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AT THE UNIVERSITY OF MICHIGAN BUSINESS SCHOOL

***From Theory into Practice? Restructuring  
and Dynamism in Transition Economies***

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Working Paper Number 155  
June 1997

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# FROM THEORY INTO PRACTICE? RESTRUCTURING AND DYNAMISM IN TRANSITION ECONOMIES

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*This paper draws on microeconomic, industry-level, and macroeconomic evidence to investigate the mechanisms of enterprise restructuring in transition economies, its outcomes in terms of industry-level export performance, and its interaction with macroeconomic policy and constraints. The aim is to throw light on the process by which catch-up is taking place in the leading transition economies. We begin at the micro level and find that institutional changes have produced improvements in performance more or less in line with theoretical predictions. Variation in the extent of policy changes helps to account for cross-country differences in restructuring behaviour. In the leading transition countries where growth has been under way for a number of years, many features of the enterprise sector differentiate it from that of an advanced market economy. To measure the extent of catch-up associated with the reforms, use is made of detailed information about the quality of goods traded on the EU market. In the final section, the inclusion of macroeconomic constraints allows distinctive transition paths to catching up in the Visegrad countries to be identified.*

## I. INTRODUCTION

The aim in this paper is to take stock of what has happened in the enterprise sector in the leading transition economies and to see how this matches up with the orientation and findings of the theo-

retical analysis of transition. The initial emphasis on privatization as a key reform measure for the enterprise sector was soon confronted by some empirical puzzles. In particular, there was the apparent responsiveness—in market-conforming ways—of enterprises still owned by the state.

<sup>1</sup> Research for this paper has been supported by ACE grant No. 94-0590-R. We are very grateful for the excellent research assistance provided by Jason Bush. For useful comments we thank Andrew Glyn, Andrew Kilmister, Adam Török, and participants at the *Oxford Review of Economic Policy* conference and the ACE workshop in Budapest (9–10 May 1997).

This produced two new directions in the literature.

The first was to broaden the analysis of the incentives of managers of state-owned enterprises so as to consider explicitly the costs and benefits to such managers from engaging in restructuring actions. This focused attention on the internal distribution of power in the enterprise, the state of the external labour market for workers and managers, the pressure of product market competition, and methods through which enterprises could avoid adjustment to harder budget constraints such as soft loans from the banking sector. The second development was to identify two different types or qualities of enterprise-sector adjustment—referred to as ‘defensive-reactive-shallow’ on the one hand and ‘strategic-active-deep’ on the other. Reactive restructuring behaviour, such as labour-shedding or seeking markets for output, so as to contain losses and ensure the survival of the enterprise, took place in enterprises of all kinds in transition. But deep restructuring involving a forward-looking strategic orientation (e.g. new investment and radical reorganization of product lines and processes) was—at least in the early stages—only observed in enterprises owned by foreigners. Further theoretical work suggested that deep restructuring required outside ownership and served to highlight the limitations of privatization strategies based on selling to enterprise-insiders.

As the sophistication of the theoretical analysis grew, recession turned to recovery in the leading transition economies, tossing up new empirical puzzles. An intriguing question was whether the appearance of dynamism in the enterprise sector reflected the solution to the corporate governance problems which had dominated the literature. Was investment being financed by retentions or through access to external sources of finance? Recovery began earlier and with most vigour in Poland, where progress with privatization was especially slow and levels of foreign ownership especially low. By contrast, in Hungary, where there was the most extensive presence of foreign owners, growth was rather feeble. Was this related to problems of corporate governance or to macroeconomic or other factors? In the Czech Republic, there appeared to be high levels of investment (often taken as a key indicator of deep restructuring) in enterprises prior

to the existence of a controlling outside owner, yet productivity growth was rather weak.

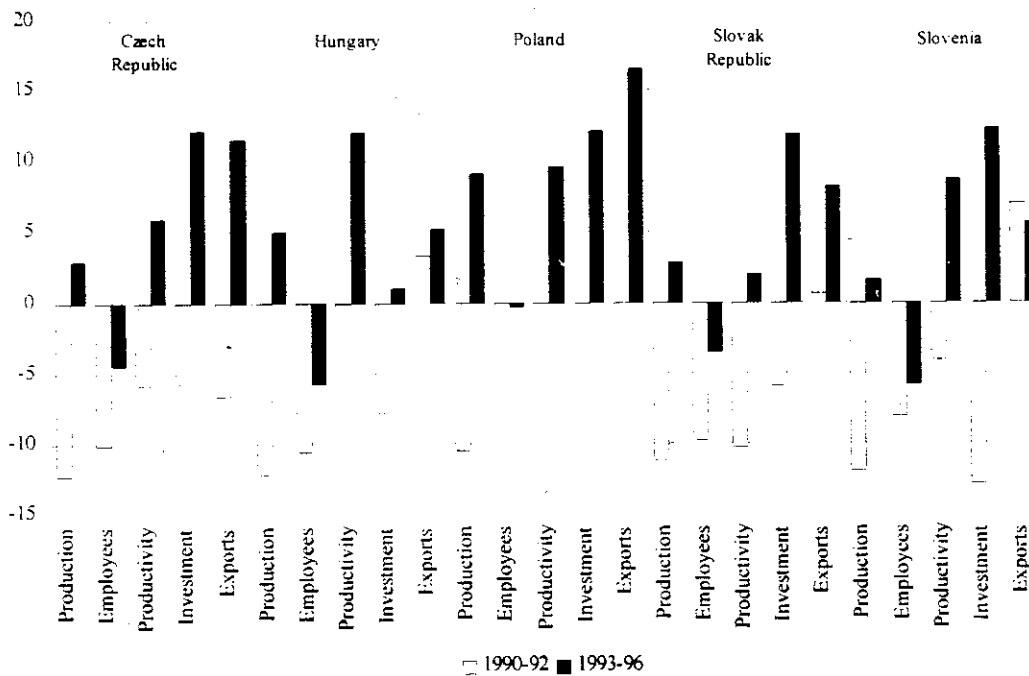
The approach taken to these questions in this paper combines a variety of sources of macroeconomic, industry, and enterprise level information. We begin in section II by establishing the broad pattern of recession and recovery in the industrial sector of the leading transition economies. Changes in output, employment, investment, and exports are charted for Poland, Hungary, and the Czech Republic, as well as for Slovenia and Slovakia. For these countries, the speed of reorientation of exports from the Council for Mutual Economic Assistance (CMEA) region to western Europe was one of the most remarkable features of the early transition.

Against the background of recession followed by growth in the industrial sector, section III drops to the micro level and investigates the extent to which the theoretical analysis of the determinants of enterprise restructuring has been reflected in practice. A wide variety of evidence from both leading transition economies and Russia is brought to bear on the issue of the efficiency effects on enterprises of the liberalization of private-sector activity, reductions in government subsidies, changes in ownership and control, bank restructuring, and changes in competitive pressure. Growth has not yet begun in Russia and it is of interest to know how restructuring behaviour in Russian enterprises compares with that in the central and eastern European economies.

Whereas section III focuses on the evidence relating to changes in efficiency associated with enterprise-sector reform and thus on the effectiveness of the institutional inputs to transition, section IV turns to the outcomes at industry level. The aim is to find out where transition economies started from and where they have got to, in terms of the performance standards of market economies. The technique used here is to focus on the exports from transition economies to the EU and to assess the position of these products in the ‘quality ladder’ of EU (including intra-EU) imports.

In section V, we draw together the results from sections III and IV to characterize the transition paths in Poland, Hungary, and the Czech Republic. Not only institutional reform (section III) but also historical inheritance and macroeconomic constraints

**Figure 1**  
**Industrial Production, Employees, Productivity, Investment, and Export,**  
**Percentage Average Annual Growth Rates, 1990–2 and 1993–6**



Source: WIIW.

have influenced the sources of dynamism for the enterprise sector and the progress towards catch-up (section IV) in each country.

## II. RECESSION AND RECOVERY IN INDUSTRY

This section provides an overview of industrial developments across the 'Western' central and eastern European economies (CEECs). We focus on the Czech Republic, Hungary, and Poland, and include Slovakia and Slovenia for comparative purposes. We distinguish the two developmental phases since the beginning of the transformation: deep recessions followed by economic recoveries. The timing of these phases differed across economies: Poland started its recovery as early as 1992, Hungary in 1993, and the other CEECs in 1994. Growth profiles across the CEECs for the same periods are compared in Figure 1.

The first period was characterized by a deep slump in industrial production in all the CEECs (amounting to average per-annum declines of more than 10 per cent). Industrial employment fell somewhat less

than did output in all of the CEECs. The falls were biggest in Hungary and—contrary to a widely held view—the Czech Republic, and were considerably lower in Poland. The recessions were also characterized by dramatic drops in investment levels, which, however, did not exceed (except for Slovenia) those in industrial production. There was a wide variety of export performance during the recession period, with Hungary showing clear growth of industrial exports, Poland a small decline, and the Czech Republic the largest shrinkage among the five economies. The confusing mixture of changes is summarized by the example of Hungary: as compared with both the Czech Republic and Poland, Hungary's industrial production and investment fell most, while productivity fell least and exports grew most.

In the second period, 1993–6, growth was recorded everywhere for all indicators with the exception of industrial employment. Poland is the only country where the number of employees in industry appears to have stabilized; output, productivity, and investment grew by close to 10 per cent per annum, and exports substantially faster. Elsewhere, the recovery was later and more patchy. The Czech Republic

**Table 1**  
**Growth Rates of CEEC Manufacturing Exports to the EU-12 and of Total EU-12 Imports**  
 (% , calculated from current ECU price data)

	1989	1990	1991	1992	1993	1994	1995
Poland	11.34	39.41	25.53	20.31	9.93	20.64	26.97
Hungary	20.18	16.74	23.20	13.25	-0.80	25.18	34.87
CSFR <sup>a</sup>	14.27	7.78	53.17	38.73	8.05	39.47	29.41
Czech Republic	-	-	-	-	-	32.90	25.84
Slovak Republic	-	-	-	-	-	-	41.09
Slovenia	-	-	-	-	-	19.55	11.29
Bulgaria	13.81	10.68	36.03	27.11	3.43	51.33	33.43
Romania	6.36	-29.00	3.00	10.31	18.88	48.04	31.71
EU-12 Imports	14.48	2.19	8.93	0.84	3.57	12.25	-5.60

*Note:* CSFR is Czech and Slovak Federal Republic.

*Source:* WIIW calculations from Cronos trade statistics.

featured weak output growth, modest productivity growth, yet strong investment and export growth until 1996, when export growth virtually ceased. The most striking feature of the Hungarian recovery was the weakness of investment as compared with the four other economies.

An impressive feature of adjustment in all of these economies was the speed and extent of reorientation of exports from former CMEA markets to western European ones. In Table 1 we show the growth rates of manufactured exports to EU markets (calculated from current price ECU data). We can see that for all countries over the period 1990–5, exports to the EU grew much faster than total EU imports (including intra-EU trade). One way of trying to isolate the transition-specific circumstances is to look at the evolution of the real exchange rate over this period, in conjunction with the changes in export market shares.

Real exchange-rate movements reveal the evolution of a country's price competitiveness relative to its trading partners. A 'real' appreciation would show that a country's exports (or sales to the domestic market) became more expensive when account is taken of both nominal exchange-rate movements and the relative inflation rates in both domestic and foreign markets (in Table 2 we show

calculations of real exchange rates using both consumer and producer price indices as deflators). From Table 2 we can see that over the period 1989–96 all five CEECs experienced a real appreciation of their currencies in relation to their OECD trading partners. Over the same period, their export market shares increased. The strongest real appreciation took place in Poland, which also experienced the fastest growth of exports.

Interpreting the path of the real exchange rate rests as well on an examination of the starting point—i.e. on the initial degree of under- or over-valuation of the exchange rate. In the absence of more sophisticated estimates of the equilibrium real exchange rate, we present data on the ratios of nominal to PPP exchange rates (the so-called Exchange-rate Deviation Index, ERDI). The values for ERDI are given in Table 2 and we can see that the degrees of 'under-valuation' in the initial period of trade and exchange-rate liberalization (indicated by a value less than one) differed substantially, so that subsequent real appreciations exerted very different pressures upon a country's trade performance.<sup>3</sup>

Poland experienced a strong real appreciation over the period 1990–6, starting also from a position of relatively strong under-valuation in 1990. Strikingly, the Czech and Slovak Republics experienced the

<sup>3</sup> For a recent survey and discussion of the purchasing power parity rate as a rate which reveals major structural and developmental differences among economies, see Rogoff (1996). For structural factors driving the evolution of ERDIs in the transition economies, see Stolze (1996).

**Table 2**  
**Real Exchange Rates and Exchange-rate Deviation Indices (ERDIs), 1990–96**  
**(US dollar-based annual averages)**

	1990	1991	1992	1993	1994	1995	1996
<b>Czech Republic</b>							
Real ER (CPI-based)	88.4	81.5	92.2	105.9	115.6	133.5	138.3
Real ER (PPI-based)	82.5	82.7	92.6	96.2	100.5	114.4	114.2
ERDI (US\$-based)	0.33	0.29	0.33	0.36	0.39	0.47	0.48
<b>Hungary</b>							
Real ER (CPI-based)	115.7	127.5	144.9	149.5	152.2	159.4	158.0
Real ER (PPI-based)	109.5	118.5	122.1	114.0	108.7	114.4	111.8
ERDI (US\$-based)	0.56	0.58	0.62	0.63	0.64	0.65	0.63
<b>Poland</b>							
Real ER (CPI-based)	100.2	148.1	160.4	160.0	165.3	193.4	203.0
Real ER (PPI-based)	105.5	129.0	131.4	127.8	125.2	143.7	141.0
ERDI (US\$-based)	0.37	0.50	0.51	0.48	0.48	0.56	0.58
<b>Slovak Republic</b>							
Real ER (CPI-based)	88.8	84.4	94.4	104.9	111.9	129.4	129.3
Real ER (PPI-based)	84.5	84.1	90.1	95.2	98.5	113.0	111.1
ERDI (US\$-based)	0.40	0.32	0.35	0.36	0.38	0.44	0.44
<b>Slovenia</b>							
Real ER (CPI-based)	158.9	135.6	137.9	129.1	134.4	161.9	151.7
Real ER (PPI-based)	119.6	106.4	111.1	95.2	96.4	115.4	105.1
ERDI (US\$-based)	0.95	0.74	0.73	0.69	0.72	0.89	0.83

*Note:* ER = exchange rate (US\$/national currency), in each case 1989 = 100; ERDI = exchange-rate deviation index (ER/PPP); PPP = purchasing power parity rate. Bench-mark PPPs for 1993 were extrapolated with GDP price deflators, CPI-, PPI-based: nominal exchange rate double-deflated by domestic and OECD consumer and producer price indices (CPI and PPI) respectively.

*Sources:* EUROSTAT Volumenvergleich für 39 Länder, BIP—Ergebnisse 1993, 1996; national statistics; OECD; WIIW.

smallest real appreciations, in spite of beginning with the largest under-valuation of the exchange rate. By contrast, Hungary was only moderately under-valued in 1990 and suffered in its export growth to the EU as a result of a dramatic real appreciation in 1991; it then experienced a depreciation in real terms in 1994 and 1996 and, consequently, export growth to the EU recovered.

There was, then, some convergence in the extent of under-valuation in the group of 'Western' CEECs over the period 1990–6. All CEECs were able to expand their market shares in the EU substantially, as long as certain upper ceilings in real exchange-rate appreciations were not exceeded (as they were in the case of Hungary in 1991–2, and as they seem to have been in the case of the Czech and Slovak

Republics by the end of 1996/beginning of 1997). Real exchange-rate appreciations, along with expanding market shares in EU markets, point towards product quality improvements, an issue to which we return in section IV.

### III. THE THEORY AND PRACTICE OF ENTERPRISE-SECTOR REFORM

#### (i) Theory

The theoretical work on enterprise-sector reform in transition economies has typically focused on how policy can be set so that good managers of state-owned enterprises (SOEs) are induced to exert effort to restructure and subsequently are able to

expand the activities of the enterprise. Growth depends, as well, on fostering the entry of new firms. The other side of the coin is that poor managers must be denied access to new resources for expansion and lose the ability to hang on to other valuable resources in the enterprise.

In addition to political feasibility, a crucial issue in the design of privatization schemes would appear to hinge on whether the basic transition problem for the enterprise sector is, on the one hand, a preponderance of 'bad' managers who simply lack the necessary human capital to undertake restructuring actions, or, on the other, incorrect incentives facing managers. This is clearly an empirical question and presumably the answer may differ according to the historical experience of different countries, as well as across industries within a country. If the former is deemed empirically relevant, then the policy focus should be on mechanisms to promote managerial turnover; if the latter, then questions of learning and training, as well as of creating the appropriate incentives, become highly pertinent.

One set of models focuses on managerial career concerns as a key mechanism by which good managers of SOEs are separated out from bad ones, and by which the good ones are induced to restructure. Roland and Sekkat (1996) show that the existence of a private sector offering outside opportunities to the manager (career prospects) is necessary to eliminate the 'ratchet effect' for state enterprises, whereby the government was unable to commit itself not to increase the targets of enterprises performing well, and to elicit effort (restructuring) from good managers. They note that when the skills of the manager are asset-specific—which may be quite common in SOEs—the prospect of privatization rather than simply the existence of a private sector is necessary to induce restructuring by good managers. Moreover, the manager must have the possibility of securing some rents from privatization which means that some component of insider privatization is required.

Based on the first formal model of restructuring by Aghion, Blanchard, and Burgess (1994), Kotrba (1996) shows that a separating equilibrium will prevail in which only good managers engage in restructuring (the socially optimal configuration) if it

is assumed that there is a competitive bidding process for enterprises in which rational new owners participate. A 'rational new owner' is defined as one who would keep on a good manager who had revealed his or her quality through pre-privatization restructuring.

The aspect of restructuring at the heart of the Aghion–Blanchard–Burgess model is the intertemporal problem posed by the fact that restructuring incurs a cost in the first period—not simply in terms of effort or managerial disutility, as in Roland and Sekkat, but in terms of output and employment. Restructuring is seen to involve cutting employment and there is no gain in output with which the 'losers' from restructuring could be compensated. Restructuring, therefore, represents a threat to managers if, for example, workers are sufficiently powerful to throw out a 'restructuring manager'. Benefits from restructuring are uncertain and, in any case, only come through in the second period, and the reasonable assumption is made that managers cannot borrow to ease the passage of first-period restructuring. In this model, restructuring can be promoted by policy measures that increase the threat to the manager's survival if he or she does not restructure. This highlights the crucial role of the hardening of the enterprise budget constraint. Even if the threat of closure through bankruptcy or liquidation is rather remote (as it has been in most transition economies), the elimination of subsidies poses a threat to the manager since it impinges on his or her ability to pay employees and to pay for inputs. Although the absence of any threat of exit via bankruptcy was perceived as a major source of inefficiency in the pre-reform economies, formal bankruptcy was unlikely to be a useful practical device for restructuring enterprises under the conditions of transition. The experience in market economies of a 'liquidation-bias' of bankruptcy suggested that in the transition context of output collapse and widespread loss-making, the likelihood of destroying potentially valuable activities would be too great (Van Wijnbergen, 1996).

If banking-sector reform is neglected, then the pressure for enterprise restructuring may be eased through access to soft loans (e.g. Begg and Portes, 1993; Aghion *et al.*, 1996). The successful delegation of restructuring to the banks is constrained by

the accumulation of non-performing loans by banks, which undermines the incentive of the bank to monitor loans because refusal to roll them over threatens the capital base of the bank. Because of the systemic threat to the banking system, bank managers can pursue a soft-loan strategy in the expectation of a bail-out by the government. Hence, the imposition of a very tough policy on the banks, such as firing the bank manager in the event of recapitalization, presents risks, since the manager will be induced to disguise the extent of the bad loan problem and roll over bad loans. A softer approach towards managers of banks runs the opposite risk—namely, that too many loans would be identified as non-performing, producing more liquidations than is socially efficient (Aghion *et al.*, 1996). To deal with this problem, it is suggested that non-performing loans be transferred from the portfolio of the bank to a special ‘hospital’ agency. The feasibility of creating appropriate incentives for such an agency has been questioned (Van Wijnbergen, 1996).

The theme that either too lax or too tough a policy can undermine incentives is taken up by Perotti (1996), who has examined the interaction between monetary policy and the expansion of inter-enterprise indebtedness. Excessively tight credit policies can be self-defeating and promote increased inter-enterprise debt if good managers refrain from restructuring because they come to believe that a general bail-out is likely.

A successful initiation of enterprise-sector reform thus requires a hardening of enterprise budget constraints, so that enterprises are denied access to subsidies or soft loans to finance losses, that private entrepreneurship is encouraged, and, in the case of asset-specific skills of managers, that privatization of SOEs is in prospect. A privatization process in which managers have some confidence in the existence of competitive bidding by ‘rational new owners’, or where the method of privatization promises some rents to the managers, is necessary. The process whereby good managers are separated from bad ones and engage in restructuring can be undermined (or reversed) if good managers come to believe that general bail-outs of the banks will occur. Hence macroeconomic policy and banking reform must be neither too lax nor too tough. All of these models assume the existence of sufficient competi-

tion in the product market to make survival at the *status quo* difficult.

The other major direction in theoretical work has been to model the consequences of different models of privatization for post- rather than pre-privatization behaviour. The new issue raised by transition that has prompted formal modelling efforts is the consequences of insider privatization for dynamic efficiency. Otherwise, the literature on transition has drawn both on the long-standing body of analysis of the employee-owned enterprise and on the literature from the principal-agent tradition on corporate governance and ownership structures. The Aghion–Blanchard (1996) model shows that if deep restructuring (assumed to be necessary for growth) requires both external finance and further labour-shedding, then insider privatization should be avoided. If this is not possible for political reasons, then employee-ownership with freely tradable shares is shown to be preferable to manager-ownership as a way to avoid entrenchment of bad managers. Moreover, the worse is the state of the outside labour market, the slower will be the rate of transfer from inside to outside ownership, since insiders will be worried about the implications of a change in control for their jobs, and hence the lower will be the dynamism of the enterprise sector as poor managers remain entrenched. This analysis highlights a trade-off associated with insider privatization: if the state retains ownership, the option of sale to an outsider is kept open, whereas insider-privatization may serve to entrench poor managers.

## (ii) Theory and Practice

To what extent have these theoretical ideas about how reform packages produce changes in enterprise behaviour been confirmed by empirical work? Unfortunately many of the hypotheses are difficult to test and data availability is poor. From the large body of case-study evidence covering the CEECs and Russia, and the small number of large-sample studies on the restructuring of industrial enterprises, the stylized facts about enterprise adjustment in early transition—up to 1993—can be summarized as follows (Carlin, Van Reenen, and Wolfe (CVW), 1994). There was a great deal of heterogeneity in behaviour across enterprises; there was little report of managerial changes—with most such changes



seeing top managers replaced by a deputy; reactive adjustment was observed in enterprises with all types of ownership structures; substantial employment reductions were observed, although they were typically less than output falls and few cases of mass-lay-offs were reported; cases of passivity were often explicable in terms of favourable inherited conditions; there were cases of enterprises hiving off social assets and some evidence that employee-controlled firms were more reluctant to do this than other privatized firms; and strategic restructuring actions were rarely recorded except in firms with foreign owners.

Research completed since the CVW survey captures more recent experience or, in some cases, presents more sophisticated analysis of data collected in the earlier period. In addition, there is now some evidence for the period during which aggregate growth was experienced in Poland, Hungary, and the Czech Republic.

### (iii) Restructuring Behaviour and its Determinants

#### *Private-sector development*

Theory predicts that strong private-sector development and encouragement will promote restructuring in the *state sector* in two ways. First, by reducing the cost of job loss, resistance to restructuring in SOEs will be reduced. Second, the existence of outside job opportunities for dynamic managers removed the most basic obstacle to pro-active behaviour by SOE managers under the communist system—namely, the inability of the state to commit itself not to punish a manager who performs well. However, it is difficult to envisage how this hypothesis could be tested empirically. It is noteworthy that changes in the behaviour of SOE managers did not accompany the liberalization of private-sector activity in Poland and Hungary in the 1980s, but occurred in the wake of the bundle of reform measures that were implemented from 1989 in Poland and 1990 in Hungary. This highlights the complementarity between the reform measures.

In a detailed study of the emergence of the *de novo* sector in Poland from 1989, Johnson and Loveman (1995) argue that nascent entrepreneurs were drawn

out of the state sector in the 1980s and gained experience in private-sector firms in that period. It was often these people who were behind the new start-ups from 1989 onwards. They stress that the private sector offered an attractive alternative to talented managers in view of the great difficulties involved in restructuring large SOEs with their legacy of inappropriate physical assets as well as the entrenched interests and powers of employees. We return to the role of the new private sector in Polish growth in section V.

#### *Privatization prospects*

Theory suggests that a rather wide spectrum of privatization schemes is likely to have a positive effect in inducing good managers to reveal their ability. An early empirical study that identified the effect of privatization prospects on restructuring was that of Pinto *et al.* (1994) in their study of 75 large Polish SOEs. Managers said that their motivation for engaging in restructuring was in part their expected gain from privatization. They felt secure about keeping their jobs after privatization and were sanguine about finding new jobs if fired, since managerial talent was scarce (Pinto and Van Wijnbergen, 1995).

The similarity in 'down-sizing' performance between state-owned and privatized large Czech industrial firms has been interpreted as reflecting the anticipation of privatization by SOE managers (Balcerowicz *et al.*, 1996). There is some evidence that lengthening the pre-privatization period through postponement of 'mass' privatization in Poland had a detrimental effect on restructuring by SOEs, in that it has prevented them from taking a long-term view and moving beyond reactive restructuring (Krajewski, 1994; Kotowicz-Jawor, 1996; Lipinski, 1996).

*The hardness of budget constraints: subsidies*  
The belief of managers that the pressure of product-market competition would not be relieved by subsidies from the government was documented in early transition for Poland (Pinto and Van Wijnbergen 1995). Another indication of credibly hard budget constraints comes from an investigation of the consequences of the lifting of the tax on 'excessive wage increases' on Polish SOEs. The lifting of the tax did not lead to wage increases out of line with the

financial capacity of the enterprises (Belka and Krajewski, 1996b). A number of studies for the CEECs and for Russia suggest that the reduction in direct budgetary subsidies was closely related to employment adjustment in the enterprise (Basu *et al.*, 1996; Alfandari *et al.*, 1996; Earle and Estrin, 1996b). Enterprises that received subsidies used this to slow down employment adjustment. Subsidies were not used to boost investment. Similarly, a cross-country study (Estrin and Svejnar, 1996) shows that firms facing falling real revenues reduced employment relatively more—rather than adjusting wages downward.

A study of Polish SOEs privatized to insiders (managers and employees) through leasing found that enterprises that were in trouble engaged in considerable labour-shedding even if, as well, they sought the deferment of their loan repayments to the Treasury (Jarosz, 1996). This was taken as a sign of the credibility of the hardness of the budget constraint.

Schaffer's (1995) cross-country study showed that direct budgetary subsidies in the CEECs were low—with manufacturing virtually subsidy-free. He pointed out, however, that tax arrears were a growing problem, but that this form of subsidy was concentrated in the weakest 10–15 per cent of firms and was essential to keeping them afloat. This is consistent with a comparative study by Rostowski and Nikolic (1996), which documents the persistence of budgetary softness in several dimensions in Poland, Hungary, and the Czech Republic, but concludes that such a level of softness was compatible with the existence of hard budget constraints for most enterprises. It seems that in the leading transition economies, direct budgetary subsidies ceased to be of quantitative importance relatively early and were then replaced by tax arrears. As transition has proceeded in these countries, a separation of 'good' from 'bad' firms has taken place. While the exit of loss-makers has not occurred on a significant scale anywhere, losses and the associated subsidies have been confined to a well-defined group of firms. Belka and Krajewski (1996b) highlight the magnitude of the task that still remains in dealing with these politically powerful traditional sectors where the problem enterprises are concentrated. In Po-

land, the sectors are coal, iron metallurgy, electric power generation, shipyards, and armaments.

The situation in Russia in relation to the hardness of enterprise budget constraints was much worse. An analysis of data from a large sample of enterprises concluded that after two and a half years of reform, the Russian enterprise sector as a whole still faced a rather soft budget constraint with only a very small number of subsidy-free enterprises (Alfandari *et al.*, 1996, p. 197). It was notable, however, that the bulk of subsidies were concentrated in a group of large and very large enterprises—1.5 per cent of enterprises in their sample received 50 per cent of the total transfers.

#### *Inter-enterprise arrears*

According to Schaffer (1995), inter-enterprise arrears in the CEECs were no higher than levels of trade credit in advanced economies and hence represented no particular problem. Rostowski and Nikolic (1996) identified a difference between the Czech Republic, on the one hand, and Poland and Hungary, on the other, in the pattern of inter-enterprise arrears. Whereas a stable level was recorded for Hungary and Poland, the level of inter-enterprise debt (accompanied by longer payments periods and higher levels of inventory holdings than in Poland or Hungary) was rising in the Czech Republic in early transition. Alfandari and Schaffer (1996) claim the problem of inter-enterprise indebtedness was no more serious in Russia than it was in CEECs.

#### *Product-market competition*

In Pinto and Van Wijnbergen's (1995) study of the survey responses of Polish SOE managers, the most important determinant of managers' reactive restructuring behaviour was 'market pressure', followed by 'import competition'. Heinrich (1995) finds support for the impact of increased competitive pressure from foreign and domestic firms in both Hungary and the Czech Republic. The significance of import competition is also picked up, interestingly enough, in a study of Russian firms. Earle and Estrin (1996b) find a correlation between the extent of import competition (but not other indicators of competitive pressure) and the restructuring of the product range.

#### (iv) The Reform of the Banking System and Enterprise Restructuring

Based on the competitive environment of the banks and the recapitalization record of the governments, Dittus and Prowse (1996) would rank the Czech Republic first, followed by Poland and then Hungary, for efficient allocation of bank credit. They argue that banks in the Czech Republic (and Russia) would have the greatest incentives for sound lending, because of less government control and greater competition. Hungary was viewed as the weakest, because of slow bank privatization and repeated recapitalization of the banks. Poland was somewhere in between—although privatization of the banks was slow, concentration in the banking sector was low and there had been only one recapitalization. However this *ex ante* ranking has been challenged by empirical studies.

Looking first at Russia, while there has been praise for the policy of setting up new banks and encouraging new entry rather than rehabilitating the old ones (e.g. Claessens, 1996), there are two indicators that problems with inefficient lending are more severe than at the equivalent phase of transition in the Visegrad countries. First, although the overall scale of the bad debt problem in Russia was not greater than in eastern Europe a couple of years earlier, the rolling over of bad debts was more common (most debt is short-term) and, second, there was less of a concentration of bad debts in problem firms than was the case in eastern Europe (Fan *et al.*, 1996). Further qualms about the softness of credit to state and former state enterprises in Russia are expressed by Aukutsionek (1996) and Belianova (1995). The first study stresses the easier credit terms for loss-makers than for profitable firms and the second queries the incentive structure of the banks when these have been founded by enterprises themselves. State and former state enterprises control 50 per cent of the capital of former state banks and 20 per cent of the capital of new commercial banks. Belianova also emphasizes that banks continue to operate as intermediaries between the state and enterprises in the distribution of centralized credit. This highlights again the contrast between Russia and the 'Western' CEECs in the behaviour of central and local government.

Heinrich (1995), using data for 1990–4 for relatively small samples of some 40 firms in the Czech Republic and Hungary, finds—in line with the Dittus and Prowse view—that for the Czech sample lending by banks was positively correlated with enterprise profitability, while, in the Hungarian case, there was no systematic relationship between bank lending and firm profitability. The Czech result appears to be somewhat at odds with the 1993 data at industry level provided by Desai (1996) which show that the industries that secured the most new credit were the most indebted ones. Buchtikova's (1996) firm-level analysis of a large sample of enterprises for 1993 and 1994 also demonstrates a continuation of the tendency of the banks to allocate credits to firms with low creditworthiness. The conclusion that credit allocation was fairly soft in the Czech Republic finds support elsewhere. Rostowski and Nikolic (1996) show a higher level of risky loans as a percentage of GDP in the Czech Republic than in either Hungary or Poland for 1993.

A study using data from early in the transition in Poland was able to show a fairly clear connection between a change in banking institutions (involving the commercialization of the state banks and the transfer of their ownership to the Ministry of Finance with the implication of a hardening of the budget constraint of the banks) and a change in lending behaviour. Prior to the regulatory change, unprofitable enterprises were able to attract a disproportionate share of bank loans. After the change, lending was positively correlated with profitability (Pinto and Van Wijnbergen, 1995). This change in lending behaviour was confirmed in a later study by Baer and Gray (1996). In Hungary, there was some roll-over of bad debts, but new money was not offered on a large scale to problem firms (Bonin and Schaffer, 1995).

Studies of the consequences for *enterprise restructuring* of the contrasting Polish and Hungarian approaches to dealing with the bad debts of firms have tended to conclude that expectations of the results of the Polish approach—which is universally acknowledged to have been better designed—were over-optimistic, and judgement of the Hungarian approach too pessimistic. In practice, outcomes in the two countries have not been too dissimilar. Gray

and Holle (1996a) have argued that Polish firms that have entered the bank conciliation process have not engaged in operational restructuring, but have used the scheme to prolong the period of limited adjustment. A less pessimistic light is shed on the Polish bank conciliation scheme by Belka and Krajewski (1996a), who found, in a sample of poorly performing enterprises, that the firms that received the greatest financial benefits from the conciliation programme had seen the biggest number of favourable changes in terms of profitability, sales, productivity, and the reduction of employment.

The fierce Hungarian bankruptcy code with its automatic trigger mechanism led neither to the exit of unviable firms nor to major operational restructuring in the firms which entered the process (Gray *et al.*, 1996). The absence of effective creditor power was also identified as responsible for the weak effects of the Polish bankruptcy and enterprise liquidation procedures (Gray and Holle 1996b). It is, however, interesting that, for both Poland and Hungary, analysts have made the case that in spite of the often disappointing *direct* effects of these procedures in terms of the behaviour and performance of the enterprises involved, they have had favourable indirect effects in contributing to the creation of the market infrastructure and increasing financial discipline more generally—and to a greater extent than was the case in the Czech Republic (OECD, 1995; Gray *et al.*, 1996; Rostowski and Nikolic, 1996).

The Czech approach to dealing with the exit of unviable firms has been an interesting one. An early view was taken that formal bankruptcy was inappropriate as a tool for enterprise restructuring and the implementation of the bankruptcy code was delayed until 1993 (i.e. 3 years into the transition). Large-scale closures in early transition were prevented by the additional measures of financial restructuring through the transfer of bad debts to the 'Consolidation bank', the multilateral clearing of inter-enterprise debt (twice in 1993) and the implicit write-off of debt for some enterprises in the process of privatization (Hashi *et al.*, 1996). In parallel with these cushioning devices, some government-led liquidation took place. According to Hashi *et al.*,

liquidation was used extensively, especially by the Ministry of Industry and Trade, in the pre-privatization period. Large companies with complex liabilities and assets were divided up into smaller units suitable for privatization. The debts and 'difficult-to-privatize' assets were concentrated in one 'residual' state enterprise, which was liquidated with any assets auctioned off and the receipts used to pay creditors. In other cases, units initially identified for privatization were subsequently found to be unviable and were placed in liquidation by the Ministry. This is an example of the government-led approach characteristic of Czech reform.<sup>3</sup>

#### (v) Ownership Type and Enterprise Restructuring Behaviour

The major methods of privatization in each country are shown in bold in Table 3. The variety of different methods in use in Poland, as well as its slow progress, is clear. The dominance of insider-privatization to employees and managers in Russia contrasts with the weight of sales to outside owners in Hungary and the dominance of voucher privatization to outsiders in the Czech Republic.

Many studies fail to find any systematic relationship between ownership type and enterprise performance (the tables in EBRD, 1995; Heinrich, 1995; Balcerowicz *et al.*, 1996; Earle *et al.*, 1996; Earle and Estrin, 1996a; IRiSS, 1996). The seven-country study using large samples of enterprises by Pohl *et al.* (1997) shows that productivity growth is higher in the privatized than in the state-owned firms over the 4 years for which they have data. However, the endogeneity of privatization methods bedevils attempts to identify a causal relationship, since the best firms were often singled out either by privatization agencies or by potential new owners (outsiders or insiders) for a specific method of privatization and associated ownership type.

A widely quoted study of the privatization of Russian shops (Barberis *et al.*, 1996) is able to test for and reject the hypothesis that the privatization method was endogenous. This finding is a priori more likely for the small retail shops in their study than for medium-sized and large industrial enterprises.

<sup>3</sup> A recent specific example is the case of Poldi Steel, where the National Property Fund initiated bankruptcy proceedings because of unpaid social security contributions (OECD, 1996).

**Table 3**  
**Methods of Privatization for Medium-sized and Large State-owned Enterprises in Poland, Russia, Hungary, and Czech Republic**  
 (% of total, as of end 1995)

	Poland	Russia	Hungary		Czech Republic	
	by number <sup>a</sup>	by number <sup>b</sup>	by number	by value <sup>c</sup>	by number	by value <sup>c</sup>
Sale to outside owner	3	0	38	<b>40</b>	32	5
Management-employee buy-out	<b>14</b>	<b>55</b>	7	2	0	0
Equal access voucher privatization	6	11	0	0	22 <sup>b</sup>	<b>50</b>
Restitution	0	0	0	4	9	2
Other <sup>d</sup>	23	0	33	12	28	3
Still in state hands	54	34	22	42	10	40

*Notes:* <sup>a</sup> Number of privatized firms as a share of all former state-owned enterprises, including parts of firms restructured prior to privatization. <sup>b</sup> Includes assets sold for cash as part of voucher privatization (up to June 1994). <sup>c</sup> Value of firms privatized as a share of the value of all former state-owned enterprises. (For Poland and Russia, data by number only are available.) <sup>d</sup> Refers to transfers to local authorities and social insurance organizations, debt-equity swaps, sales through insolvency proceedings.

*Source:* World Bank, *World Development Report 1996*, Table 3.2, p. 53.

Barberis *et al.* show that privatization promoted restructuring when it brought new managers (who may or may not also have been owners) to run the shops: it was new people in charge rather than the incentive of private ownership that seemed to elicit restructuring actions, even when restructuring involved only increased effort, such as lengthening shop opening hours. There is still no study of this quality for the industrial sector for any transition economy. Nevertheless, fragmentary evidence is available.

Köllo (1995) provides evidence on whether enterprises with different ownership structures adjusted employment only to the extent necessary to eliminate losses or towards profit-maximizing levels. His sample was a large panel of Hungarian firms (1,340) which operated throughout the period from 1990 to 1994. In state-owned firms, he found evidence of a high response of employment to the decline in output in 1991, as managers sought to contain losses: there was a very marked bunching of firms around the zero profit mark. Köllo found that survival-oriented adjustment of employment did not differ according to whether firms remained in the state sector, were

cooperatives, or were privatized. However, *private* firms (defined as those that were already privately owned in 1990) were clearly different and a comparison of employment dynamics between private firms and the rest suggested that labour-hoarding was still present in non-private firms in 1994. When looking at the responsiveness of employment to sales over time for each ownership group separately, it became clear that from 1993 on, *privatized* firms shifted from looking like cooperative or state firms to looking more like private firms: the responsiveness of employment to changes in sales increased markedly (Köllo, 1995, Table 6). Nevertheless, as Köllo pointed out, in spite of the fact that it was better-performing state firms that had been privatized, they were characterized in 1993-4 by poor sales, weak investment, and even higher levels of under-utilized capacity than was characteristic of the state firms.

The importance attributed to the quality of the human capital of managers in the Barberis *et al.* study highlights the likely difference between 'mass' insider privatization of the Russian type and the piecemeal management buy-out schemes (MBOs)

or employee–management buy-out schemes elsewhere. The simple prediction from theory that insider ownership would be detrimental to efficiency since it would promote manager entrenchment seems to be more appropriate to the former type than the latter. Where insider privatization took the form of leveraged employee–management buy-outs (as, for example, in Poland and Slovakia), the form of privatization itself is likely to have operated to separate good from bad managers. Bad managers are less likely to have been able to raise the loans to lease/purchase the firm and less likely to have had the motivation to undertake the preparatory work for this type of privatization and to take on the repayment burden. Preparation for privatization often involved some restructuring—in particular, the ‘slimming down’ of the enterprise in order that the required down-payment could be raised (Jarosz, 1996). This then ties in with the observation that, in a sample of Polish firms, insider-owned ones came out as performing well, i.e. engaging in product-range restructuring and showing superior productivity performance to other ownership types (Belka *et al.*, 1995; Earle and Estrin, 1996a).

Nevertheless, a detailed survey of a representative sample of 200 Polish enterprises privatized to employees and managers through ‘leasing’ provides some evidence to support the theoretical concerns about insider-owned firms (Jarosz, 1996). The study found that the managers of these firms often had rather modest objectives and a limited concept of a strategy for the development of the enterprise. They were typically opposed to opening up ownership to outsiders and saw themselves—as a consequence of this and of their leasing obligations—as having to rely on retentions to finance investment. Such firms also accounted for a negligible proportion of new and modernized products. The dominance of other private-sector firms in producing new or modernized products is underlined by the finding for 1994 that SOEs in Poland accounted for only 20 per cent of them, while their share of total production was over 50 per cent (Belka and Krajewski, 1996b).

In a study of Polish firms privatized to outsiders (capital privatization), firms sold to a foreign investor showed the most significant changes in terms of management strategy and investment, followed by

firms owned by a dominant domestic investor (where aggressive changes in employment and management were recorded), and, lastly, the weakest adjustment was recorded in firms with an institutional domestic investor (Dąbrowski, 1996). A Czech study (Zemplerova *et al.*, 1995) was only able to identify two ownership variables as significant determinants of deep restructuring behaviour—foreign or domestic strategic owners. Interestingly, in the Hungarian case, the big dichotomy seems to be between foreign-owned firms and the rest (Hunya, 1996) whereas strategic domestic investors seem to be emerging as effective owners in Poland, the Czech Republic, and Slovakia (see Djankov and Pohl, 1997).

The first quantitative evidence on the role of institutional owners in the Czech Republic is now available in Claessens *et al.* (1996). They investigate the relationship between ownership concentration and two outcome variables—Tobin’s *q* ratio and accounting profitability—for over 700 first- and second-wave voucher-privatized firms listed and traded on the Prague Stock Exchange. For the firms sold in the first round, a clear increase in the concentration of ownership occurred subsequently. The combined ownership stake of the top five investors (excluding the state) increased from just under 50 per cent in 1992 to nearly 60 per cent in 1995. Contrary to earlier findings (e.g. Coffee, 1996) that the bank-related investment funds sought diversified portfolios to maximize the customer base of the bank, no clear patterns emerged between different types of investment funds in their average stakes or in the average number of firms in which they held stakes. The most striking change in ownership was the appearance of strategic local and foreign investors as owners. In only four out of the 371 first-round firms was there a local or foreign strategic direct investor at the end of the wave in 1993, but, by 1995, this class of owner had an average stake of 20–30 per cent in 165 firms. The National Property Fund sold its stakes in about half of the firms in which it was a shareholder at the completion of voucher privatization—leaving it with stakes in 62 of the firms in the sample.

Earlier studies looking for evidence of involvement in corporate governance by institutional owners of Czech firms tended to suggest a dichotomy between

the bank-related investment funds, which showed little active involvement in corporate governance and independent funds, which did (Coffee, 1996). Yet Heinrich's (1995) survey of managers of Czech firms in which investment funds (IPFs) had a significant stake found that very few managers expected the IPFs to remain passive.

Claessens *et al.* did not measure the activism of owners or restructuring behaviour of firms but, rather, stock-market valuation and profitability performance. In a regression using the observations from both waves, they found a positive and significant relationship between the degree of concentration of ownership of the firm and Tobin's *q*. For profitability, the relationship was also positive but significant only at the 10 per cent level. The annual equations suggested that the significance of the concentration variable was increasing over time. There was some evidence that ownership by bank-related investment funds had an effect in raising *q* over and above the effect of the concentration variable. Pursuing the issue of the role of banks as owners of firms, the authors found support for the hypothesis that the market value of a firm was raised if its main bank had an equity stake of at least 10 per cent in the firm (which was the case in 12 per cent of firms). There was no significant effect on profitability. While suggestive of a causal link from ownership concentration and, in particular, the role of banks as owners, to market valuation, the study is not conclusive. If, for example, it was the case that managers had not changed, then it is possible that firms with good managers were those for which increased ownership concentration occurred. The correlation would be observed without any causality from effective corporate governance to either stock-market valuation or profitability.

#### (vi) Ownership Structure and the Transfer of Ownership Stakes from Insiders to Outsiders

The theoretical analysis stresses transfer of ownership from insiders to outsiders as the key to deep restructuring, since only outside ownership prevents manager entrenchment and thus makes outside finance for investment accessible to firms. The Russian shops study suggests that—empirically—outside ownership may be crucial for human capital acquisition by promoting management turnover.

The impression from early studies of ownership transfer in firms privatized to insiders in Poland was that the prevailing tendency was for shares to become more concentrated in the hands of managers as workers sold shares to managers. In the Jarosz study of Polish insider-owned firms, there were no restrictions on share sales in just 15 per cent of the firms; in nearly four-fifths of firms, management or a supervisory board had to approve the sale. Two distinctive ownership structures appeared to be emerging: the first was typical of industrial firms with more than 300 employees and was characterized by a concentration of shares in the hands of a managerial elite numbering about 17, but with an additional 'middle class' of about 100 employee shareholders with substantial holdings. In the second type (typical of the larger trading companies), ownership by a narrow manager elite with other employees holding very small or zero stakes was emerging. In both types, the least educated/skilled workers, who began with small stakes, had tended to sell them. There were traces of outside ownership but data on the size of stakes was not available.

A second study of 'leasing privatized' firms in Poland (Szomburg, 1996) found that in poorly performing firms, there was a first phase in which worker-shareholders sold their shares to management when they failed to receive dividends. When the firm was fighting for survival and the termination of the leasing contract was threatened, managers surrendered control to outsiders. It was in the weakest group of firms where both the highest levels of outside ownership and the greatest turnover in management were recorded. The results of the survey provided some grounds for optimism that the consolidation of outside ownership was having the effect of turning around firms in this group. However, except when close to the brink, managers of the insider-owned firms showed an unwillingness to dilute their control by bringing in outside owners.

Little change in ownership has characterized Hungarian insider buy-outs, apparently because of the generous buy-out terms in which credits from the state alleviated the need for external finance (Filatotchev *et al.*, 1996). Shifts in ownership structure reflecting the willingness of inside owners ('good' managers) to exchange control for outside

finance would be expected to be visible only after the 3-year 'grace period' is up. Buck *et al.* (1996) report shifts of share ownership to outsiders in Russia. This is consistent with the survey evidence of Blasi and Shleifer (1996) in which some increase in outside ownership was recorded between privatization and the end of 1994. However, the limited character of these changes is shown by the fact that there was no change in the proportion of firms with an outside (non-state) block-holder, in the sense of an owner with a stake of 5 per cent or more. Blasi and Shleifer did find some signs of increased outside representation on boards over the year following privatization, especially in firms with an outside block-holder.

Bim (1996) cautions against too optimistic a view about outside investors in Russian firms. He argues that managers are consolidating their control by buying shares from employees and by bringing in selected outside collaborators in some cases. Such outsiders help to entrench rather than unseat managers. Klepach *et al.* (1996) also emphasize that the shift to outside owners is taking place with the consent of managers and reflects not the loss of authority of the managers but the declining influence of workers and the state. Although management may be becoming more firmly entrenched with the support of its chosen outsiders, Klepach *et al.* stress the positive consequence in the sense that such a control structure is further away from the classical goals of the Soviet enterprise of maintaining the worker collective and engaging in purely 'passive' survival strategies.

The blurred distinction between insiders and outsiders under transitional conditions was underlined by a study of 21 large Slovak enterprises over the period from 1991 to 1996 in which considerable reactive restructuring (e.g. labour shedding and the spinning off of social assets) and some strategic restructuring (e.g. investment or international quality control accreditation) had taken place (Djankov and Pohl, 1997). They found that in 20 cases the top manager was removed in 1991–2 by the Czechoslovak government for political reasons, but that by 1996 in 19 cases the pre-1992 top management was back in charge—sometimes as the new owner.

An interesting study comparing Russian and Ukrainian privatization found that in the Ukraine there was much greater employee representation in firms, as compared with the greater control role of management and outsiders in Russian privatized firms (even when formally owned by employees) (Buck *et al.*, 1996). In contrast to Ukrainian firms, Russian ones were seen to be divesting social assets and investing in human capital, such as the training of specialist managers.

### (vii) Conclusions

Theoretical work on the key transition problem of transforming the enterprise sector has helped place some structure on the complex set of changes taking place in these economies. The primacy of the task of cutting enterprises off from access to budgetary subsidies to cover losses has been confirmed. This stands out as a clear dividing line between the 'Western' CEECs and Russia. In generating reactive restructuring, theory stressed not only the role of hard budget constraints for banks as well as enterprises, but also the role of the private sector, of prospects for privatization, and of product-market competition. According to the evidence surveyed, when confronted with these conditions firms with all sorts of ownership structures have undertaken (at least) survival-oriented measures.

The implication from standard discussions of corporate governance was that deep restructuring would be conditional on the clarification of property rights, as long as there was some resolution of the corporate governance problem where ownership was widely dispersed. The transition literature raised the additional caveat that managerial entrenchment in insider-owned firms might mean that privatization was not sufficient to generate forward-looking restructuring. In relation to concerns about dispersed ownership, concentration of outside ownership in the wake of voucher privatization in the Czech Republic (and Slovakia) has occurred much faster than expected by many observers, although there is not yet conclusive evidence that ownership concentration has promoted improved performance through effective corporate governance. With regard to management entrenchment, evidence from



Poland suggests that insider-owned firms have tended to be unwilling to open up ownership, have pursued rather passive strategies, and have been happy to rely on the growth in retentions to finance investment. MBO firms in the Slovak study (Djankov and Pohl, 1997) showed a greater willingness to accept outside ownership if it opened up access to financial resources for investment.

#### IV. PATTERNS OF INDUSTRIAL RESTRUCTURING AND QUALITATIVE UPGRADING

As section III has emphasized, even in the leading transition economies there are still many features of the enterprise sector which differentiate them from those of the OECD. There are unusual combinations of ownership structures, special bank-enterprise relationships, and substantial—compared with Western economies—chunks of declining industries. The aim of this section is to find measures which—at industry level—allow us to compare the outcome of the institutional changes discussed in section III, both across transition countries and between them and other countries. One standard of comparison that is available is that of goods traded in EU markets. Using very detailed export statistics, it is possible to identify where the goods exported by the transition economies at the outset of reform fitted into the spectrum of vertical product differentiation in the western European market, and the direction and extent of subsequent adjustment. Measures of product-quality upgrading provide an outcome measure of adjustment towards EU-standards which is complementary to the input measure of institutional changes and enterprise adaptation stressed in section III.

At the end of this section, we fill in the macroeconomic context within which enterprise-sector adjustment has been taking place. Identifying the macroeconomic constraints operating on CEECs sets the scene for the final part of the paper, in which we attempt to draw together the results from section III on enterprise restructuring with those from section IV on industrial upgrading and comparative performance to characterize the different paths that

have been taken by the leading transition economies of Poland, Hungary, and the Czech Republic towards 'catching up' with western Europe.

In this section we present some detailed quantitative evidence on the process of qualitative upgrading which is taking place in the different CEECs, using the results of a detailed study on the positions of CEE producers in the vertically differentiated product market structure of EU trade. Second, we show some particular features of industrial restructuring in some of the CEECs over the more recent period of economic recovery, relying on disaggregated branch data.

We start with evidence on the current position of CEE producers within the quality differentiated structure of EU product markets. The results presented stem from a detailed study (Landesmann and Burgstaller, 1997) relying on trade statistics at the most detailed product level (the 8-digit level of the Combined Nomenclature, CN). Taking as an example the 3-digit NACE industry 'manufacture of machine tools' (number 322), there are something like 150 (8-digit CN) products traded in EU markets. At this level of disaggregation, product categories are assumed to be sufficiently narrowly defined that price per kilogram can be interpreted as an indicator of quality, with a higher price assumed to reflect higher quality in a vertically differentiated market environment.

We do two things with these product statistics:

- (i) For a 3-digit NACE industry, we rank the products for total EU imports (including intra-EU trade) by price per kilogram and then demarcate three segments which each account (in value terms) for one-third of total imports. We call these segments high (Q1), medium (Q2), and low (Q3) quality segments. We then check the export structures of each trader to EU markets and compare the share of the Q1, Q2, and Q3 products in that country's exports to the EU with the share of these products in total EU imports. This exercise reveals whether the product composition of a country's exports to EU markets is biased towards the high-, medium-, or low-quality segments, always in comparison to the entire set of exporters to EU markets.

(ii) We construct a weighted average 'quality gap' variable for each 3-digit NACE industry for each exporter.<sup>4</sup> This is done by comparing prices per kilogram of each product item belonging to the set of products traded by the particular exporter and the average price of all exporters. The product price ratios are then aggregated into an industry-specific quality gap variable, using the shares of the different products in that country's exports to the EU within that industry as weights.

The result of these two calculations is two sets of variables by 3-digit NACE industry:

- the relative representation of Q1, Q2, and Q3 products in a country's exports to the EU; and
- a weighted quality gap variable for each exporter to the EU.

To see if there are significant biases in the direction of high- or low-quality exports and in quality gaps (in a positive or negative direction) at the broader level, we look at a set of 3-digit industries, such as the set of 20 (3-digit NACE) engineering industries (without transport equipment), and estimate coefficients for country dummies on these two sets of variables.<sup>5</sup> This has been done for two periods: each of which is a 3-year average of the variables calculated for the periods 1988–90 and 1992–4 respectively. The

results for the group of CEE economies are presented in Table 4(a).<sup>6</sup>

We can see that for the significant coefficients reported here the signs both for the quality gap and the Q1 (high-quality) variables were uniformly negative. This means that CEE exports in the engineering and the textiles, clothing, and footwear branches are biased against representation in the high-quality segment of the vertically segmented product markets and that there are significant quality gaps. In fact, the size of these quality gaps and negative biases against representation in the high-quality segments are higher for CEE exporters than for almost any other traders in EU markets (in Europe only comparable to Turkey, internationally to China or India) (for details, see Landesmann and Burgstaller, 1997).

However, there are very interesting movements over the period 1988–90 to 1992–4. Here we can clearly see that the 'Western' CEECs (the Czech Republic, Hungary, Poland, and Slovenia) are improving their positions, while those of the 'Eastern' CEECs (Bulgaria, Romania, and Russia, and we added, after inspection of the individual country results, Slovakia to that group) are improving much less or even deteriorating. In fact, at the bottom of Table 4(a) are the results from estimates in which

<sup>4</sup> Formally, the industry-level (weighted) quality gap indicator was arrived at as:

$$PG_j^c = \sum_{i \in I(j)} \left( \frac{p_i^c}{p_i^{EU}} \right) \cdot sx_i^c$$

where  $p_i^c$  is the price (per kg) at which country  $c$  sells exports of the product item  $i$  on EU markets (refers here to the EU-12 market);  $p_i^{EU}$  is the average price of product item  $i$  in total EU-12 imports;  $sx_i^c$  is the share of product item  $i$  in country  $c$ 's exports to the EU-12 market.

We have

$$\sum_{i \in I(j)} sx_i^c$$

where  $I(j)$  is the set of product items belonging to NACE industry  $j$ .

<sup>5</sup> The coefficient estimates stem from simple descriptive regressions of the type

$$LPG_{cj}^t = \alpha_c^t \cdot dummy_c + \varepsilon_{cj}$$

which were estimated over countries or country groups  $c$ , across industries  $j$  belonging to a particular industry group (such as engineering or textiles, clothing and leather products) and for time periods  $t = 88-90$  and  $92-94$  (i.e. 3-year averages);  $LPG_{cj}^t$  refers to the logarithm of the  $PG$  variable defined in the previous note for an industry  $j$ , similarly for the other dependent variable  $LQ1_{cj}^t$ , which refers to the logarithm of the relative representation of high quality items in a country's export structure within a particular industry  $j$ ;  $\varepsilon_{cj}$  refers to the usual randomly distributed stochastic term.

<sup>6</sup> Notice that, for the latter period—1992–4—the Czech Republic's position is compared with that of the former CSFR, Slovenia is compared to the former Yugoslavia, and Russia, in the second group, is compared to the former Soviet Union.

**Table 4(a)**  
**Country Dummies from Regressions on Quality Gaps and Quality Segmentation**

	Quality gaps		Q1	
	1988-90	1992-4	1988-90	1992-4
<b>(i) Engineering industries</b>				
CSFR/Czech Republic	-0.895 (6.57)	-0.65 (4.84)	-1.309 (6.88)	-0.685 (3.82)
Slovak Republic	-	-1.258 (9.35)	-	-0.718 (4.0)
Hungary	-0.961 (7.05)	-0.818 (6.08)	-0.906 (4.76)	-0.6 (3.35)
Poland	-1.069 (7.85)	-0.854 (6.35)	-1.322 (6.95)	-0.864 (4.82)
Yugoslavia/Slovenia	-0.684 (5.02)	-0.505 (3.76)	-1.141 (6.0)	-0.952 (5.31)
Bulgaria	-0.92 (6.75)	-1.431 (10.64)	-0.864 (4.54)	-0.584 (3.26)
Romania	-2.159 (15.84)	-1.964 (14.6)	-1.824 (9.58)	-0.993 (5.54)
Soviet Union/Russia	-0.81 (5.94)	-1.382 (10.27)	-0.762 (4.01)	-0.521 (2.91)
EASTW	-0.975 (11.26)	-0.774 (9.25)	-1.179 (10.53)	-0.716 (6.84)
EASTE	-1.143 (15.24)	-1.308 (20.18)	-1.148 (11.83)	-0.754 (9.29)
<b>(ii) Textile, clothing, and footwear industries</b>				
CSFR/Czech Republic	-0.501 (4.74)	-0.235 (2.33)	-0.711 (2.1)	-0.533 (1.91)
Slovak Republic	-	-0.702 (6.56)	-	-0.99 (3.35)
Hungary	-0.303 (2.7)	insign.	-0.858 (2.39)	-0.648 (2.32)
Poland	-0.506 (4.51)	-0.272 (2.7)	-0.589 (1.64)	insign.
Yugoslavia/Slovenia	insign.	insign.	insign.	insign.
Bulgaria	-0.933 (8.31)	-0.554 (5.18)	-1.11 (3.09)	-0.472 (1.6)
Romania	-0.641 (6.06)	-0.66 (6.55)	-0.846 (2.5)	-0.523 (1.88)
Soviet Union/Russia	-0.909 (8.59)	-0.868 (8.61)	-0.72 (2.13)	-0.741 (2.66)
EASTW	-0.439 (6.34)	-0.158 (2.43)	-0.719 (3.59)	-0.473 (2.92)
EASTE	-0.656 (11.05)	-0.552 (10.56)	-0.78 (4.54)	-0.672 (5.17)

*Notes:* t-ratios in parentheses: for specification see footnote 5; the industries included in these regressions refer to engineering industries, NACE 321-8, 330, 341-7, 371-4, and textile, clothing, and footwear industries 436, 438-9, 441-2, 451, 455-6. EASTW is the 'Western' group of CEE economies—the Czech Republic, Hungary, Poland, and Slovenia; EASTE is the 'Eastern' group of CEE economies—Bulgaria, Romania, Russia, and the Slovak Republic. 'insign.' is insignificant.

Table 4(b)

Quality gaps: 1992-4	Strongest improvements (1988-90 to 1992-4)	Q1 representation: 1992-4	Strongest improvements (1988-90 to 1992-4)
Engineering			
Slovenia	CSFR/Czech Republic	Hungary	CSFR/Czech Republic
Czech Republic	Poland	Czech Republic	Poland
Hungary	Yugoslavia/Slovenia	Slovakia	Hungary
Poland	Hungary	Poland	Yugoslavia/Slovenia
Slovakia		Slovenia	
Textiles, clothing, and footwear			
Slovenia	CSFR/Czech Republic	Slovenia	Poland
Hungary	Poland	Poland	CSFR/Czech Republic
Czech Republic	Hungary	Czech Republic	Hungary
Poland		Hungary	
Slovakia		Slovakia	

the variables for these two groups of CEECs (the 'Western' and the 'Eastern' group) have been pooled and the distinction emerges very clearly. Among the 'Western' CEECs the ranking shown in Table 4(b) appears. (Countries with the smallest quality gaps and smallest negative biases in their export structure against high-quality products are on top.)

The general picture which emerges is that a group of three countries, Slovenia, Hungary, and the Czech Republic show the smallest quality gaps in their exports to the EU, and the Czech Republic and Hungary are also the least under-represented in the higher quality segments of the engineering products. In the textile, clothing, and footwear industries, there is interestingly a stronger representation of Poland and Slovenia in the high-quality segments, possibly revealing a high proportion of outward processing activities by Western firms in these branches (see Landesmann and Burgstaller, 1997, for an explicit examination of outward processing trade).

Next we examine the structure of CEE exports to the EU from the point of view of 'factor-intensity' biases, i.e. whether the structure of exports of the transition economies to the EU reveals biases in the direction of (or away from) capital, labour, R&D, skill, or energy-intensive branches. We applied here factor-intensity measures, which are derived from EU statistics, rather than from national statistics, so that we cannot literally speak of 'factor content' of

the different countries' exports (see also *European Economy*, 1995, which used the same factor-intensity measures). Rather, we check for the relative representation of the 30 most x-factor-intensive branches (where x refers to the factors mentioned above) from a total of 90 3-digit NACE branches for which such factor-intensity measures were available, in the different countries' exports to the EU-12 market. The composition of exports to the EU for each CEE economy according to the factor intensity classification is shown in Table 5(a). A comparison can be made with the share of these branches in total EU imports (including intra-EU trade). We show the composition of exports for 1995 and changes which occurred over the periods 1989-95 and between 1993 and 1995.

All CEECs' exports in 1989 (1995 position minus the changes 1995-89) were strongly biased against R&D and skill-intensive branches and in the direction of energy-intensive branches; this fact was previously reported in a number of studies (see Dobrinsky and Landesmann, 1995; *European Economy*, 1995). However, the developments since 1989, and then after 1993, are of interest for this article as they reveal interesting differences across the CEECs.

There have been substantial improvements in the representation of R&D and of skill-intensive branches in all of the 'Western' CEECs over the period 1989-95, and here the improvements of

**Table 5(a)**  
**Representation of Top 30 x-factor-intensive Branches out of 90 Manufacturing Industries in Overall Exports to EU-12 (%)**

	Poland	Czech	R.Slovak	R. Hungary	Slovenia	Romania	Bulgaria	Russia	Extra-EC
<b>Capital</b>									
in 1995	31.8	27.6	41.0	33.2	30.4	24.0	41.0	57.1	39.1
Changes:									
1995-89	-5.8			10.6		-3.0	3.6		-1.1
1995-93	3.4	-2.3	5.6	14.4	6.8	11.2	14.6		2.4
<b>Labour</b>									
in 1995	30.8	27.0	24.3	28.4	27.3	49.8	27.1	14.3	21.8
Changes:									
1995-89	7.6			-0.5		15.3	3.2		2.4
1995-93	-4.1	-0.7	-3.0	-7.7	-6.1	-7.7	-13.1		-2.9
<b>R&amp;D</b>									
in 1995	19.8	31.2	26.6	42.2	38.5	9.6	8.9	5.7	45.1
Changes:									
1995-89	4.2			27.5		0.8	-6.0		2.1
1995-93	1.2	5.1	13.5	15.9	4.0	0.8	-4.8		0.7
<b>Skill</b>									
in 1995	13.9	24.1	24.1	23.6	25.4	9.3	9.3	9.0	44.2
Changes:									
1995-89	2.1			10.4		-0.5	-8.8		1.2
1995-93	0.2	4.7	5.4	3.1	1.4	0.1	-4.9		1.0
<b>Energy</b>									
in 1995	30.1	31.6	40.1	20.5	25.2	29.8	42.3	58.1	23.9
Changes:									
1995-89	0.0			-1.4		1.0	11.8		0.1
1995-93	5.8	1.1	-1.1	1.0	3.0	13.4	16.7		3.7

*Note:* For details on the measurement of factor intensities, see text and Landesmann (1995).

Hungary are particularly spectacular. By 1995, the representation of R&D-intensive exports in Hungary's exports to the EU was similar to that of overall exports from the rest of the world to the EU. Hungary still looks somewhat out of line with the structure of average exports to the EU in its low representation in skill-intensive branches—but its representation in both these and in capital-intensive exports has been rising sharply and is in line with the other most advanced CEECs. Poland's pattern contrasts sharply to that of Hungary. The representation in Polish exports of R&D- and skill-intensive products was way below the average of non-EU exports to the EU and there was very limited change over the period. In the 'Western' CEECs there was also a decline in the representation of energy-intensive branches, which, however, remains very

high in the case of Slovakia, while the share of these branches increased further and substantially in the case of Bulgaria and Romania.

Another piece of evidence that may point towards the up-grading of a country's export structure is the extent to which intra-industry trade has increased with more advanced economies (the EU in our case). The Grubel-Lloyd measures of intra-industry trade shown in Table 5(b) show that the Czech Republic, Slovenia, and Hungary have reached the highest levels of intra-industry trade with the EU from the group of CEECs, then comes Slovakia, with Poland, Bulgaria, and Romania trailing well behind. It is also interesting to notice that the indicator has been improving for all the 'Western' CEECs except for Poland, where reliance upon a

**Table 5(b)**  
**Grubel-Lloyd (GL) Indices of CEE Countries in Trade with the EU**

	1989	1990	1991	1992	1993	1994	1995
Bulgaria	0.40	0.42	0.39	0.39	0.45	0.43	0.40
Czech Republic					0.60	0.62	0.65
Hungary	0.48	0.50	0.52	0.53	0.55	0.58	0.60
Poland	0.42	0.39	0.41	0.43	0.44	0.44	0.47
Romania	0.29	0.30	0.34	0.29	0.29	0.31	0.34
Russia							0.17
Slovak Republic					0.43	0.47	0.53
Slovenia					0.58	0.64	0.65
Austria	0.73	0.74	0.75	0.76	0.75	0.75	0.71
Extra-EU	0.69	0.69	0.71	0.70	0.69	0.70	0.70

*Source:* WIIW calculations from Cronos trade statistics; the GL indices were calculated from export and import data by 108 NACE 3-digit industries.

strong pattern of inter-industry specialization seems to persist. As we can see, the levels of intra-industry trade recorded by the Czech Republic, Slovenia, and Hungary (0.65, 0.65, 0.60) are already quite close to the indices for trade between the rest-of-the world and the EU or those of Austria.

Our final analysis, with respect to presenting a quantitative picture of the process of industrial upgrading, is to refer to the pattern of productivity growth at the branch level over the recent period of recovery, 1993–5, and relate this pattern to output growth, change in employment levels, and export growth. Investment figures at constant prices are still too sparse to be included in this type of analysis; for reasons of space, the industry statistics are not presented here but can be obtained on request.

The three branches which experienced strongest (labour) productivity growth over the most recent period are the engineering branches in both Poland and Hungary (electrical and optical equipment, transport equipment, other machinery, and equipment). Further, while productivity, output, and export growth correlate, these branches belong also to the strongest labour-shedding branches. The Czech pattern is somewhat different, in that the mechanical engineering industry still remains somewhat depressed, with low productivity growth in spite of strong labour-shedding—but it, too, experienced strong export growth to the EU. The other two engineering

branches (but also chemicals) behaved in a similar way to Hungary and Poland, with high productivity and export growth and strong labour-shedding. Together with the results reported earlier on quality upgrading, we take these recent industry-level developments as evidence for active restructuring processes in some of the most advanced manufacturing branches of the 'Western' CEECs, in which an adaptable, skilled labour-force is a vital ingredient for longer-term competitive success.

Finally, we turn to the macroeconomic context in which industrial developments are taking place in the different CEE economies. Some relevant indicators are presented in Table 6. We can immediately see that a number of macroeconomic constraints impinge in a differentiated manner upon the different CEE economies and have repercussions for the pattern of GDP growth. First, there is the difference in the foreign debt burden which imposes severe constraints upon the bounds within which the other items of the external accounts have to be kept, and hence on the growth rate, particularly in the case of a small open economy such as Hungary. Second, we can see that the current account deficits (as a percentage of GDP) are very volatile and seem to move, in a short period, into regions which look unsustainable and would thus affect GDP growth; examples are the 1996 figures for the Czech and Slovak Republics and Romania, while Polish growth is sustained and moves, so far, within

Table 6

	1990	1991	1992	1993	1994	1995	1996
<b>GDP, real growth in %</b>							
Czech Republic	-1.2	-14.2	-6.4	-0.9	2.6	4.8	4.4
Hungary	-3.5	-11.9	-3.1	-0.6	2.9	1.5	0.5
Poland	-11.6	-7.0	2.6	3.8	5.2	7.0	6.0
Slovakia	-2.5	-14.5	-6.5	-3.7	4.9	6.8	6.9
Slovenia	-4.7	-8.9	-5.5	2.8	5.3	3.9	2.5
Bulgaria	-9.1	-11.7	-7.3	-1.5	1.8	2.6	-10.0
Romania	-5.6	-12.9	-8.7	1.5	3.9	7.1	4.1
<b>Current account, in % of GDP (calculation from US\$ figures at current exchange rates)</b>							
Czech Republic	-1.1	4.7	-1.1	0.4	-0.1	-2.9	-8.6
Hungary	0.4	0.8	0.9	-9.0	-9.4	-5.7	-3.8
Poland	1.2	-1.8	-0.3	-2.7	-1.0	4.6	-1.0
Slovakia	-	-	-	-5.0	4.8	2.3	-10.2
Slovenia	3.0	1.0	7.4	1.5	3.8	-0.2	0.3
Bulgaria	-2.0	-0.9	-4.2	-10.2	-0.3	-0.2	0.0
Romania	-4.7	-4.1	-8.0	-4.5	-1.4	-3.7	-6.5
<b>Foreign Debt in % of Exports of Goods and Services</b>							
Czech Republic	-	-	61	48	57	59	-
Hungary	339	246	216	304	375	247	-
Poland	398	338	301	306	221	169	-
Slovakia	-	-	-	49	48	53	-
Slovenia	34	38	22	25	26	29	-
<b>Government Surplus in % of GDP (Calculation from current prices)</b>							
Czech Republic	-0.2	-2.1	-0.2	0.1	1.0	0.6	-0.1
Hungary	-0.1	-4.6	-6.7	-5.6	-5.5	-5.7	-2.0
Poland	0.4	-3.8	-6.0	-2.8	-2.7	-2.6	-2.5
Slovakia	-0.2	-3.4	-2.8	-6.2	-5.2	-1.6	-4.4
Slovenia	-	2.6	0.2	0.3	-0.2	-0.2	-0.2
Bulgaria	-	-	-5.8	-11.0	-6.2	-6.7	11.8
Romania	-0.4	-1.9	-4.4	-1.7	-4.2	-4.1	-5.1

Source: WIIW.

the bounds of both external and, it seems, internal public debt constraints.

It is clear that the development of these macroeconomic constraints strongly affected the design and execution of macroeconomic policies in the various CEECs, and led to substantially differentiated environments in which microeconomic restructuring had to take place. While we are unable to explore the issues related to macro/micro interaction more fully, we shall refer to this nexus in the following section as it is an essential ingredient in understanding country-specific patterns of corporate restructuring.

## V. DYNAMISM IN THE ENTERPRISE SECTOR

In this section we examine the paths of enterprise-sector transformation in Poland, Hungary, and the Czech Republic.

### (i) Dynamism in Poland

Drawing together the predictions of the theoretical analysis in section III for the Polish case, we can see that the extent of private-sector development in the 1980s would have boosted the incentives for SOE

managers to undertake pre-privatization restructuring. On the other hand, the presence of strong employees would have been expected to raise resistance to restructuring, especially in the form of labour-shedding and the disposal of social assets. Poland formed the background to the Aghion–Blanchard (1994) model of the speed of transition, in which it was possible for the rapid rise in unemployment to operate to stall the transition process by raising the resistance of enterprise insiders to restructuring and dampening private-sector growth and job creation as a consequence of a tax burden swollen by transfers to the unemployed.

Privatization to outsiders has been very slow, and levels of foreign direct investment (FDI) have lagged well behind those in Hungary. The combination of low levels of outsider privatization along with the weight on insider privatization would be expected to produce limited deep restructuring. A concern with finding real owners for SOEs lay behind the plan for ‘mass privatization’, but the interests of insiders—against whom the plan was directed—were represented in the political process, which acted to slow down the implementation of the scheme. Recognition of the weakness of the state revealed through the mass privatization episode can be seen to have influenced the approach to dealing with non-performing loans and the adoption of the scheme for the decentralized work-out of such loans through the banking system.

Where the Aghion–Blanchard notion of stalled transition appears to have some purchase is in the ‘hard core’ of Polish industry: the 350 large SOEs in coal mining, metallurgy, shipbuilding, and armaments, where adaptation to the market seems to have been limited to reactive adjustments, such as employment cuts and sales of low-quality goods in EU markets. Among this group of enterprises, access to resources for investment still seemed to rely on political pressure rather than on the expected profitability of the project.

The shrinking weight of this sector in the economy reflects dynamism elsewhere. The ability of the *de novo* sector in Poland to grow fast enough to acquire sufficient weight in the economy to drive the recovery from as early as 1992 has been linked to the extensive work experience in the private sector

in the 1980s of those who became managers of *de novo* firms after 1989 (Johnson and Loveman, 1995). Although privatization has been slow, it appears that the variety of privatization methods has succeeded in creating the right incentives for SOE managers to embark on restructuring measures. From 1993, structural change in industry was apparent in the sense that the most rapid growth was in manufacturing industries that were initially relatively small (this is in contrast to the Czech Republic and Hungary; see Lemoine, 1997). This lends weight to the view that Polish growth represents structural as well as cyclical processes. Changes have happened on a sufficient scale to be reflected in the industrial structure.

Investment activity in Poland continued to be dominated by the ‘hard core’ of SOEs until 1994, when the private sector took the lead. Only in 1995, did the SOEs privatized to outsiders (‘capital privatization’) undertake major investment projects (Belka and Krajewski, 1996b), and there was also a jump in the inflow of FDI into manufacturing industry. The evidence suggests that insider-privatized firms have followed rather than led the recovery process—they have relied on the build-up of retentions to finance investment rather than being prepared to bring in outside owners with access to external finance.

Consistent with the concentration of exports in some of the least dynamic sectors of the Polish economy (dominated by slow-to-reform SOEs) is the low level of quality, the limited extent of upgrading, and the over-representation of energy-intensive goods among exports discussed in section IV above. The combination of increased investment by capital-privatized firms and FDI inflows from 1994/5 suggests that deep restructuring is now extending beyond *de novo* firms, which are still on average small, to include a broader range of production processes. Changes that will produce movement up the export quality ladder may be under way.

## (ii) Dynamism in Hungary

Microeconomic and macroeconomic concerns came together to produce the Hungarian model for corporate restructuring in which the focus was on finding new owners for SOEs who could pay for their



purchases—hence the emphasis on direct sales and the encouragement of foreigners as buyers. According to the analysis in section III, this approach should have produced effective corporate governance and access of privatized firms to external sources of funds for investment. A more rapid integration of Hungarian firms into the international division of labour than elsewhere in the region has taken place (Hunya, 1996). The stress on creating the appropriate ‘market infrastructure’ to encourage FDI may help to explain the introduction of the harsh bankruptcy law. This is an example of an excessively tough measure (which was subsequently suspended) that threatened to backfire and undermine the incentive of ‘good’ managers to undertake restructuring measures by throwing into question the credibility of hard budget constraints.

Hungarian firms—with the burden of heavy external debt repayments (cf., especially, the Czech Republic) and without the cushion of a huge initial devaluation (cf. the Czech Republic)—have had to restructure under harsher macroeconomic conditions than elsewhere. Experience from the West as well as the feedbacks from unemployment to resistance to restructuring in an Aghion–Blanchard-type model, highlight the problems that are likely to arise. It is also the case that the Hungarian industrial structure was much less distorted (relative to that typical of countries with a similar level of per-capita GDP) at the outset of transition, with the consequence that rapid gains in employment and output available from the reallocation of resources to ‘neglected’ sectors were much scarcer (than, for example, in the Czech Republic).

Growth in Hungary depends on the investment by foreign-owned firms: about one-half of exports in 1993, rising to some 70 per cent in 1995, was accounted for by firms with some foreign ownership stake (Hunya, 1996; Lemoine, 1997). These firms show higher levels of investment and productivity than other firms and the strategy appears to have been successful in generating the impressive upgrading and reorientation of exports towards R&D and capital-intensive products documented above. However, there appears to have been only very limited spillover from the foreign-involved firms to the rest of the economy. This reinforces the fact that Hungarian economic growth relies on a narrow base.

An interesting observation is that the recovery from 1993 coincided with a reduction in uncertainty about privatization—the commitment of the government to accelerating MBO privatization is said to have galvanized SOE managers into renewed restructuring efforts. This renewed dynamism among SOE managers is reminiscent of the earlier burst of enthusiastic ‘spontaneous privatization’ at the outset of the reforms (Szanyi, 1996).

The Hungarians, like the Poles, still face a set of large industrial loss-makers. These huge SOEs have avoided the bankruptcy and liquidation procedures through a combination of inactivity by their creditors (the banks) and a stream of *ad hoc* rescue packages by the state—directly or via one or other of the two state property agencies (OECD, 1995).

### (iii) Dynamism in Czech Republic

The Czech Republic followed Hungary by delivering positive growth from 1994. Yet it began with some key advantages, favouring restructuring, as compared to Poland and Hungary. The Czech Republic began with a strong state, weak workers, and macroeconomic balance, including the absence of foreign debt. It therefore faced a wider range of choices for privatization than either of the other two countries. By initially breaking up the 700 or so huge combines which dominated the economy and announcing a domestically oriented general privatization programme (with no particular ownership concessions to insiders) through which further unbundling of enterprises could take place, the authorities focused the incentives of lower-level managers on positioning themselves in parts of existing enterprises through the voucher privatization process. This process may well have assisted with the separation of viable from unviable units in enterprises. Evidence of ownership concentration during voucher privatization and in the subsequent ‘third wave’ has mitigated some of the initial theoretical concerns about the absence of effective corporate governance arising from a voucher process.

Labour shedding in large Czech SOEs was similar in magnitude to that in Poland and Hungary (Balcerowicz *et al.*, 1996). A faster pace of restructuring should have been fostered in the Czech Republic by the tighter outside labour market and

weak unions—both of which should have reduced resistance to labour shedding. However, macroeconomic policy was set differently in the Czech Republic—in particular, a very large initial devaluation provided protection even for the most inefficient Czech producers. The macro policy combination was apparently designed to foster a process of export-led growth by keeping fiscal and monetary policy tight and adopting an exchange-rate peg subsequent to the initial devaluation. The shift in the distribution of income from wages to profits achieved by the devaluation provided firms with the resources to maintain the rather high levels of investment discussed in section IV. The apparent failure of high shares of investment in value added to translate into rapid productivity growth may reflect factors such as the cushion provided by the strong initial devaluation and thus the spreading of investment across all firms instead of its concentration in the most promising enterprises.

As noted in section III, comparative evidence suggests that Czech enterprises faced easier conditions in relation to inter-enterprise arrears, loans from the banking system, and bankruptcy/liquidation than was the case in Poland or Hungary. With the recovery in activity from 1994, Czech fears that potentially viable activities might have been lost without this 'sheltering policy' during the post-reform recession have received some support. For example, the textile and electrical equipment industries were in deep trouble in the early reform period. In textiles, Benáček *et al.* (1995) claim that hardly a single plant was profitable in mid-1991. Yet by 1995, there had been only one bankruptcy out of more than 200 firms and most appeared to have survived the transition in spite of having hoarded both labour and capital during the 'transformational recession'. In 1993, electrical equipment was highlighted as one of the industries that was least profitable and most highly indebted, yet in receipt of one of the highest levels of new credit from the banking system (Desai, 1996). In 1995, it had become one of the most dynamic sectors in the economy with sharply rising output and exports (Lemoine, 1997).

The peculiarity of the inherited industrial structure in the Czech Republic may explain some of these developments. In international comparison, for a

country at its level of per-capita GDP, the Czech Republic had an industrial structure biased towards engineering industries as a consequence of communist industrial priorities. It is striking that in the recovery period, the Czech Republic has experienced most rapid growth in engineering industries that were already relatively large (Lemoine, 1997). The optimistic interpretation is, therefore, that the Czech Republic's comparative advantage indeed lies with engineering industries, and that the sheltering policy may have saved valuable capacity (including groups of skilled workers). The policy mix adopted could be seen to have produced a slower start to the recovery, but perhaps with a broader base than in Poland (where the *de novo* sector has led the industrial recovery) and in Hungary (where foreign-owned firms have been the source of industrial dynamism). For a cross-country enterprise-level study that is consistent with the optimistic interpretation, see Pohl *et al.* (1997).

The pessimistic interpretation is that policy has just delayed restructuring in the Czech Republic and squandered opportunities for revitalizing key industries, for example, by failing to encourage FDI. The over-representation of Czech exports in energy-intensive products and the country's under-representation in capital-, skill-, and R&D-intensive branches, along with the remaining wide quality gap as compared with the EU in engineering products, have been pointed to in section IV. Reliance on imports of machinery and equipment for the upgrading of Czech industry and the failure of exports to grow in 1996 is reflected in the current account deficit, the size of which may place a brake on this method of restructuring. Just as in Poland and Hungary, there is a group of large industrial loss-making enterprises—in coal, iron and steel, petrochemicals, and aerospace—where there is excess capacity and effective opposition to restructuring.

## VI. CONCLUSIONS

The economic analysis of the transformation of the enterprise sector helps to make sense of the complex changes occurring in transition economies. The role played by a credibly hard budget constraint, of bank reform, of the promotion of the private sector, of privatization prospects, and of competition in the

product market to the separation of good from bad managers of SOEs and to eliciting restructuring effort from good managers is clear in both the theoretical and empirical work surveyed in this article. As the Russian experience testifies, privatization *per se* is not a substitute for the other elements of the policy package. Some empirical evidence that the entrenchment of managers is a problem in practice highlights the issue of whether it is poor human capital or incorrect incentives which lies at the heart of enterprise-sector reform. From the perspective of the theoretical arguments, Russian-style insider privatization is more worrying than its eastern European counterparts, and points the attention of policy-makers towards ensuring that shares are transferable and that outsiders are represented on company boards.

In the leading transition economies, institutional changes have produced improvements in performance more or less in line with theoretical predictions. Nevertheless, there are many features of the enterprise sector in these economies that continue to differentiate them from advanced market economies. A combination of unusual ownership structures, bank–enterprise relationships, and the legacy of large declining industry segments is typical. In order to compare the outcomes of the institutional inputs to reform, we have made use of detailed information about the quality of goods traded on the EU market. This comparison confirms that very substantial quality gaps remain between the exports of the CEECs and the members of the EU. But it also charts the process of upgrading products that has characterized the ‘Western’ eastern European countries, confirming that enterprise-sector reform has been reflected in this form of catching up.

Experience from the Visegrad countries suggests that a number of distinctive transition paths to catching up with the advanced economies exist. The interaction of institutional and macroeconomic starting conditions and subsequent policy appears to have created different kinds of opportunities for dynamic managers in each economy. In turn, these different sources of dynamism point to different constraints facing the consolidation of the growth process. In Poland—where growth has been most successful to date—reliance on small-scale *de novo* firms was reflected in the very limited catching-up

in terms of export quality in the EU market. The recent influx of FDI, in conjunction with the privatization of a substantial chunk of large firms through mass privatization, may provide the appropriate complement in terms of scale of production to the *de novo* sector. By contrast, in Hungary, opportunities for nascent entrepreneurs have been closely associated with the substantial role of foreign capital in the privatization process. This has been reflected in the impressive upgrading of exports and the shift in structure towards more R&D-intensive goods. Yet this path appears to have brought with it a segmentation of the economy between foreign-involved and domestic firms with few spillovers. The macroeconomic rectitude required by an FDI-led strategy in the context of a substantial initial level of foreign debt has held down the growth rate.

The Czech approach represents yet a third transition path. The policy of a broadly based privatization process created incentives for managers within parts of existing enterprises to set in motion the separation of viable from unviable units at a relatively early stage in the transition. Early fears that voucher privatization would produce dispersed ownership have proved exaggerated. Direct evidence of effective corporate governance is not yet available. Although the evidence is not conclusive, there is a sense from much empirical work that the shelter to the tradables sector offered by the very large initial devaluation was echoed in a more lax financial discipline and less attention to building a transparent market infrastructure than was the case in Poland or Hungary.

Even for the most closely observed transition economies—Poland, Hungary, and the Czech Republic—many puzzles about the process of transformation of the enterprise sector remain. The attempt to establish empirically a causal relationship between privatization or ownership type and performance is complicated by the endogeneity of the timing and method of privatization. Moreover, the evident complementarity between reform policies makes the analysis and measurement of the effects of the particular individual policies that have been adopted a challenging task. Finally, the situation with respect to the two-way conditioning of macro- and microeconomic developments in the transition is far from sufficiently explored both theoretically and empirically.

## REFERENCES

- Aghion, P., and Blanchard, O. (1994), 'On the Speed of Transition in Central Europe', in *NBER Macroeconomics Annual 1994*, Cambridge MA, MIT Press.
- — (1996), 'On Privatization Methods in Eastern Europe and their Implications', London, EBRD, mimeo.
- — Burgess, R. (1994), 'The Behaviour of State Firms in Eastern Europe Pre-Privatization', *European Economic Review* 38, 1327–49.
- Bolton, P., and Fries, S. (1996), 'Financial Restructuring in Transition Economies', London, EBRD, mimeo.
- Alfandari, G., Fan, Q., and Freinkman, L. (1996), 'Government Financial Transfers to Industrial Enterprises and Restructuring', in *Commander et al.*, 1996.
- Schaffer, M. E. (1996), 'Arrears' in the Russian Enterprise Sector', in *Commander et al.*, 1996.
- Aukutsionek, S. (1996), 'Ubytochnoe proizvodstvo v rossiiskoi promyshlennosti', *Voprosi Ekonomiki*, 11.
- Baer, H., and Gray, C. W. (1996), 'Debt as a Control Device in Transition Economies', in *Frydman et al.*, 1996.
- Balcerowicz, E., Hashi, I., Mladek, J., Novak, T., Sinclair, A., and Szanyi, M. (1996), 'Downsizing as an Exit Mechanism', in L. Balcerowicz *et al.* (1997).
- Balcerowicz, L., Gray, C. W., and Hashi, I. (eds) (1997), *Enterprise Exit Processes in Transition Economies: Downsizing, Workouts, and Liquidations*, London, CEU Press, forthcoming.
- Barberis, N., Boycko, M., Schleifer, A., and Tsukonova, N., (1996), 'How Does Privatization Work? Evidence from the Russian Shops', *Journal of Political Economy*, 104(41), 764–90.
- Basu, S., Estrin, S., and Svejnar, J. (1996), 'Employment and Wage Behaviour of Enterprises in Transitional Economies', CERGE–EI (Prague), mimeo.
- Begg, D., and Portes, R. (1993), 'Enterprise Debt and Economic Transformation: Financial Restructuring in Central and Eastern Europe', in C. Mayer and X. Vives (eds), *Capital Markets and Financial Intermediation*, Cambridge, Cambridge University Press.
- Belianova, E. (1995), 'Motivatsiia i povedenie rossiiskich predpriatii (Motivation and Behaviour of Russian Enterprises)', *Voprosi Ekonomiki*, 6.
- Belka, M., and Krajewski, S. (1996a), 'Financial Restructuring of State-Owned Enterprises in Poland', paper presented at the ACE Workshop, 16–18 February 1996, Vienna.
- — (1996b), 'Restructuring of Industry in Poland in Transition', paper presented at the ACE Workshop, 6–8 December 1996, Vienna.
- Estrin, S., Schaffer, M., and Singh, I. (1995), 'Enterprise Adjustment in Poland: Evidence from a Survey of 200 Private, Privatized and State-Owned firms', Centre for Economic Performance Working Paper, No. 658.
- Benáček, V., Chemetilo, D., Dragan, G., and Petrov, A. (1995), 'Economic Behaviour, Adjustment and Performance of Producers in Transition: The Case of Czech Textile Manufacturing', CERGE–EI (Prague), mimeo.
- Bim, A. S. (1996), 'Ownership and Control of Russian Enterprises and Strategies of Shareholders', *Communist Economics and the Economics of Transition*, 4.
- Blasi, J., and Shleifer, A. (1996), 'Corporate Governance in Russia', in *Frydman et al.*, 1996.
- Bonin, J., and Schaffer, M. (1995), 'Banks, Firms, Bad Debts and Bankruptcy in Hungary 1991–94', London, CEP (LSE) Discussion Paper No. 234.
- Buchtikova, A. (1996), 'Banks–Clients Relations in 1994', Prague, Czech National Institute of Economics, mimeo.
- Buck, T., Filatotchev, I., Wright, M., and von Frausum, Y. (1996), 'Process and Impact of Privatization in Russia and Ukraine', *Comparative Economic Studies*, 2–3.
- Carlin, W., Van Reenen, J., and Wolfe, T. (1995), 'Enterprise Restructuring in Early Transition: The Case Study Evidence' *Economics of Transition*, 3(4), 427–58. (A more detailed version was published as: 'Enterprise Restructuring in the Transition: An Analytical Survey of the Case Study Evidence from Central and Eastern Europe', EBRD Working Paper No. 14, 1994.)
- Claessens, S. (1996), 'Banking Reform in Transition Countries', World Bank Research Working Paper, No. 1642.
- Djankov, S., and Pohl, G. (1996), 'Ownership and Corporate Governance: Evidence from the Czech Republic', World Bank, mimeo.
- Coffee, J. C. (1996), 'Institutional Investors in Transitional Economies: Lessons from Czech Experience', in *Frydman et al.* (eds), 1996, Vol. 1.
- Commander, S., Fan, Q., and Schaffer, M. E. (eds) (1996), *Enterprise Restructuring and Economic Policy in Russia*, World Bank.
- Dąbrowski, J. (1996), 'Droga Kapita owa (The Capital Road)', *Zycie Gospodarcze*, 41–44.

- Desai, R. M. (1996), 'Large Bank Finance and the Limits of Mass Privatization in Eastern Europe: The Case of the Czech Republic', *Harvard University Department of Government Working Paper*, 96-2.
- Dittus, P., and Prowse, S. (1996), 'Corporate Governance in Central Europe and Russia: Should Banks Own Shares?', in Frydman *et al.*, 1996.
- Djankov, S., and Pohl, G. (1997), 'Restructuring of Large Firms in Slovakia', World Bank, mimeo.
- Dobrinisky, R., and Landesmann, M. (eds.), (1995), *Transforming Economies and European Integration*, Aldershot, Edward Elgar.
- Earle, J. S., and Estrin, S. (1996a), 'Employee Ownership in Transition', in Frydman *et al.*, 1996.
- — (1996b), 'Privatization and Competition: Changing Enterprise Behaviour in Russia', mimeo.
- — Leschenko, L. L. (1996), 'Ownership Structures, Patterns of Control, and Enterprise Behaviour in Russia', in Commander *et al.*, 1996.
- EBRD (1995), 'Ownership, Governance and Restructuring', in *Transition Report 1995*.
- Estrin, S., and Svejnar, J. (1996), 'Employment and Wage Determination in the Early Years of Transition', mimeo.
- European Economy* (1995), 'Economic Interpenetration between the EU and Central and Eastern Europe', Brussels, European Commission, No. 6.
- Fan, Q., Lee, U. J., and Schaffer, M. E. (1996), 'Firms, Banks and Credit in Russia', in Commander *et al.*, 1996.
- Filatovchev, I., Grosfeld, I., Karia, J., Wright, M., and Buck, T. (1996), 'Buy-outs in Hungary, Poland and Russia: Governance and Financial Issues', *CMBOR Paper 54*, University of Nottingham.
- Frydman, R., Gray, C. W., and Rapaczynski, A. (eds) (1996), *Corporate Governance in Central Europe and Russia*, 2 Vols, Budapest, CEU Press and Oxford University Press.
- Gray, C. W., and Holle, A. (1996a), 'Bank-led Restructuring in Poland (I): An Empirical look at the Bank Conciliation Process', in L. Balcerowicz *et al.* (eds), 1997.
- — (1996b), 'Bank-led Restructuring in Poland (II): Bankruptcy and its Alternatives', in L. Balcerowicz *et al.* (eds), 1997.
- Schlorke, S., and Szanyi, M. (1996), 'Hungary's Bankruptcy Experience 1992-93', *World Bank Economic Review*, 2, and in L. Balcerowicz *et al.* (eds), 1997.
- Hashi, I., Mladek, J., and Sinclair, A. (1996), 'Bankruptcy and Owner-Led Liquidation in the Czech Republic', in L. Balcerowicz *et al.* (eds), 1997.
- Heinrich, R. P. (1995), 'Enterprise Restructuring and Privatisation in the Transition? Socialism: Evidence from Hungary and the Czech Republic', 40th Atlantic Economic Conference, Williamsburg, 6-11 October 1995, mimeo.
- Hunya, G. (1996), 'Foreign Direct Investment in Hungary: A Key Element in Economic Modernisation', *WIIW Research Report No. 226*, Vienna.
- IRiSS (1996), 'Zachowanie przedsiębiorcze warunkiem rozwoju gospodarczego', *Gospodarka Narodowa*, 1-2 (Conference Report).
- Jarosz, M. (ed.) (1996), *Polish Employee-Owned Companies in 1995*, Warsaw, Institute of Political Studies, Polish Academy of Sciences.
- Johnson, S., and Loveman, G. W. (1995), *Starting Over in Eastern Europe: Entrepreneurship and Economic Revival*, Harvard Business School.
- Klepach, A., Kuznetsov, P., and Kryuchkova, P. (1996), 'Korporativnoe upravlenie v Rossii v 1995-6 gg. (Corporate governance in Russia 1995-6)', *Voprosi Ekonomiki*, 12.
- Köllo, J. (1995), 'Short-term Response of Employment to Sales in State-owned and Private Firms in Hungary 1990-1994', Budapest, Institute of Economics, Hungarian Academy of Sciences, mimeo.
- Kotowicz-Jawor, J. (1996), 'Bariery rozwoju przedsiębiorstwa w okresie transformacji (Barriers to the progress of enterprises in the period of transformation)', *Gospodarka Narodowa*, 11.
- Kotrba, J. (1996), 'Privatization and Restructuring: Friends or Enemies', CERGE-EI (Prague), mimeo.
- Krajewski, S. (1994), 'Przedsiębiorstwa przemysłowe w okresie przemian (Industrial enterprises in the period of change)', *Gospodarka Narodowa*, 12.
- Landesmann M. (1995), 'The Pattern of East-West European Integration: Catching Up or Falling Behind?', in Dobrinisky and Landesmann (eds), 1995, ch. 7, 116-40.
- Burgstaller, J. (1997), 'Vertical Product Differentiation in EU Markets: The Relative Position of East European Producers', *Research Report Nos. 234a and 234b*, Vienna, WIIW.
- Lemoine, F. (1997), 'Industrial Recovery in Central European Countries: Sectoral Trends, Foreign Trade and Direct Investments', CEPII (Paris), mimeo.
- Lipinski, J. (1996), 'O wpływie rosnącego popytu na wzrost produkcji w latach 1993-1996 (On the influence of rising demand on the rise of production in the years 1993-1996)', *Gospodarka Narodowa*, 11.

- OECD (1995), *Economic Survey of Hungary*, Paris, OECD.
- (1996), *Economic Survey of the Czech Republic*, Paris, OECD.
- Perotti, E. (1996), 'Inertial Credit and Opportunistic Arrears in Transition', University of Amsterdam, mimeo.
- Pinto, B., and van Wijnbergen, S. (1995), 'Ownership and Corporate Control in Poland: Why State Firms Defied the Odds', CEPR Discussion Paper, No. 1273
- Belka, M., and Krajewski, S. (1994), 'Transforming State Enterprises in Poland: Evidence on Adjustment by Manufacturing Firms', *Brookings Papers on Economic Activity*, 1, 213–70.
- Pohl, G., Anderson, R. E., Claessens, S., and Djankov, S. (1997), 'Privatization and Restructuring in Central and Eastern Europe: Evidence and Policy Options', World Bank, mimeo.
- Rogoff, K. (1996), 'The Purchasing Power Parity Puzzle', *Journal of Economic Literature*, June, 647–68.
- Roland, G., and Sekkat, K. (1996), 'Managerial Career Concerns, Privatization and Restructuring in Transition Economies', ECARE (Brussels), mimeo.
- Rostowski, J., and Nikolic, M. (1996), 'Macroeconomic Shocks and Policy Responses during Transition: A Cross-Country Comparison', in L. Balcerowicz *et al.* (eds), 1997.
- Schaffer, M. E. (1995), 'Government Subsidies to Enterprises in Central and Eastern Europe: Budgetary Subsidies and Tax Arrears', in D. M. G. Newbery (ed.), *Tax and Benefit Reform in Central and Eastern Europe*, London, CEPR.
- Stolze, F. (1996), 'The Central and East European Currency Phenomenon Reconsidered', *Research Report No. 232*, Vienna, WIIW.
- Szanyi, M. (1996), 'Process of Microeconomic Adjustment in Hungary', mimeo.
- Szomburg, J. (1996), 'Efekty Prywatyzacji Przedsiębiorstw Droga Leasingu (Effects of privatization of enterprises by the leasing method)', *IBnGR Transformacji Gospodarki*, No. 68.
- van Wijnbergen, S. (1996), 'Bank Restructuring and Enterprise Reform', paper presented at the EBRD Workshop, 25–26 April 1996, London.
- Zemplerova, A., Lastovicka, R., and Marcincin, A. (1995), 'Restructuring of Czech Manufacturing Enterprises: An Empirical Survey', CERGE–EI (Prague), mimeo.