.4	19.5
Radical Reform	Estonia	1992	0.1	3.7	3.3	8.1
	Latvia	1992	0.1	2.0	4.4	6.5
	Hungary	1990	0.3	2.2	9.8	10.9
Type 2: Non-socialist government	Bulgaria	1991	1.5	9.6	5.3	12.8
	Lithuania	1991	0.0	0.3	4.1	3.8
	Russia	1992	0.1	0.7	1.4	2.2
Gradual Reform	Kyrgyzstan	1992	0.0	0.1	0.6	0.7
Type 3: Ex-Communist with Democratization	Romania	1990	0.0	0.0	8.4	10.9
	Moldova	1992	0.0	0.7	0.5	1.2
	Belarus	1993	1.0	0.5	n.a.	2.1
	Ukraine	1994	0.4	0.0	n.a.	0.4
Type 4: Ex-Communist without Democratization	Kazakhstan	1992	0.1	0.4	0.5	1.0
	Uzbekistan	1992	0.0	0.1	0.2	0.3
	Turkmenistan	1994	0.0	0.0	n.a.	0.0
Type 5: War-torn	Georgia	1992	0.0	5.4	n.a.	8.4 (1993)
	Armenia	1992	3.5	2.7	2.1	5.6
FSU	Azerbaijan	1992	0.1	0.1	0.7	0.9
	Tajikistan	1992	0.0	0.3	1.4	1.7
----------	Macedonia	1990	n.a.	n.a.	n.a.	19.0
Former Yugoslavia	Croatia	1990	0.0	9.3	8.5	18.0
Other	Slovenia	1990	2.9	2.8	6.4	14.5
	Mongolia	1991	n.a.	n.a.	n.a.	n.a.

Table 7: Private Sector Development

	Country	Year of Most Intense Reform	Prior Private Sector Share of GDP	Increase in Year of Most Intense Reform	Change over next 2 years	Level in 1994	Level in 1995 (rough estimate)
Type 1: Non-socialist government	Poland	1990	28.6	2.8	16.8	56.0	60
	Czech Republic	1991	12.3	5.0	17.8	56.3	70
	Slovakia	1991	n.a.	n.a.	n.a.	43.8	60
	Albania	1992	n.a.	n.a.	n.a.	n.a.	60
Radical Reform	Estonia	1992	17.7	4.3	13	58.0	65
	Latvia	1992	12.0	19.0	16.0	53.0	60
---------- Type 2: Non-socialist government	Hungary	1990	14.9	n.a.	n.a.	n.a.	60
	Bulgaria	1991	7.2	n.a.	19.3	40.2	45
	Lithuania	1991	11.6	3.8	n.a.	n.a.	55
Gradual Reform	Russia	1992	10.1	3.9	11.0	25.0	55
	Kyrgyzstan	1992	n.a.	n.a.	n.a.	58.0	40
Type 3: Ex-Communist with Democratiz-ation	Romania	1990	12.8	3.6	10.0	35.0	40
	Moldova	1992	36.0	2.0	n.a.	n.a.	30
	Belarus	1993	8.1	n.a.	n.a.	n.a.	15
	Ukraine	1994	7.5	n.a.	n.a.	n.a.	35
Type 4: Ex-Communist without Democratiz-ation	Kazakhstan	1992	12.2	n.a.	n.a.	20.2	25
	Uzbekistan	1992	9.8	-3.2	n.a.	54.2	30
	Turkmenistan	1994	n.a.	n.a.	n.a.	n.a.	15
Type 5: War-torn	*Georgia*	*1992*	*27.3*	*12.7*	*19.6*	*60.0*	30
FSU	Armenia	1992	24.2	12.5	n.a.	n.a.	45
	Azerbaijan	1992	n.a.	n.a.	n.a.	n.a.	25
	Tajikistan	1992	n.a.	n.a.	n.a.	n.a.	15
----------	Macedonia	1990	n.a.	n.a.	n.a.	n.a.	40
Former Yugoslavia	Croatia	1990	8.5	n.a.	16.0	44.9	45
Other	Slovenia	1990	8.1	3.3	8.1	n.a.	45
	Mongolia	1991	n.a.	n.a.	n.a.	n.a.	n.a.

Notes to Table 7

Sources: All columns except the last are from EBRD 1995, Table 1, p.28, and Table 3, p.30. The last column is from EBRD 1995, Table 2.1, with the following exceptions.
Bulgaria and Croatia "previous level" is for 1989 and from EBRD Annual Economic Outlook, September 1993, Table 3.1, p.62.
The first two columns for Estonia and Uzbekistan are from EBRD Annual Economic Review, September 1993, Table 3.2, p.63. For Estonia the first two columns are not consistent with the numbers given in the next two columns.
The second column for Armenia is calculated as the difference between numbers in EBRD Annual Economic Review, September 1993, Table 3.2, p.63 and EBRD 1995, Table 2.1.

All estimates are for the "pure" private sector, i.e., excluding cooperatives and, as far as possible, for 100 percent privately owned companies, but the Moldovan number is the share of employment in the "non-state" sector. The numbers include agriculture (e.g., this is why the prior private sector share is so high in Poland.)

The decline in private sector share from 1994 to 1995 in Kyzgyzstan, Uzbekistan, and Georgia probably reflects measurement problems.

Table 8
Explaining Unemployment

	Dependent Variable					
	1994 Unemploy-ment	1994 Unemploy-ment	1994 Unemploy-ment	1994 Unemploy-ment	1994 Unemploy-ment	1994 Unemploy-ment
Constant	-2.65 (1.91)	7.44 (3.84)	13.7* (2.19)	13.2* (1.47)	-1.86 (3.71)	19.4* (5.64)
Cumulative Liberalization Index	4.29* (0.73)	1.67 (1.04)	-	-	-	-
Log of Cumulative Inflation 1991-94	-	-	-1.1* (0.33)	-0.0022 (0.43)	-	-
Cumulative Output Decline 1990-94	-	-	-	-	14.42* (5.86)	-7.68 (6.76)
Dummy for Rouble Zone	-	-8.02* (2.5)	-	-11.3* (2.72)	-	-13.0* (2.41)
Dummy for War-torn	-	3.31 (1.64)	-	3.14 (2.15)	-	1.00 (2.3)
R^2	0.6	0.76	0.33	0.73	0.22	0.72
Number of Observations	25	25	25	25	24	24

* denotes significant at the 5 percent level

Standard errors are in parentheses
"-" denotes that a variable was not used in this regression

Sources:
1) The war-torn dummy is one for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan.
The rouble zone dummy is one for all members of the former Soviet Union, including the Baltics.
2) Unemployment and the cumulative liberalization measure are from de Melo, Denizer, and Gelb (1995). Inflation data are from a computerized World Bank data set. We use 1994 unemployment levels, except for Georgia where we use the 1993 level (due to not having the 1994 number).

Data from all the countries listed in Tables 1 and 2 are used in these regressions, with the following exceptions due to lack of information: the first four columns exclude Mongolia; and the last two columns exclude Macedonia and Mongolia.

Table 9
Explaining Private Sector Development

	Dependent Variable			
	Private Sector Share of Economy (1995)		Change in Service Sector Share (1989-94)	
Constant	9.3 (12.1)	64.1* (3.7)	-12.6 (9.7)	17.1* (3.77)
Cumulative Liberalization Index	12.8* (3.28)	-	7.0* (2.7)	-
Log of Cumulative Inflation 1991-94	-	-4.9* (1.05)	-	-2.7* (1.1)
Dummy for Rouble Zone	9.6 (7.9)	16.2* (7.4)	8.0 (6.3)	11.6 (7.3)
Dummy for War-torn	-9.5 (5.2)	8.8 (6.2)	-14.9* (4.5)	-6.5 (6.2)
R^2	0.61	0.66	0.49	0.49
Number of Observations	25	23	26	24

* denotes significant at the 5 percent level

Standard errors are in parentheses
"-" denotes that a variable was not used in this regression

Private sector share is the EBRD (1995) estimate.
Service sector share is from de Melo, Denizer, and Gelb (1995), Table 6a, "Sectoral Shifts at Current Prices, 1989-94."

Data from all the countries listed in Tables 1 and 2 are used in these regressions, with the following exceptions due to lack of information: the first column excludes Mongolia; the second excludes Mongolia, Tajikistan, and Turkmenistran; and the last two columns exclude Tajikistan and Turkmenistan.

Table 10
Explaining Institutional Development

	Dependent Variable			
	EBRD measure of institutions		IMF measure of institutions (FSU only)	
Constant	3.2* (0.92)	9.14 (0.44)	1.04* (0.47)	6.6* (0.89)
Cumulative Liberalization Index	1.5* (0.25)	-	1.5* (0.26)	-
Log of Cumulative Inflation 1991-95	-	-0.25 (0.13)	-	-0.36* (0.1)
Dummy for Rouble Zone	0.34 (0.6)	-0.87 (0.88)	-	-
Dummy for War-torn	-1.2* (0.4)	-0.28 (0.74)	-0.83** (0.38)	-0.3 (0.7)
R^2	0.85	0.65	0.81	0.67
Number of Observations	25	23	15	13

* denotes significant at the 5 percent level
** denotes significant at the 6 percent level

In the EBRD measure regression, the log of cumulative inflation is significant at the 6 percent level.
Standard errors are in parentheses
"-" denotes that a variable was not used in this regression

The EBRD measure is taken from EBRD (1995, Table 2.1) by adding the scores for legal reform, banking reform, and security market reform (the last three columns of this table).
The IMF measure is taken from Citrin et al (1996) by assigning a numerical value of 1 to "little," 1.5 to "little/moderate," 2 to "moderate," 2.5 to "moderate/substantial," and 3 to "substantial." The scores for institutional reform and government/legal framework are then added together.

Data from all the countries listed in Tables 1 and 2 are used in these regressions, with the following exceptions due to lack of information: the first column excludes Mongolia; the second column excludes Mongolia, Tajikistan and Turkmenistan; and the last two columns exclude all countries not previously in the Soviet Union, as well as Tajikistan and Turkmenistan.

Table 11

Net Revenue from Credit Issue and Extent of Natural Resource Endowments in Various Formerly Socialist Countries at the start of transition		
	Net Revenue from Credit Issue (%GNP: 1992)	Natural Resource Exports Outside FSU ($ million)
Albania	3.2	0
Armenia	-	51
Belarus	23.7	0
Estonia	-0.4	0
Kazakhstan	n.a.	1052
Latvia	2.1	0
Lithuania	-	0
Moldova	9.7	0
Russia	32.7	26000
Tajikistan	30.9	313
Turkmenistan	13.0	1056
Ukraine	28.7	-
Poland	2.1	-
Czech	2.4	-
Bulgaria	5.9	-
Romania	-	-

Notes:

1. *Net revenue from credits is calculated as the total net increase in credits* from the monetary authorities to the government and commercial banks divided by GNP. Quarterly figures based on IMF estimates were averaged to get year totals.
2. Natural resource exports included energy, minerals and other raw materials.
3. Figures still to be updated.

Table 12

Parliamentary Elections 1989-1995

	Country	First election date	Ex-communists vote share (%)	Second election date	Ex-communist vote share (%)	Third election date	Ex-commun vote shar (%)
Type 1: Non-Socialist government	Poland	June 1989	na	October 1991	12.0	September 1993	20.4
	Czechoslovakia	June 1990	13.6	June 1992			
	Czech Republic	na	na	June 1992	14.2		
Radical Reform	Slovakia	na	na	June 1992	15.2	September-October 1994	13.1
	Albania	March-April 1991	56.2	March 1992	25.6		
	Estonia	March 1990	minority	September 1992	13.6	March 1995	0.1
	Latvia	March-April 1990	minority	June 1993	12.0	October 1995	15
Type 2: Non-Socialist government	Hungary	March-April 1990	10.9	May 1994	32.9		
	Bulgaria	June 1990	47.2	October 1991	33.1	December 1994	43.5
	Lithuania	February-March 1990	minority	October-November 1992	42.6		
Gradual Reform	Russia	March 1990[2]	majority	December 1993	20.3[3]	December 1995	32.7[3]
	Kyrgyzstan	February 1990[2]	90	February 1995-April 1995	na		
Type 3: Ex-Communist with Democratization	Romania	May 1990	69	September 1992	38.6		
	Moldova	February 1990[2]	na	February 1994	65.2[3]		
	Belarus	March 1990[2]	87	May 1995[2]	na		
	Ukraine	March 1990[2]	majority	1994[2]	minority		
Type 4: Ex-Communist Without Democratization	Kazakhstan[1]	March 1990[2]	na	March 1994[2]	na	December 1995[2]	na
	Uzbekistan[1]	February 1990	na	December1994-January 1995	na		
	Turkmenistan[1]	January 1990	na	December 1994	na		
Type 5: War Torn	Georgia	October-November 1990	minority	October 1992		October - November 1995	8.9
	Armenia	May 1990[2]	minority	July 1995	12.1		
Former Soviet Union	Azerbaijan[1]	September-October 1990	majority	November 1995	na		
	Tajikistan[1]	February 1990	majority	February 1994	na	February-March 1995	na
Former Yugoslavia	Macedonia	November-December 1990		October 1994			
	Croatia	April-May 1990	26.5	August 1992	5.4		
Other	Slovenia	April 1990	22.7	December 1992	13.6		
	Mongolia	July-August 1990	61.7	June 1992	57.0		

1. These countries are classified as unfree by Freedom House, Freedom Review 1995, v.27, No.1 pp. 12-13
2. Political parties were not allowed during these elections.
3. Includes the Agrarian party
na = not applicable

Sources: Inter-Parliamentary Union, Chronicle of Parliamentary Elections and Developments, Vol 23(1988)-29(1995); CSCE, Elections in Central and Eastern Europe, December 1990, Facts on File World News Digest

Table 13
Opinion about Direction of the Country
Net Percentage Positive

	Country	1990	1991	1992	1993	1994	1995
Type 1: Non-socialist government	Poland	13	-41	-29	-4	-30	7
	Czech Republic	37	17	24	28	25	24
	Slovakia	13	-30	-1	-32	-39	-27
	Albania	n.a.	41	60	56	29	63
Radical Reform	Estonia	n.a.	30	7	23	17	24
	Latvia	n.a.	47	-17	7	-9	-13
Type 2: Non-socialist government	Hungary	n.a.	-19	-14	-47	-34	-69
	Bulgaria	4	38	2	-37	-39	-8
	Lithuania	n.a.	28	-39	-47	-49	-52
	Russia	n.a.	-12	-24	-16	-51	-46
Gradual Reform	Kyrgyzstan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Type 3: Ex-Communist with Democratization	Romania	n.a.	26	-7	-6	-6	-13
	Moldova	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Belarus	n.a.	n.a.	-16	-51	-32	-36
	Ukraine	n.a.	n.a.	-24	-63	-55	-51
Type 4: Ex-Communist without Democratization	Kazakhstan	n.a.	n.a.	n.a.	n.a.	-33	6
	Uzbekistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Turkmenistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Type 5: War-torn FSU	Georgia	n.a.	n.a.	n.a.	n.a.	-39	13
	Armenia	n.a.	n.a.	-49	-49	-60	-31
	Azerbaijan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Tajikistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
---------- Former Yugoslavia	Macedonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Croatia	n.a.	n.a.	n.a.	n.a.	n.a.	50
Other	Slovenia	n.a.	n.a.	40	-5	8	9
	Mongolia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

n.a. denotes not available.

Table 14
Opinion in 1994 About Speed of Reform

	Country	(1) Too Slow	(2) Too Fast	(1) minus (2)
Type 1: Non-socialist government	Poland	51	15	36
	Czech Republic	28	26	2
	Slovakia	64	13	51
	Albania	39	18	21
Radical Reform	Estonia	48	9	39
	Latvia	62	11	51
	Hungary	48	13	35
Type 2: Non-socialist government	Bulgaria	67	7	60
	Lithuania	52	19	33
	Russia	59	18	41
Gradual Reform	Kyrgyzstan	n.a.	n.a.	n.a.
Type 3: Ex-Communist with Democratiz-ation	Romania	58	15	43
	Moldova	n.a.	n.a.	n.a.
	Belarus	67	8	59
	Ukraine	65	12	53
Type 4: Ex-Communist without Democratiz-ation	Kazakhstan	59	14	45
	Uzbekistan	n.a.	n.a.	n.a.
	Turkmenistan	n.a.	n.a.	n.a.
Type 5: War-torn FSU	Georgia	74	4	70
	Armenia	72	12	70
	Azerbaijan	n.a.	n.a.	n.a.
	Tajikistan	n.a.	n.a.	n.a.
---------- Former Yugoslavia	Macedonia	n.a.	n.a.	n.a.
	Croatia	n.a.	n.a.	n.a.
Other	Slovenia	n.a.	n.a.	n.a.
	Mongolia	n.a.	n.a.	n.a.

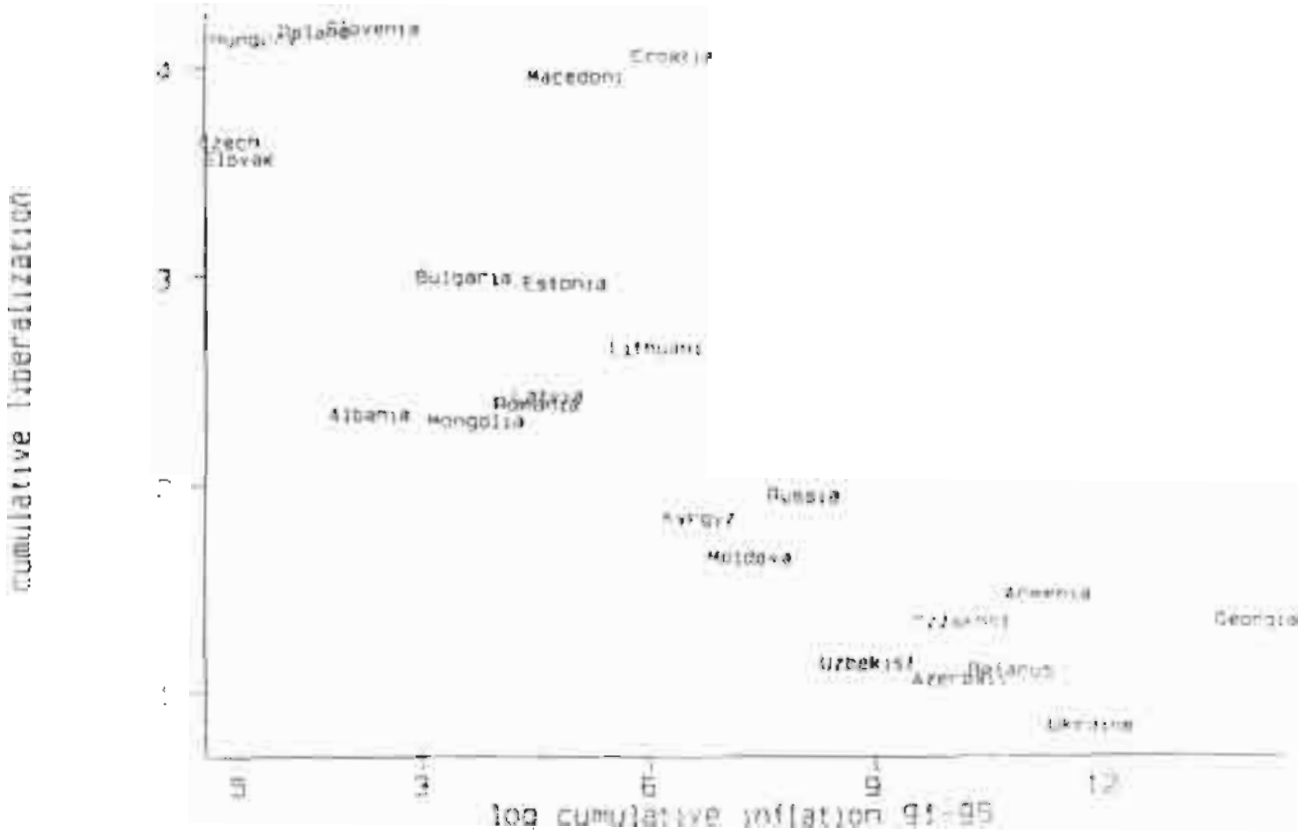
n.a. denotes not available.
The Table shows responses to the question: Are Your Country's Economic Reforms Too Fast or Too Slow?

Table 15
Attitude to Market Economy
Net Percentage Positive

	Country	1990	1991	1992	1993	1994	1995
Type 1: Non-socialist government	Poland	47	28	33	29	26	46
	Czech Republic	54	39	24	15	11	6
	Slovakia	28	29	15	-4	0	0
	Albania	n.a.	45	51	52	41	59
Radical Reform	Estonia	n.a.	32	19	26	14	20
	Latvia	n.a.	43	-12	2	-5	1
	Hungary	47	51	39	21	20	5
Type 2: Non-socialist government	Bulgaria	22	45	36	18	-2	6
	Lithuania	n.a.	55	44	33	9	16
	Russia	n.a.	8	-7	-22	-41	-44
Gradual Reform	Kyrgyzstan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Type 3: Ex-Communist with Democratization	Romania	n.a.	-5	41	29	50	38
	Moldova	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Belarus	n.a.	n.a.	-24	-25	-27	-13
	Ukraine	n.a.	n.a.	-12	-19	-18	-27
Type 4: Ex-Communist without Democratization	Kazakhstan	n.a.	n.a.	n.a.	n.a.	-30	-18
	Uzbekistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Turkmenistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Type 5: War-torn FSU	Georgia	n.a.	n.a.	n.a.	n.a.	-24	15
	Armenia	n.a.	n.a.	-25	-40	-45	-9
	Azerbaijan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Tajikistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
---------- Former Yugoslavia	Macedonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Croatia	n.a.	n.a.	n.a.	n.a.	n.a.	47
Other	Slovenia	n.a.	n.a.	36	2	14	1
	Mongolia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Eurobarometer.
n.a. denotes not available.

FIGURE 1


cumulative liberalization
log cumulative inflation 91-95
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Croatia
Macedonia
Czech
Slovak
Bulgaria
Estonia
Lithuania
Albania
Mongolia
Russia
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Armenia
Georgia
Uzbekistan
Belarus
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3
6
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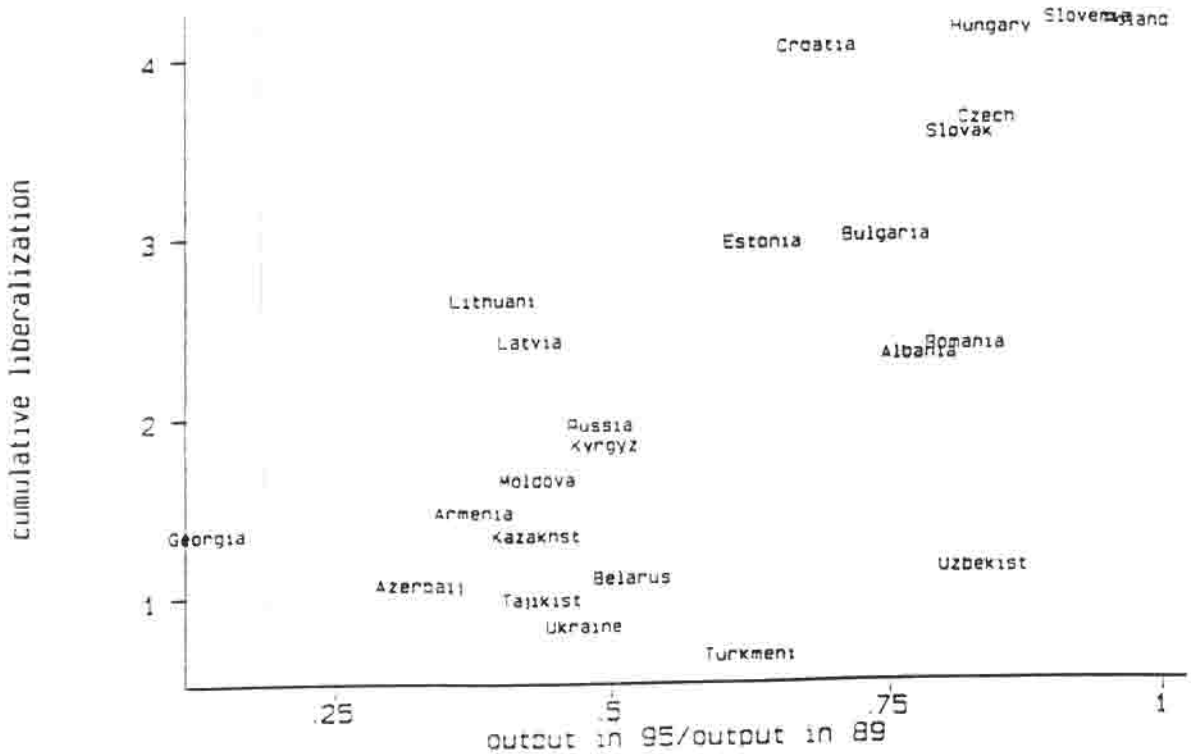
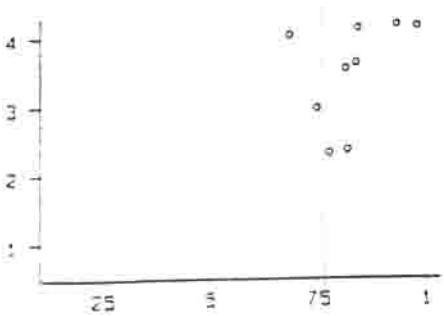
12

FIGURE 2



Eastern Europe



Former Soviet Union

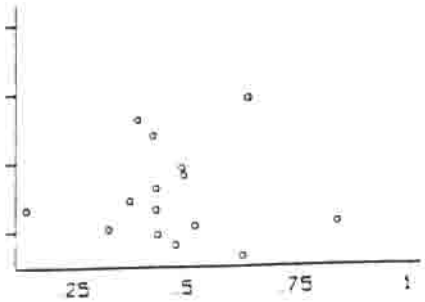
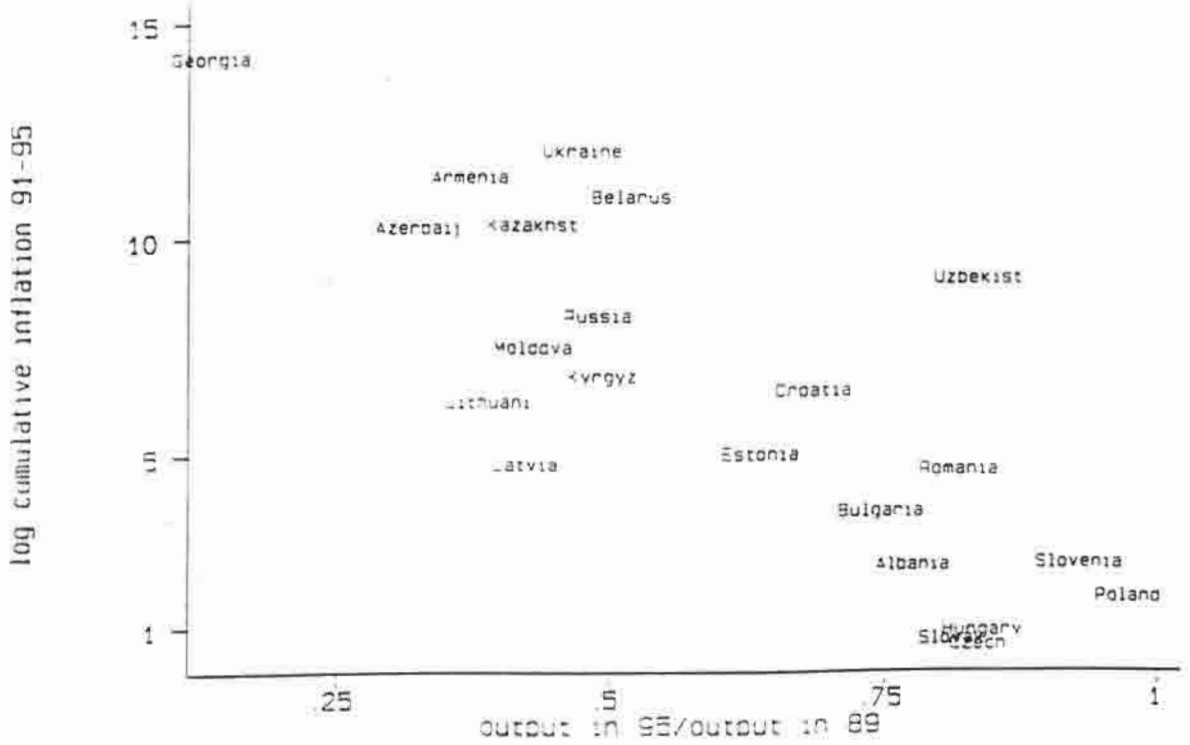


FIGURE 3



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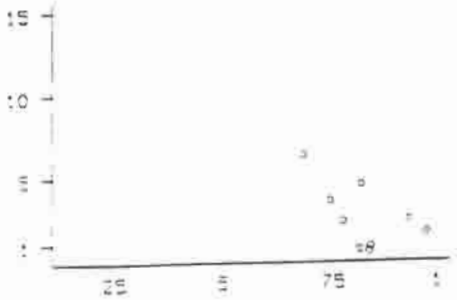

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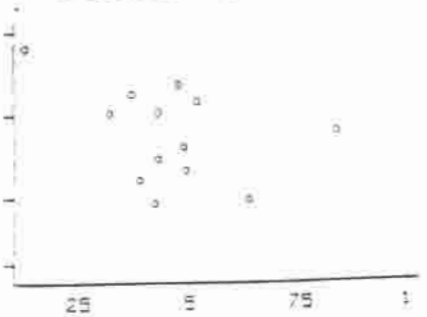
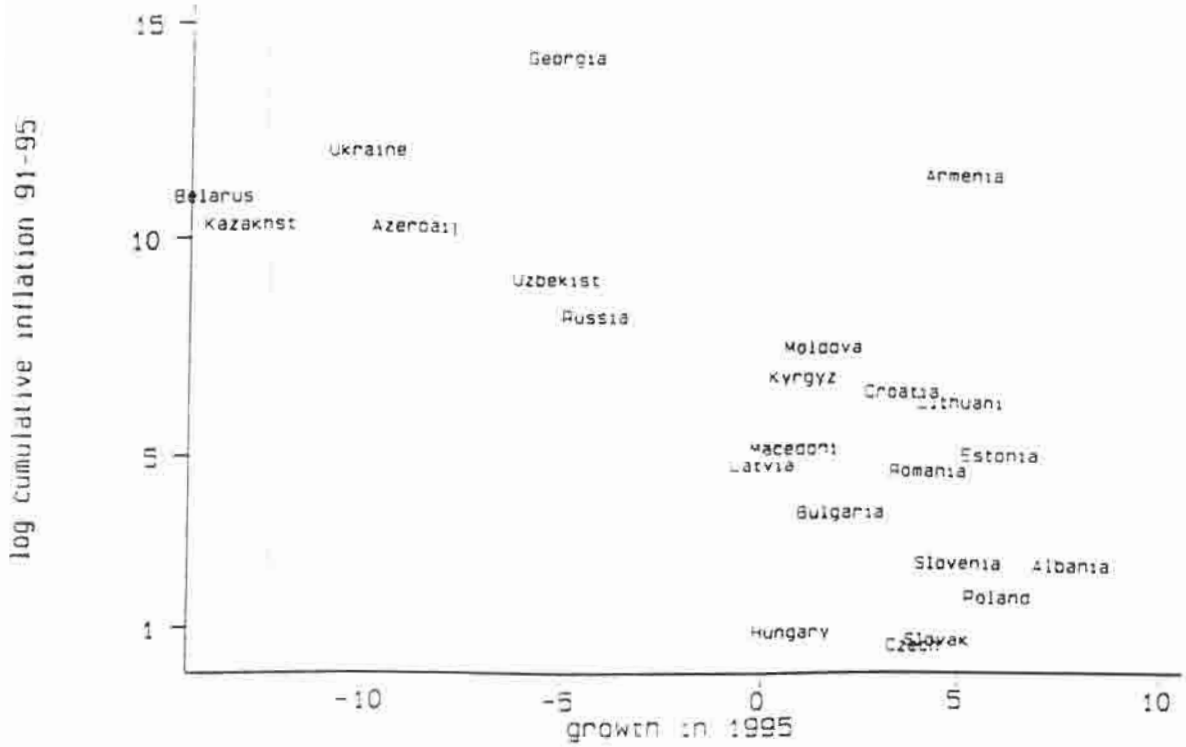


FIGURE 4



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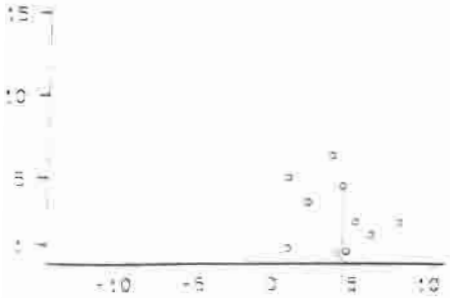
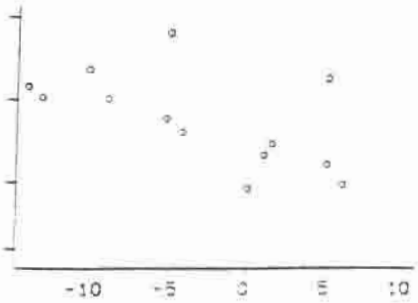


Former Soviet Union



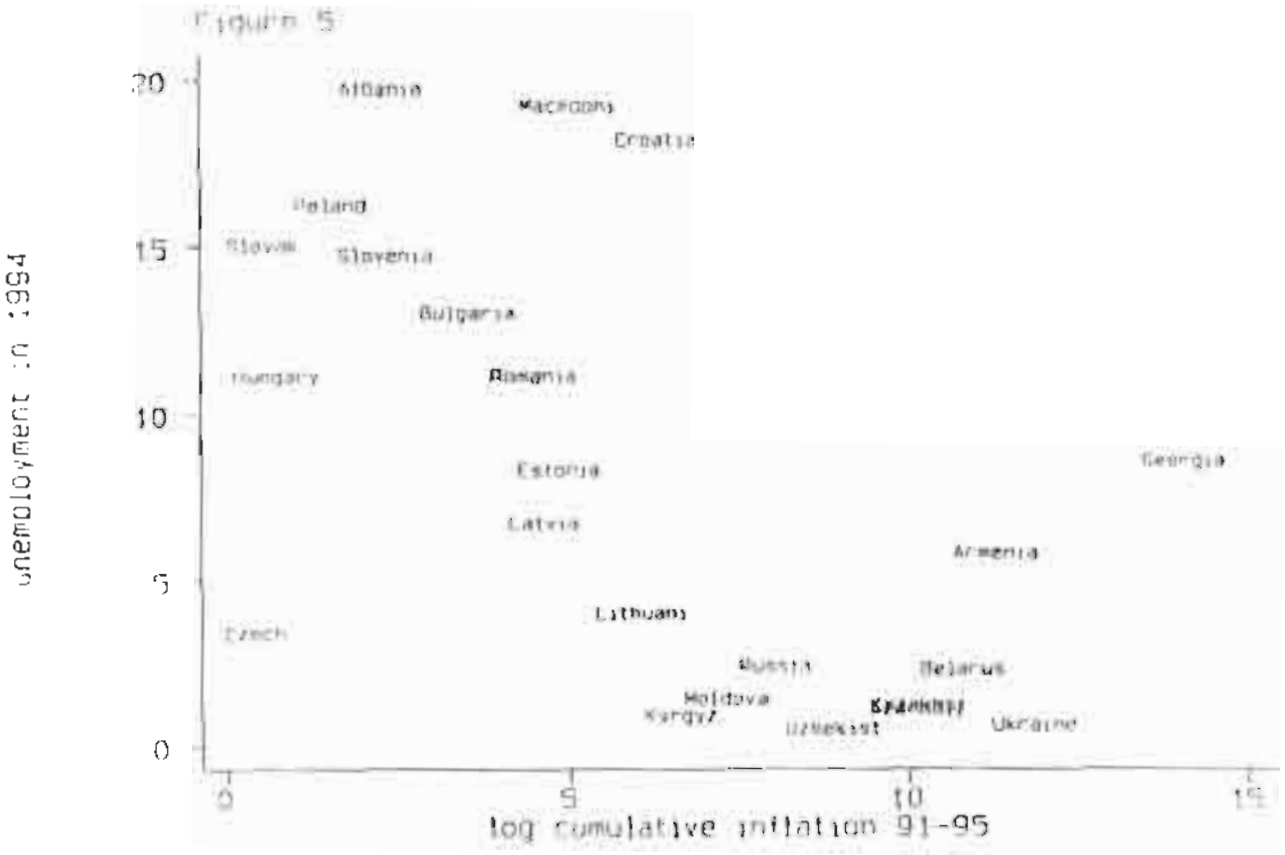
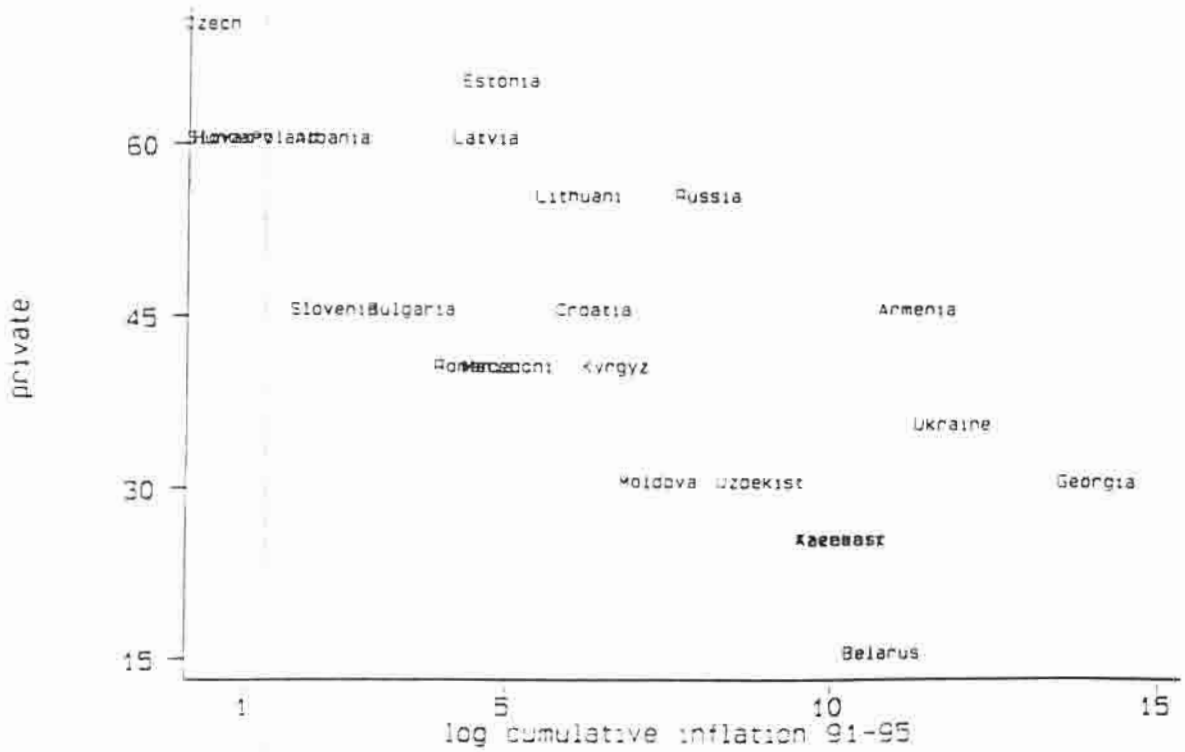
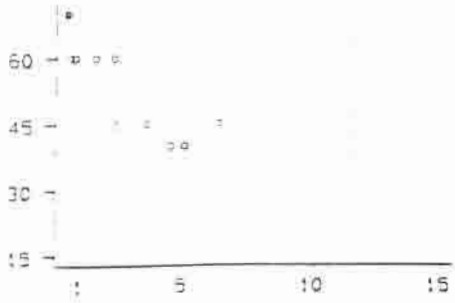


Figure 5
Albania
Macedonia
Croatia
Poland
Slovak
Slovenia
Bulgaria
Hungary
Romania
Estonia
Latvia
Lithuania
Czech
Russia
Moldova
Kyrgyz
Uzbekist
Belarus
Ukraine
Armenia
Georgia
20
15
10
5
0
0
5
10
15
log cumulative inflation 91-95
unemployment in 1994

FIGURE 6



Eastern Europe



Former Soviet Union

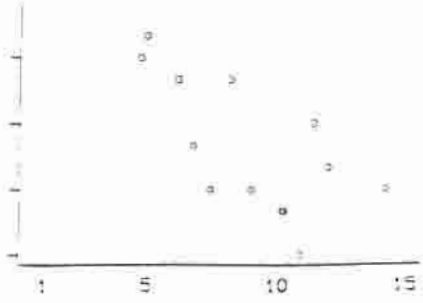


FIGURE 7

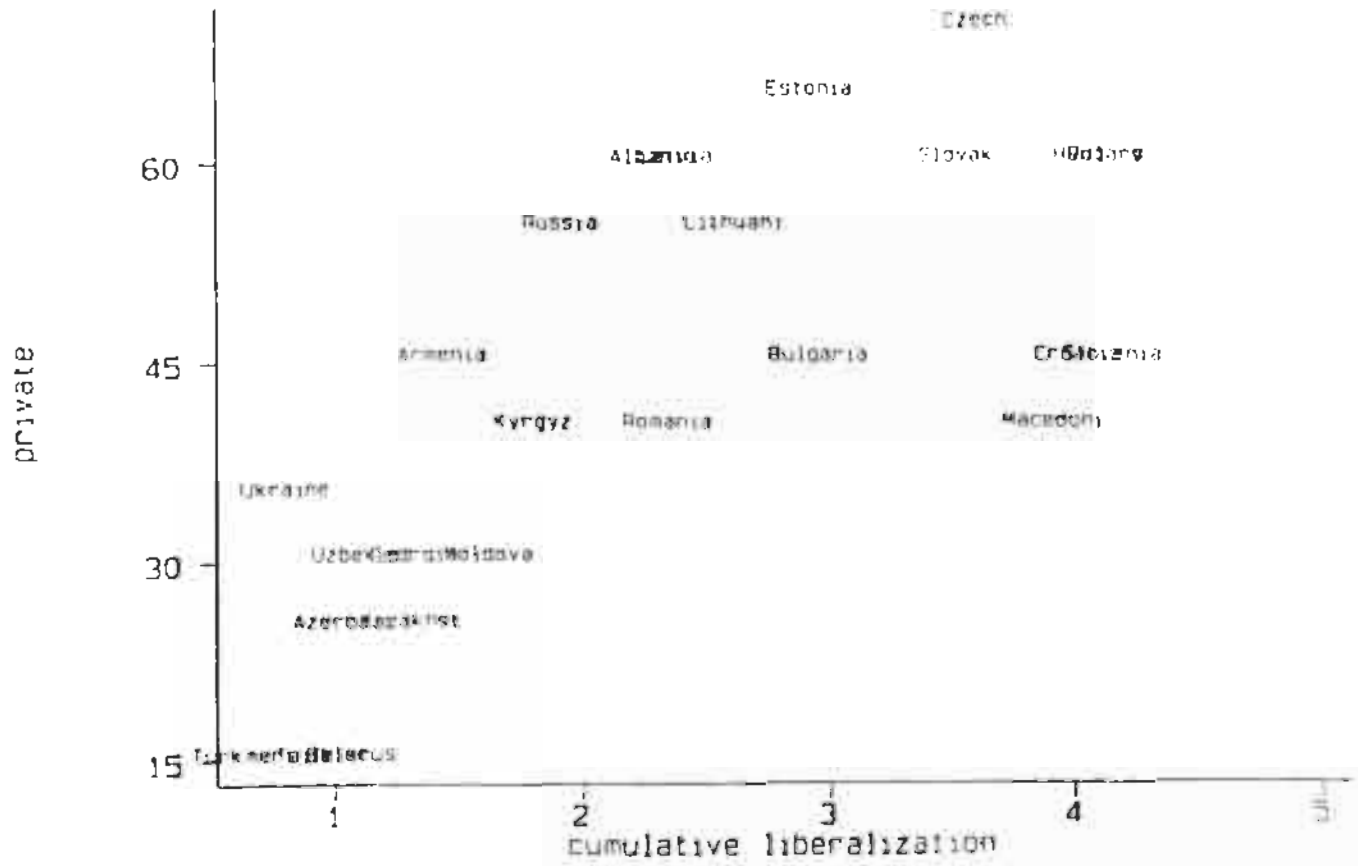

Czech
Estonia
Slovak
Bulgaria
Russia
Lithuania
Armenia
Bulgaria
Croatia
Kyrgyz
Romania
Macedon
Ukraine
Moldova
Azerbaijan
60
45
30
15
private
1
2
3
4
5
cumulative liberalization

Figure 8

The Impact of Financial Sector Improvements, Political Reform and Penalties for Rent-Seeking on Policy Choices

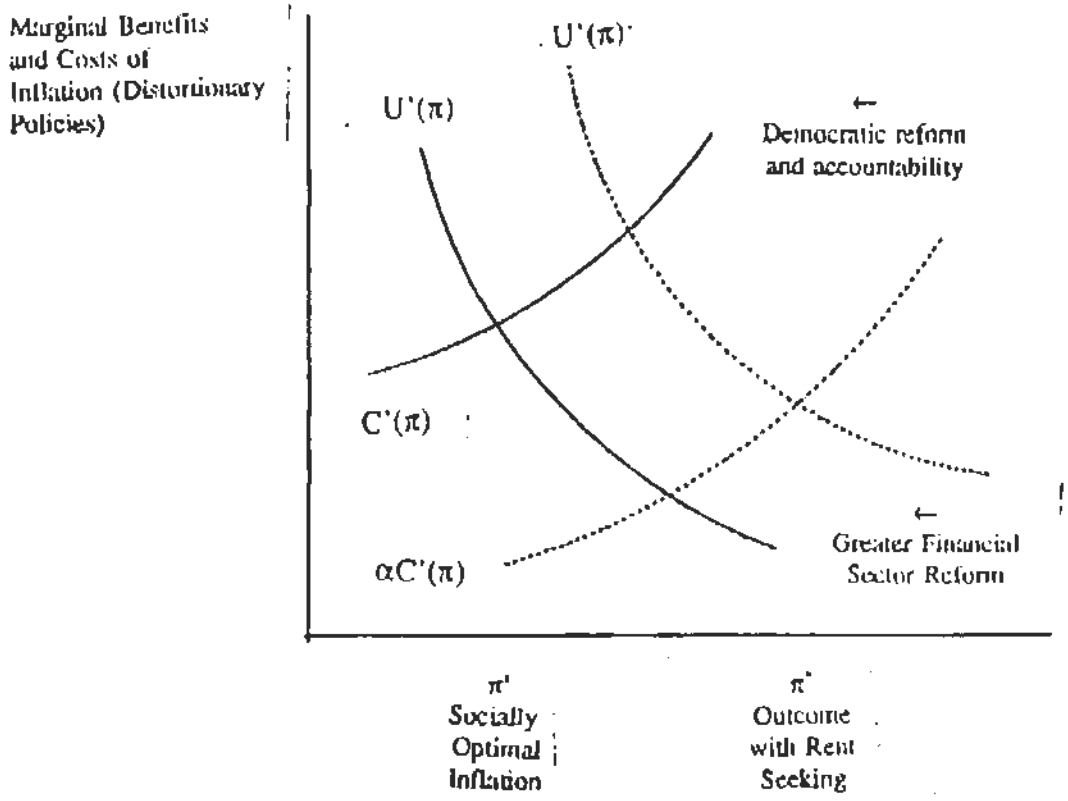


FIGURE 9

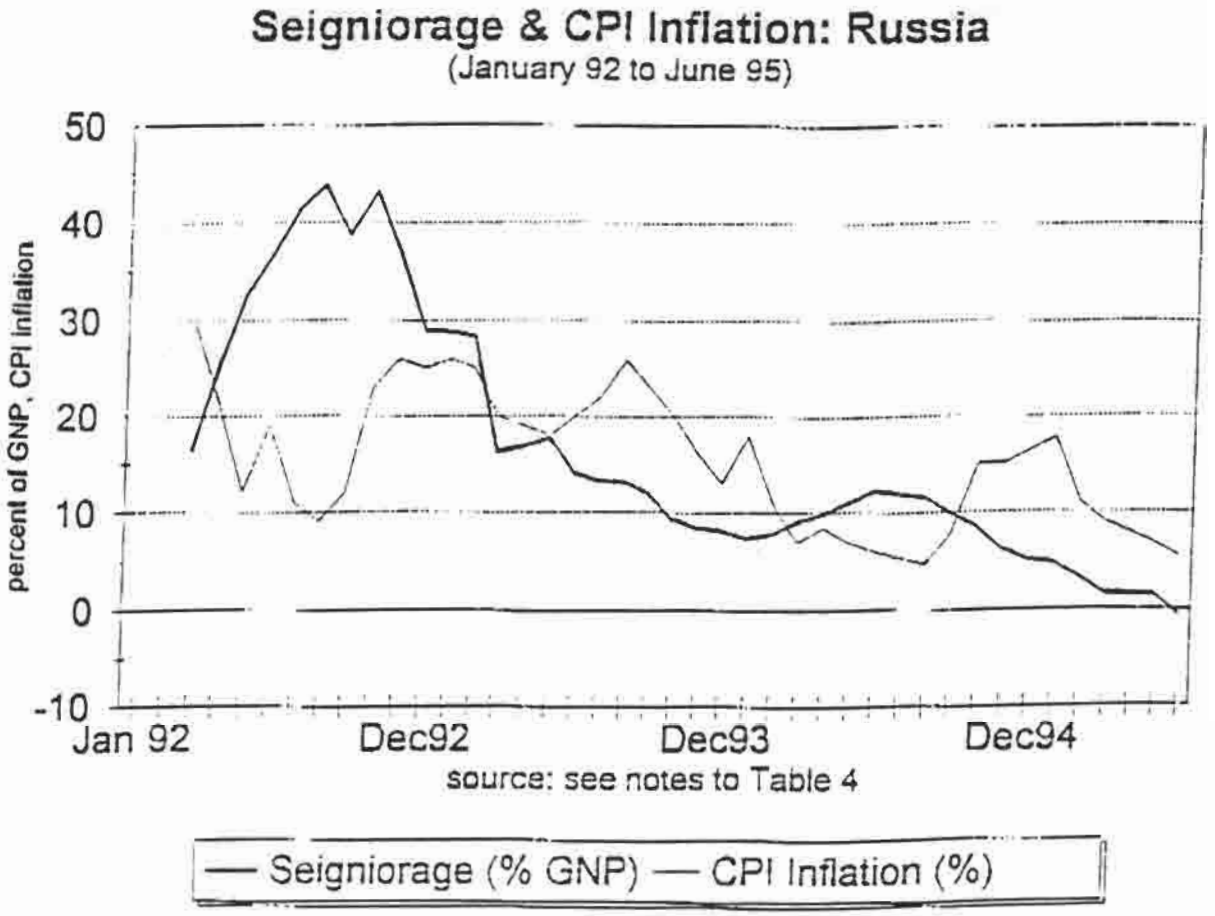

Seigniorage & CPI Inflation: Russia
(January 92 to June 95)
50
40
30
20
10
0
-10
percent of GNP, CPI inflation
Jan 92
Dec92
Dec93
Dec94
source: see notes to Table 4
— Seigniorage (% GNP) — CPI Inflation (%)

FIGURE 10

Ukrainian Output and Inflation
(CPI monthly, ind. prodn 1990=100

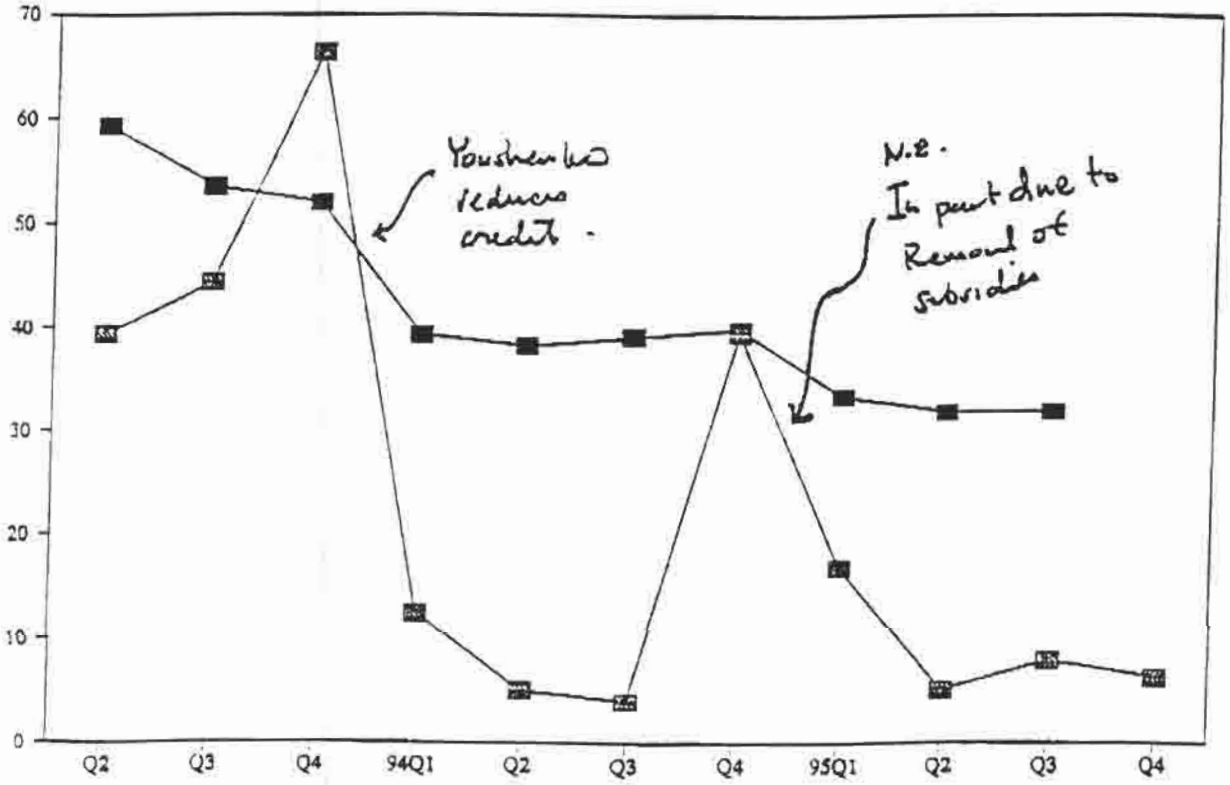


FIGURE 11

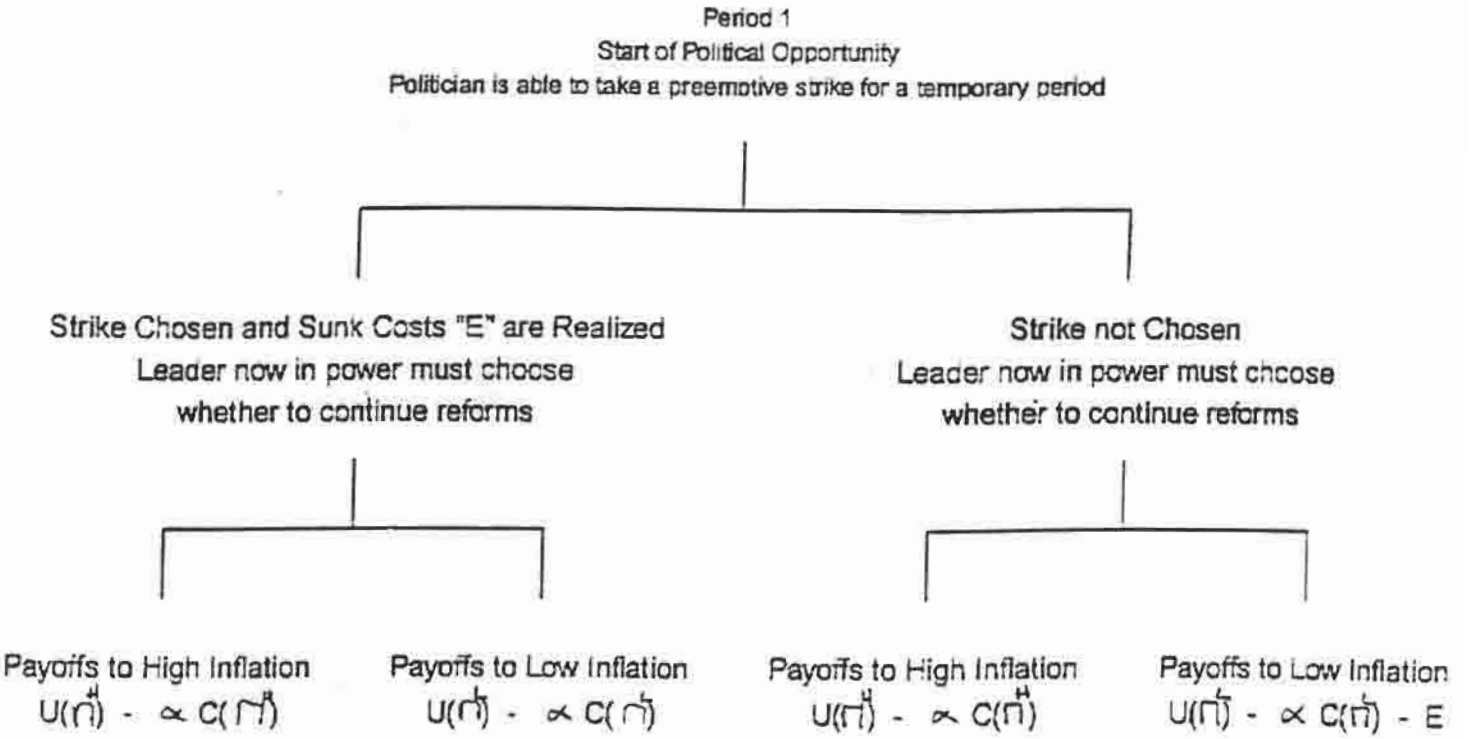

Period 1
Start of Political Opportunity
Politician is able to take a preemptive strike for a temporary period
Strike Chosen and Sunk Costs "E" are Realized
Leader now in power must choose
whether to continue reforms
Strike not Chosen
Leader now in power must choose
whether to continue reforms
Payoffs to High Inflation
$U(\pi^H) - \alpha C(\pi^H)$
Payoffs to Low Inflation
$U(\pi^L) - \alpha C(\pi^L)$
Payoffs to High Inflation
$U(\pi^H) - \alpha C(\pi^H)$
Payoffs to Low Inflation
$U(\pi^L) - \alpha C(\pi^L) - E$

FIGURE 12

Poison Pills