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A consistent set of disaggregated industrial output data for four Eastern European countries is examined in order to determine the extent to which structural adjustment has taken place since the initiation of market-oriented reform. The latter created a massive relative price shock whose effects on the structure of the industrial sectors of these economies is shown to have been relatively small, at least one to two years after the reforms. An implication is that one argument in favor of more gradualist reform—based on the premise that more gradualism implies a smaller output cost in the short run—is questionable. By and large in these economies, the output cost associated with the removal of relative price distortions may still have to be faced.

JEL Classification Numbers:
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Summary

A popular criticism of the reform process in a number of Eastern European countries is that the decision to implement reforms relatively quickly was responsible for a larger-than-necessary initial decline in output. This view is based on the assumption that the massive relative price shock associated with price and trade liberalization set in train a process of resource reallocation which, in the short run, caused output to decline. According to this view, therefore, a slower pace of price and trade liberalization would have reduced the short-run output costs of the reforms by mitigating the transitional output losses associated with reallocating resources across sectors.

This paper examines whether it is reasonable to conclude that a significant fraction of the initial declines in output in four Eastern European countries (the former East Germany, the former Czechoslovakia, Hungary and Poland) is attributable to structural change. A methodology is presented which decomposes the total decline in output in the first two years following the implementation of reforms into a portion associated with resource reallocation across different industrial sectors (structural change), and a portion due to macroeconomic forces (factors common to all sectors within a country). The paper's finding is that most of the initial decline in output in the region reflects macroeconomic rather than structural factors.

Notwithstanding a number of caveats discussed in the paper, our results suggest that proposals to slow down the pace of reform in other economies in transition on the grounds that "going slower" would reduce short-run output costs lack empirical support. In fact, since all the economies in the region will ultimately have to undergo the structural adjustment associated with their decision to become market economies, it is not difficult to make the case that moving more quickly to implement reforms (particularly as regards corporate governance and the imposition of harder budget constraints) would have resulted in a faster resumption of growth than occurred under alternative, more gradualist, strategies. To the extent that political support for the reform process depends on a timely resumption of growth in these countries, the results presented in this paper suggest that a rapid implementation of structural and stabilization measures is less likely to jeopardize the transition to a market economy than more gradualist alternatives.
I. Introduction

The economies of Eastern and Central Europe, as well as those of the former Soviet Union, are now at various stages along their transitions from central planning to market-orientation. In some countries, the stabilization stage has been completed to a large degree, while in others inflation and balance-of-payments difficulties remain acute. In most of the region, ownership transformation of the large state enterprises and financial sector reform remain very much as items on the agenda.

While the reform process is far from complete, it is nevertheless worthwhile to try and examine how reforms have contributed to economic performance in the region, not least because it may thus be possible to draw some (tentative) conclusions about how reforms should proceed in those countries that have advanced less far along the transition. It should be recalled that, among the many complex social forces that led to the political changes in these countries over the last few years, the fact that the system of central planning—which had delivered reasonable growth rates over many years—could no longer produce the goods, was a key factor. The collapse of the old system, with no other system in place, produced a kind of limbo in these economies. The centrally-planned system did not function, yet there was still little trace of a market system to organize and motivate economic production. In this situation, it was no longer possible for the government to order enterprises to produce and deliver goods at arbitrarily set prices, or to coerce exporters into surrendering hard currency earnings at the official exchange rate. Productive relations began to break down, shortages multiplied, and the expectation of price liberalization only compounded the problem by increasing hoarding activity.

The scrapping of the old system produced expectations that, in the not too distant future, growth rates that had existed in the old days would resume, and perhaps even be surpassed. Some decline in output would be necessary in the short run, if only because stabilization programs always carry a short-run output cost, whether in Eastern Europe or elsewhere in the developing world. However, it is fair to say that the extent of the measured declines in output took most observers by surprise, and has led policymakers to question whether the recipe that was followed was the appropriate one, or whether some avoidable mistakes were made.

A popular criticism is that the reforms were implemented too rapidly, and that some of the transitional output costs could have been reduced by moving more slowly on a number of fronts, such as price and trade liberalization. The basis for such a view is that the process whereby producers adjust to a new relative price structure invariably involves a short-run decline in output. This is because there is a fundamental asymmetry in the speed of response of activities that are affected in positive and negative ways. Productive sectors that are not viable under market conditions very quickly become financially strapped or face nonexistent demand, while productive sectors that should expand are slow to invest and grow because of adjustment costs and uncertainty. Thus, the process of structural change (or intersectoral resource reallocation) itself involves a transitory output decline. Since the tightness of financial
policies necessary to prevent the onset of protracted inflation after the initial price jump was also likely to contribute to a transitory output decline, it might be argued that slowing down the pace of price and trade liberalization at the outset of the reforms would have led to a smaller reduction in output initially by reducing the effects of structural change.

The legitimacy of the view that the so-called "big bang" strategy may have contributed to a larger output decline than was necessary may be questioned on a number of grounds. First, the critics of the big-bang approach typically ignore the fact that liberalization of the goods and foreign exchange markets, even in countries that began reforms in earnest as long as four years ago, has not been completed, as prices for energy, food, rent, among others, have remained under administrative control, and foreign exchange markets have been decontrolled only for (most) current account transactions. Financial sector reform has been limited by the fact that a few state banks with weak balance sheets dominate the entire market; while reform of labor markets has been impeded by the need to have a centralized incomes policy, both to control inflation and to forestall the possibility of enterprise decapitalization through excessive wage payments. And privatization of the state enterprise sector (which represented between 50 and 90 percent of the economies in transition prior to liberalization) has not proceeded as swiftly as had been initially planned, owing to a number of factors including the scarcity of private savings, the difficulties associated with valuing the enterprises, and the relative underdevelopment of domestic capital markets.

Second, the critics of the big-bang approach allege that more gradualism has been successfully applied elsewhere, both within the region and without. This view may be questioned on at least two grounds. The first is that political constraints precluded a more gradual approach to economic policy changes in many of these countries. Hungary's limited success with gradual reform over a twenty year period was really not an option for the other countries in the region, where the political authority to impose such a long-term plan was essentially nonexistent. Second, as to countries such as China and Vietnam that, not having recently undergone revolutionary political changes, were in a position to attempt a gradual and partial liberalization of their economies, great care must be taken in comparing them to the Eastern European countries. For one thing, the engine of growth in the slow reformers is small business, often family or community establishments in agriculture, manufacturing or services, that have taken advantage of the opportunity to produce for more or less free markets. But this response was also evident in Eastern Europe where, even in the midst of very unfavorable macroeconomic conditions, this segment of the economy (small private businesses, largely in the service sector) has

1/ Another related point of course is that countries that delayed reforms did not avoid a collapse of output. In much of the region, output was on a downward path prior to the initiative of reforms and it is not immediately obvious what the counterfactual to the reforms might look like, that is how big a fall in output would have occurred had the reforms not taken place.
done remarkably well. Moreover, the slow reformers in Asia will ultimately have to face the more difficult part of the transition, namely removing the market disequilibria associated with nonmarket prices (including those of energy and foreign exchange). Thus, it is far from clear that the more gradualist approach offers any sort of panacea to be emulated by the Eastern European countries.

There is a third angle from which to view the debate about the appropriate speed with which to implement market-oriented reform, and which is investigated in this paper. The view that price and trade liberalization have been implemented too quickly must imply that a sizable proportion of the observed decline in output in the region is a reflection of the short-term effects of reallocating resources between different activities, referred to above as structural change. Thus, if the actual extent of structural adjustment in these countries has been quite small, it is much more difficult to make the case that the reforms have been too drastic. Determining to what extent these countries have engaged in a significant reallocation of productive resources is thus of considerable relevance to the debate about whether a more gradualist approach to market-oriented reform would have been desirable.

This paper adapts a methodology originally proposed by Stockman (1988) to determine the extent to which the observed decline in industrial output in the region reflects mainly the effects of reallocating resources across sectors. The starting point of the methodology as adapted to the issue of this paper is that the effects of a number of the reforms, for example the sharp increases in administered energy prices that were part of the reform programs in all the Eastern European countries, ought to affect specific industries in all countries in a fairly similar way. In contrast, changes in the stance of financial policies are more likely to affect all sectors within a country similarly, but are unlikely to have the same effects outside national boundaries.

The methodology allows one to decompose the variance of changes in output into factors that are industry-specific but common across countries, and factors that are nation-specific and therefore common across sectors. We identify the first set of factors with the process of resource reallocation or structural change, while the second set is related to aggregate policies (fiscal and monetary policy). If most of the variance of output is accounted for by industry-specific factors, then economic performance is reflecting the process of structural adjustment. If on the other hand, the output decline is related to national factors, then macroeconomic policies needed to stabilize and reduce inflation have played

1/ In Poland, for instance, the private sector may have grown some 15-20 percent in 1990-91. In the region of Prague, the unemployment rate fell to about 1 percent in 1991 (while it was reaching nearly 15 percent in industrial areas) thanks in large part to the expansion of small private businesses.

2/ This is the analogue to Stockman's productivity disturbances.
the greater role in the economic performance of these countries. In this case, since ultimately the radical changes in relative prices will bring about the needed structural adjustment of these economies, the future behavior of output will reflect the process of structural change. Finally, irrespective of the results, the decomposition itself (which gives a time series of the so-called macroeconomic factor) allows one to isolate the role played by macroeconomic policies in the transition.

The paper is organized as follows. Section II describes the methodology and the data set that is used. Section III discusses the results and draws some conclusions.

II. Structural Change or Common Causes?

Because the reform programs in Eastern Europe share a number of common features, including the removal of a number of distortions (for example, the subsidization of energy use) that were common across countries, it is to be expected that the resulting changes in the structure of industrial production might also be similar across countries. This hypothesis is strengthened to the extent that, in a global context, the countries of Eastern and Central Europe share a similar pattern of comparative advantage. In this case, as relative-price distortions come down, the resulting intersectoral resource shifts would tend to be similar across countries.

The strategy in this section involves decomposing the change in output in each industrial sector of each country between factors that are common to all industries in a given country, and factors that are common to all countries for a specific industry. The factors that are common to all industries in each country are associated with macroeconomic developments in that country, and are therefore not related to structural change. By contrast, factors that are common to a given industry in all countries are indicative of resource reallocation in production, or structural change. Following Stockman (1988), our strategy is to pool data on rates of change of output across industries and countries in a variable $y_t$, and to estimate the following regression: 1/

$$y(t) = m(i) + n(c,t) + u(i,c,t)$$

1/ While Stockman (1988) estimates essentially the same regression for a set of industrial countries, he is testing for a different effect, namely evidence of a "real business cycle" in the form of significant industry-specific shocks. There is, in fact, a small literature on the decomposition of output changes into industry-specific, regional, and national components. Stockman's methodology was applied here mainly because it imposes fewer structural assumptions on the data than some of the other papers in this literature.
where $m(i)$ represents the inner product of coefficients and dummy variables that single out industries indexed by $i$ (referred to in Table 1 as industry factors), $n(c,t)$ represents the inner product of coefficients and dummy variables that single out countries indexed by $c$ and time indexed by $t$ (referred to in Table 1 as national factors), and $u$ is the regression residual. Because the dummy variables are linearly dependent, a normalization is necessary, and thus one industry was excluded from the set $m(i)$. This means that the resulting coefficients represent values relative to the excluded industry coefficient. The energy industry was chosen to be the "numeraire" sector in all countries, because it showed the least variability over the sample.

As shown in Table 1, the results from estimating equation (1) clearly indicate that most of the variance, or rather most of the explained variation in output, is accounted for by the national or macroeconomic factors. As shown in Table 1, nearly all of the variance of output changes explained by the regressors is accounted for by the dummy variables that represent national or economy-wide factors. More formally, an F-test cannot reject the null hypothesis that the entire set of industry-specific dummies has no effect on the rate of change of output in these countries.

To allow for differences in the process of resource reallocation across countries, we introduce an additional set of variables. These variables represent country-specific industry shocks, that is, shocks that affect each specific industry in each country. In this way, we attempt to account for national differences in the process of resource reallocation. Therefore, the following modified version of equation (1) was also estimated:

$$ y(t) = m(i) + n(c,t) + f(i,c) + u(i,c,t), \quad (2) $$

where the additional set of dummies $f(i,c)$ identifies shocks that are specific to industry $i$ in country $c$. A further normalization is now required, and this involves the exclusion of the country-effect dummies in the last period. As displayed in Table 1, the estimation of equation (2) produces similar results as those reported for equation (1). However, it should be noted that, as would be expected with another set of regressors included, the fraction of the explained variation due to national factors

1/ We estimated equation (1) by pooling monthly data on production in 10 industrial sectors for Poland, Hungary, the former Czechoslovakia, and the former East Germany on samples that begin on the dates of each country's "big bang". The big bang date is defined with reference to the date of the first major price liberalization, and of monetary union with the West in the case of the former East Germany. The sample thus spans the period January 1990 to December 1991, and measures the initial impact of the reform measures. Because of changes in methodology and coverage, the data could not be extended to later dates.
Table 1. Macroeconomic and Structural Factors in the Output Decline (Former) Czechoslovakia, East Germany, Hungary and Poland

<table>
<thead>
<tr>
<th>Regression</th>
<th>Formula</th>
<th>R²</th>
<th>DF</th>
<th>National Factors</th>
<th>Industry Factors</th>
<th>National-Specific Industry Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>y(t) = m(i) + n(c,t) + u(i,c,t)</td>
<td>0.29</td>
<td>675</td>
<td>3.49</td>
<td>0.39</td>
<td>0.89</td>
</tr>
<tr>
<td>2</td>
<td>y(t) = m(i) + n(c,t) + f(l,c) + u(i,c,t)</td>
<td>0.30</td>
<td>649</td>
<td>3.52</td>
<td>0.12</td>
<td>0.89</td>
</tr>
<tr>
<td>3</td>
<td>y(t) = m(i,t) + n(c,t) + f(l,c) + u(i,c,t)</td>
<td>0.52</td>
<td>451</td>
<td>2.89</td>
<td>1.01</td>
<td>0.64</td>
</tr>
</tbody>
</table>

1/ Marginal significance level.
2/ Percent of explained sum of squares attributable to orthogonal part of corresponding regressors.
now falls from 95 percent to 91 percent. Nevertheless, the overall picture—namely that the country-specific macroeconomic effects are the most important ones in accounting for output developments—does not change. An F-test indeed finds that the joint effect of the industry effects \( m(i) \) and the country-specific industry effects \( f(i,c) \) is not statistically different from zero.

Finally, an even more general form of this equation,

\[
y(t) = m(i,t) + n(c,t) + f(i,c) + u(i,c,t),
\]

was also estimated. Equation (3) allows for international industry shocks that are time-specific. This specification, used in Stockman (1988), accommodates the idea of a real business cycle driven by industry-specific shocks. As a measure of structural change, however, this specification would make sense only if the signs of these shocks implied output changes consistently in the same direction for each sector. This specification also geometrically increases the number of dummy variables representing industry shocks which are common across countries. While this has the predictable effect of increasing the fraction of the variance explained by the industry factors, which is now roughly equal to the fraction of the variance explained by the national factors, it only marginally improves the statistical significance of the industry factors. The F-statistic still cannot reject the null hypothesis that the whole set of coefficients on industry dummies is equal to zero (Table 1). The evidence in favor of the view that macroeconomic shocks have been much more important than sector-specific shocks in accounting for the output decline thus appears to be robust.

An examination of the pattern of coefficients across the different industries can provide a sense of the implications of the regression estimates for the process of resource reallocation. That is, a positive regression coefficient indicates that factors specific to that industry are expansionary (or less contractionary) in relative terms. In Chart 1, we plot the values of the industry factors (common across all three countries) as deviations from their mean, from the estimation of equation (3). (The values of the coefficients themselves are not meaningful because of the normalizations). The estimates imply that, on account of industry factors

1/ If one were to compare these results with those obtained by Stockman for the G-7 countries, one would see that the point estimates of the fractions of total variance accounted for by national versus industry factors are quite similar to those reported in Table 1 (although, clearly, the relative-price shock experienced by the Eastern European countries was much larger). The difference, however, is that the standard errors associated with the industry factors are much higher for this group of countries than for the G-7. This results in the industry factors' statistical significance being much lower than that reported in Stockman's study.
affecting the whole group of four countries, the largest outward shifts of resources were from the Ferrous Metallurgy, Electrical Engineering and Building Materials sectors, whereas the Chemical Industry had the largest inflow of resources, in relative terms. Note that, since this effect represents the marginal contribution of the industry factors, positive values of the coefficients for a given sector does not mean that sector is actually expanding, since this would depend on the aggregate effect of the three different types of factors identified in the regression.

In Chart 2, we present the results from the same exercise for the country-specific industry shocks. Because of the required normalizations, these shocks are only identified for three of the four countries. We calculate these shocks by taking the average of the time-dependent coefficients for each industry. It is striking that the general pattern of coefficients is fairly similar across countries. The main exception is the Nonferrous Metallurgy sector. It is also noteworthy that the Chemical industry, which fared quite well in terms of shocks common across the four countries (Chart 1), displays a strong negative specific shock, particularly for Hungary and Poland, when one allows for country-specific industry shocks. All these results, however, are only suggestive since they are based on point estimates of coefficients that are not jointly (statistically) significantly different from zero.

We also estimated equation (3) for the smaller group of countries consisting of Czechoslovakia, Hungary and Poland. The reason is that one might suspect that the reform process in the former East Germany may have had a somewhat different impact on its industrial structure because of its immediate integration into the large, advanced German market. However, the results, displayed in Table 2, turned out to be quite similar to those obtained for the group of four countries. We also observe a predominance of macroeconomic factors over structural change factors for the group of three countries, although the statistical significance is a little lower. When time-varying industry-specific factors are estimated—the specification of equation (3)—the proportion of the variance explained by industry factors rises, but not to a statistically significant extent.

III. Discussion

The results presented in the previous sections strongly suggest that the output decline in Eastern Europe is primarily a reflection of macroeconomic forces, rather than structural adjustment. This is perhaps not that surprising since structural change can be a very long and drawn out process, even in fully functioning market economies. While asset markets may respond very quickly to new information, factor and product markets tend to adjust much more slowly, reflecting the effects of adjustment costs and uncertainty. The latter's effect was manifest in the wait and see attitude adopted by a large number of state enterprise managers at the outset of the reform programs, which caused them to continue producing much as before (for inventory), even though demand had dried up.
Chart 1. Decomposition of the Output Decline. Industry-Specific Factors

**Industrial Sectors**

1. Ferrous Metallurgy
2. NonFerrous Metallurgy
3. Engineering
4. Electrical Engineering
5. Chemical
6. Building Materials
7. Wood and Paper
8. Textiles
9. Food
Chart 2. Country-Specific Industry Factors

Industrial Sectors
1. Energy
2. Ferrous Metallurgy
3. Nonferrous Metallurgy
4. Engineering
5. Electrical Engineering
6. Chemical
7. Building Materials
8. Wood and Paper
9. Textiles
10. Food
Table 2. Macroeconomic and Structural Factors in the Output Decline (Former) Czechoslovakia, Hungary and Poland

<table>
<thead>
<tr>
<th>Regression</th>
<th>y(t) = m(i) + n(c,t) + u(i,c,t)</th>
<th>F-Statistic</th>
<th>P-Value</th>
<th>Explained SS 2/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R² = 0.27, DF = 522</td>
<td></td>
<td>3.28</td>
<td>0.00</td>
<td>96.7</td>
</tr>
<tr>
<td>National factors</td>
<td></td>
<td>3.28</td>
<td>0.00</td>
<td>96.7</td>
</tr>
<tr>
<td>Industry factors</td>
<td></td>
<td>0.16</td>
<td>0.99</td>
<td>0.7</td>
</tr>
<tr>
<td>Regression 2</td>
<td>y(t) = m(i) + n(c,t) + f(i,c) + u(i,c,t)</td>
<td>3.32</td>
<td>0.00</td>
<td>90.0</td>
</tr>
<tr>
<td>R² = 0.28, DF = 505</td>
<td></td>
<td>3.32</td>
<td>0.00</td>
<td>90.0</td>
</tr>
<tr>
<td>National factors</td>
<td></td>
<td>0.05</td>
<td>1.00</td>
<td>0.6</td>
</tr>
<tr>
<td>National-specific industry factors</td>
<td></td>
<td>0.75</td>
<td>0.77</td>
<td>7.7</td>
</tr>
<tr>
<td>Regression 3</td>
<td>y(t) = m(i,t) + n(c,t) + f(i,c) + u(i,c,t)</td>
<td>2.51</td>
<td>0.00</td>
<td>35.9</td>
</tr>
<tr>
<td>R² = 0.56, DF = 307</td>
<td></td>
<td>2.51</td>
<td>0.00</td>
<td>35.9</td>
</tr>
<tr>
<td>National factors</td>
<td></td>
<td>0.91</td>
<td>0.65</td>
<td>50.4</td>
</tr>
<tr>
<td>National-specific industry factors</td>
<td></td>
<td>0.62</td>
<td>0.89</td>
<td>3.2</td>
</tr>
</tbody>
</table>

1/ Marginal significance level.
2/ Percent of explained sum of squares attributable to orthogonal part of corresponding regressors.
Furthermore, the macroeconomic forces that were at work in the region were quite formidable. The stabilization effort that was needed to prevent an inflationary spiral from emerging following the adjustment of some highly undervalued administrative prices and the removal of price controls would certainly not have had a positive effect on output. In the case of Poland, moreover, the economy was bordering on hyperinflation before the reform program started. It is not surprising that, as the PCsEs of Eastern Europe underwent a real increase in energy prices of some 200 or 300 percent and a substantial real devaluation, while yet attempting to maintain some degree of price stability, the impact on output was not stimulative.

It should also be noted that the data that have been examined here have their own limitations. First, we have examined data from the industrial sectors of these economies exclusively. Thus, we have ignored the structural change that is taking place as a result of the substantial growth in private services and trade. Second, coverage is, in most cases, limited to state enterprises within the industrial sector of these economies, either because that is the scope of available publications or because other criteria for coverage (e.g. industrial enterprises employing a minimum number of workers) automatically select state enterprises. Third, the level of disaggregation may have played some role in our results, since structural change within any one of our two-digit branches will not be picked up by this methodology.

Nevertheless, we would expect that the centrally-planned system has generated a considerable misallocation of resources even within the industrial sector taken at this level of aggregation, and thus that considerable reallocation should eventually take place. For example, estimates of domestic resource cost for industrial branches in several of the countries included in our sample display quite large differences across sectors taken at roughly the same level of aggregation as in this paper (see Hughes and Hare (1991, 1992)). But the fact that our data cover almost exclusively state enterprises limits the applicability of the conclusions to that sector, as we have strong priors that the private sector may behave in a different way.

There are also some shocks affecting the region that do not fit easily into the macroeconomic versus structural-change dichotomy. For example, the methodology that was applied here does not immediately shed light on the importance of the CMEA shock in the output decline, or on whether supply-side or demand-side shocks were more important in the behavior of output. As far as the dismantling of the CMEA trading arrangements in 1991 are concerned, there are clearly elements of both a macroeconomic shock (in the sense of a large decline in international trade among the former member countries), and structural adjustment (since undoubtedly, part of the decline in CMEA exports was simply a manifestation of the poor
competitiveness of some sectors of industry). For example, Gelb (1992) points out that import demand by Russia from non-CMEA countries did not decrease in 1991. Clearly, while the maintenance of some preferential trading arrangements would have supported output in a few sectors, a significant decline in CMEA trade was bound to take place once these economies opened up.

Another issue that our methodology does not shed light on is the nature of the macroeconomic shocks that have been at work in these economies. Calvo and Coricelli (1992) have argued that overly tight credit policies, in combination with the sharp rise in administered energy prices, contributed to a situation in which enterprises could no longer afford to pay for their inputs, thereby causing them to reduce aggregate supply. More conventionally, the macroeconomic shock might have arisen from the demand side, as a larger-than-expected price shock, combined with nominal targets for other variables (such as credit growth, the fiscal deficit, and wages), depressed aggregate demand. Also, as mentioned previously, some shocks (notably the collapse of the CMEA trading arrangements) had elements of both a supply and a demand-side shock, as the export demand faced by these countries dried up (lowering aggregate demand) and many faced international terms of trade that were far less favorable than previously (contributing to a traditional "supply-side" shock that was similar to the oil price shocks experienced by the industrial countries in previous decades). The data need to be examined in alternative ways if one is to begin to apportion responsibility among these many competing factors under the general heading of macroeconomic shock.

With all these caveats, however, the results of this paper do suggest that within the industrial sector, which made up the bulk of these economies prior to liberalization, structural adjustment in production has been very limited. One argument for moving more slowly with the liberalization measures that were adopted in the majority of these countries is that the stabilization phase of any reform program is likely to require some short-term output costs. So that the process of structural adjustment not add to these costs, it may be necessary in the short-run to intervene—for example

1/ Despite the large role generally attributed to the collapse of CMEA trade (Rodrik (1992)), it is far from obvious that this was the main determinant of the output decline, as the experience of Poland in 1990—when output declined by 12 percent despite an increase in CMEA exports—clearly illustrates.

2/ Credit, in their model, like labor and capital, is an input into the production process.

3/ Another supply-side shock experienced by some countries, including Romania, was lack of access to imported raw materials because of a shortage of foreign exchange.

4/ It should be noted that in several countries, including Poland, the terms of trade deterioration was accompanied by a sharp increase in real product wages in 1991 (in contrast to 1990), making the supply-side disturbance all the more pronounced.
by extending credit and other subsidies to ailing enterprises—in order to protect sectors that in the long-run may not be viable, but in the short-run may help to mitigate the secondary negative effects on output associated with structural adjustment. Quite apart from the credibility problems governments may face in trying to implement temporary subsidies of this kind, the results presented in this paper suggest that, since most of the output shock is due to macroeconomic factors, one cannot really expect to have reduced these short-run costs by adopting policies that slow down the process of structural change. Instead, the results seem to suggest that, to a large extent, the structural adjustment of the industrial sector that these economies need to undergo has still to be faced, and may have been needlessly prolonged. In fact, it is not too difficult to make the case that, had these economies moved more quickly to implement structural alongside stabilization measures (for example, on improving corporate governance and privatization), the process of structural change would be far more advanced in these countries, and the downward phase of the transition might already be past. Under such a scenario, these countries might well now be on a path of high transitional growth that their low effective capital stock (and consequently its high productivity) would seem to warrant. 1/ To the extent that political support for the reform process depends on a timely resumption of growth in these countries, the results presented in this paper suggest that a rapid implementation of structural and stabilization measures is less likely to jeopardize the transition to a market economy than more gradualist alternatives.

1/ See, for example, Borensztein and Montiel (1992).
References


