BRIAN PINTO
International Finance Corporation

MAREK BELKA
Lodz University

STEFAN KRAJEWSKI
Lodz University

Transforming State Enterprises in Poland: Evidence on Adjustment by Manufacturing Firms

THE ECONOMIC DOMINANCE of the state sector makes its behavior and response crucial to the course of reform in the economies of Central and Eastern Europe. This paper examines the special case of Poland in the three years following the "big bang" of January 1, 1990. The big bang—a program of radical reform to create the legal, institutional, and economic basis for a market economy—was instrumental in changing relative prices, introducing foreign competition, and signaling that tight monetary and fiscal policies would be pursued. However, changes in the ownership and governance of state manufacturing companies have lagged behind.

This delay in privatizing has raised concerns because the state sector has played a central role in Poland. In 1990, the first year of Poland's reform program, state manufacturing accounted for some 30 percent of

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GDP, 19 percent of employment, 85 percent of exports, and 60 percent of fiscal revenues. Unless rapidly privatized, many analysts argued, state manufacturing firms would not respond to the new economic environment, would decapitalize companies by paying out surpluses as wages, and would then use their bargaining power to negotiate a bailout with the government. The resulting fiscal burden would thus sabotage macroeconomic stability.

This paper presents evidence that state-owned enterprises (SOEs) have been much more responsive than these fears implied. This finding suggests that hard budgets and import competition—essential ingredients of Poland's reform package—can exert adjustment pressures even when changes in ownership and governance lag behind. Two points are worth stressing along with this finding. First, credible and sustained enforcement of hard budgets and competition is difficult politically.[1] Pressures occur constantly to reintroduce soft loans and protection. Second, the finding does not mean that hard budgets and competition are substitutes for changes in governance. Both, presumably, are necessary. But at least in Poland's case, the prospect of changes in governance has provided the needed incentives even before such changes have occurred.

Thus far, privatization has been the most successful in services and in retail trade (although even here the change consists of leasing state shops to private operators). Privatization of manufacturing has been slow and contentious, with the mass privatization program (MPP) aimed at transforming large state firms mired in debate and legislative wrangling. The next section describes the main features of our sample of state-owned enterprises. The section after that discusses evolving enterprise sector issues during the first three years of Poland's reform program.

The Sample

The evidence in this paper is drawn from a direct survey of 75 SOEs scattered throughout Poland and from five different manufacturing sectors with great diversity in product lines and locale. Appendix A de-

1. "Competition" refers to import competition. Poland has espoused domestic competition and free entry, but import competition has been a much stronger force than domestic competition.

scribes the sample. We first visited the enterprises in the summer of 1991 and revisited them in August and September of 1992. Our analysis covers the three-year period from June 1989 to June 1992: six months before the start of the reform program and two-and-one-half years into it. The enterprises in our sample represent the core of the manufacturing establishment that accounts for 40 to 60 percent of Polish manufacturing. They were chosen from the five biggest manufacturing sectors and are large companies that would usually be listed in the Lista 500 (the Polish equivalent of *Fortune* 500, the largest companies based on sales). We excluded giants such as the huge tractor company URSUS, as well as the biggest shipyards and steel mills.

The companies in the sample are visible, well-known firms from the upper echelons of Polish manufacturing. They exhibited similar behavior before the reform was launched and shared similar initial conditions at the start of the reform. Moreover, they embody many of the more complex problems in transforming and restructuring manufacturing because of their size and bargaining power with the government. Their behavior will not only influence the response of smaller SOEs but will also affect the credibility of the reform program. The companies at the bottom of the financial heap in this group would be typical targets for the enterprise-bank restructuring effort underway in Poland.

These companies also would be potential candidates for the mass privatization program. This effort is designed to transfer a big chunk of state assets into private hands under the direction of national investment funds (NIFs), which would manage and help restructure the companies in the interim. As a necessary intermediate stage, state firms would be commercialized: transformed into joint stock companies wholly owned by the Treasury.[2] All the sample firms were SOEs at the start of the economic reform. By mid-1992, of the 64 firms responding to our second survey, 3 were privatized, 24 were commercialized, and 37 were still SOEs.

An important fact about Polish SOEs is that they are "self-governing" under the direction of a workers' council that hires and fires the manager, determines managers' compensation, and clears all important strategic and even operating decisions. SOEs do not receive any special fi-

2. Frydman, Rapaczynski, and Earle (1993) provide details on the mass privatization program.

nancial treatment or outside intervention in their management. To the contrary, in addition to the rigors of macroeconomic stringency and competition, SOEs have been subject to a dividend (a misnomer for a minimum asset tax on the share of the company's equity that is centrally financed) and an excess wage tax (a punishing penalty on wage increases above a certain limit; in 1990, this carried a maximum marginal tax rate of 500 percent).

Commercialized companies differ in three respects from SOEs. First, the workers' council is dissolved and replaced by a supervisory board; four members are nominated by the Ministry of Privatization (MOP) and two by the employees. Second, the enterprise is transferred to the control of the Ministry and must be privatized within two years. Third, commercialized firms were originally to be exempt from the fixed dividend and instead pay a percentage of after-tax profits to the Treasury; they also receive a tax break of 20 percent on excess wage tax payments. Seduced by these advantages, a rash of firms raced to be commercialized at the end of 1990. The sections below provide evidence of such self-selection from the sample. Eventually the dividend tax rate for SOEs was reduced from 32 percent in 1990 to 22 percent in 1991; it fell to 10 percent in July 1992. Meanwhile, the dividend from commercialized companies was reassessed as a form of asset tax. At the same time, the highest marginal excess wage tax rate was lowered to 300 percent and the capacity to exceed norm wages has diminished along with enterprise profitability and liquidity. The enthusiasm for being commercialized has waned along with the tax advantages. Commercialization has also occurred in preparation for the mass privatization program. However, with this effort mired in heated debate and the Ministry of Privatization increasingly reluctant to take more SOEs under its wing, such top-down commercialization has also slowed down.[3]

In practical terms, SOEs and commercialized firms differ only slightly in terms of governance.[4] In well-run SOEs, the de facto balance of power has shifted in favor of the manager—a turn of events that is not surprising in view of the scarcity of managerial talent in Poland and the

3. Thus after two years of vacillating, the Polish Sejm (parliament) rejected the mass privatization program on March 18, 1993; however, the program was successfully resubmitted by the government and approved on April 30, 1993.

4. Dabrowski, Fedorowicz, and Levitas (1991); Frydman and Wellisz (1991); Pinto, Belka, and Krajewski (1991); and Schaffer (1992) discuss the control structure of SOEs.

rising fear of unemployment. In addition, most firms were commercialized in mid-1991. This left only one year of sample performance—inadequate to trace the impact of a change in governance.

Evolving Issues in the Enterprise Sector

The big bang of 1990 was followed by an immediate and big drop in manufacturing output; declines continued until the middle of the year. Surprisingly, bankruptcies did not occur and enterprises appeared to be doing well financially. The government budget ran a surplus, and foreign exchange reserves were growing rapidly. A relaxation of macroeconomic stringency after mid-year led to a huge increase in wages.[5] The main questions were whether the financial performance was sustainable and whether in the absence of an owner, firms would be decapitalized. Economists David Lipton and Jeffrey Sachs argued that rapid privatization would prevent workers and managers from squandering state assets and ensure that privatization did not get paralyzed in endless debate.[6] Based on actual state sector performance during the first seven months of the reform program, Roman Frydman and Stanislaw Wellisz concluded that the ownership and control structure of SOEs were incompatible with rationalization and growth. Expansionary policies would merely lead to higher wages and inflation, with little increase in output. Macroeconomic stringency would not achieve much without new incentives for maximizing the value of the firm.[7]

In 1991, the trading arrangements between the former Soviet Union and its satellite states collapsed.[8] A large and abrupt fall in enterprise profitability occurred as hidden Council for Mutual Economic Assistance (CMEA) subsidies on energy and inputs vanished and the traditional market for many Polish firms was lost as payments switched from the old transferable ruble system to hard currency at international prices. It became clear that 1990 performance had been temporary, supported by a onetime inflationary gain on stocks, implicit CMEA sub-

5. See Pinto, Coricelli, and de la Calle (1990); Pinto, Belka, and Krajewski (1992); Schaffer (1992); and Wellisz, Kierzkowski, and Okolski (1991).

6. Lipton and Sachs (1990a, b). Hinds (1990) made a similar call to arms.

7. Frydman and Wellisz (1991).

8. Under the CMEA, Poland obtained energy and inputs at far below world prices plus a captive market for selected exports.

sidies, and devaluation gains on pre-reform dollar accounts that enterprises had held. The key question now was whether state enterprises had the supply-response capacity and ability to adapt to the new market conditions. A review of state enterprise performance in mid-1991, some 18 months after Poland's big bang, would seem to have confirmed the worst fears about the inertness and perverse behavior of SOEs. Unsold inventories were piling up, and sales and profitability were declining sharply. Macroeconomic stringency, a cornerstone of the economic transformation program (ETP), seemed not to be eliciting any response from SOEs. Poland appeared to be headed for a high inflation collapse presaged by rising fiscal deficits and deteriorating bank portfolios. Disappointed with the response of SOEs, the government devalued the zloty by 17 percent against the dollar in May 1991, the first relaxation of the celebrated fixed exchange rate anchor since the big bang. Later in the year, Poland adopted a preannounced crawl in the exchange rate.[9]

After conducting our first set of visits to enterprises in mid-1991, we concluded that the inspiration and moving force behind change were managers. We found that attitudes had shifted in favor of making profits and pursuing marketing, rather than exclusively emphasizing production targets as under the old regime. We also found that a serious principal-agent problem existed because managers served at the pleasure of the workers' council and there was insufficient emphasis on the long-term viability of enterprises. We emphasized the importance of addressing firm-level managerial incentives and empowering managers.[10]

In 1992, some good news started emerging from the manufacturing sector, despite negligible privatization and the absence of banking reform. Not only did Poland end the year with a substantial increase in industrial output, but surveys of business anticipations that polled large samples of companies—mostly SOEs—indicated that optimism was increasing.[11]

9. Ironically, this relaxation helped to stabilize and even slightly depreciate the real exchange rate; it also coincided with a recovery in sales. In retrospect, it is evident that firms had indeed taken serious adjustment steps before the devaluation, even though these measures had not yet shown up in the financial bottom line. Adjustment takes time.

10. Pinto, Belka, and Krajewski (1992). For other comments on state enterprise behavior see Dabrowski, Fedorowicz, and Levitas (1991), who examine a sample of 50 firms, and Schaffer (1992).

11. *Business Survey Poland* (1992).

Three fundamental forces can help explain why SOEs are responding, even though managers have neither an ownership stake in the company nor compensation linked to profits. First is the adjustment force exerted by hard budgets—even when changes in governance lag behind. Second is the importance of big bang methods, which rapidly achieve relative price changes anchored to foreign prices; these automatically set performance targets for prices, costs, and quality. Third is managers' expectations that performance will be rewarded once privatization occurs.

In interpreting this sample, our paper helps explain several issues. First, some analysts suspected that macroeconomic stringency was not translating into hard budgets at the firm level because of "soft" bank loans and interfirm credit. Our evidence shows that bank and interfirm loans, while lax through 1991, are credibly hardening. Tax arrears have been increasing. But such arrears do not represent additional funds and this applies only to the weakest firms. Second, there was a fear that worker-dominated SOEs would lack the will to shed labor or improve efficiency through investment. Our findings show this fear to be false. Third, wages have not been set to exhaust the surplus; rather, wage setting has come to resemble bargaining outcomes commonly seem in the West. Fourth, firms have been cost-conscious and have improved the efficiency of energy and materials usage.

Our findings question the assumption that greater hard currency exports are necessarily an index of greater adjustment. We also discuss other key transformation issues such as the role of banks, excess wage taxation, and managerial incentives.

Adjustment and Financial Performance

A sharp transition from a centrally planned to a market economy would entail some dislocation in manufacturing as the arbitrary allocation of resources that had prevailed before reform bent to market forces. Eventually if hard budgets and market-determined relative prices work, success stories could be expected to emerge. This is exactly what is occurring three years into Poland's economic transformation program. In each manufacturing sector, successful and less successful firms are intermingled.

Early in the ETP, profitability would have been a flawed indicator of performance because various temporary factors supported the unsustainable paper profits of 1990. However, by 1992, with the evaporation of inflationary gains and the implicit subsidies from CMEA trade, profitable financial performance could be interpreted as a sign of health and even adjustment.

Based on financial performance during the last six months of the sample period, we classified firms three ways:

AAA: Firms with positive retained earnings (net profit) in January–June 1992.

AA: Firms with positive pretax (gross) profit in January–June 1992, but negative net profit.

A: Firms with negative pretax (gross) profit in January–June 1992.[12]

We found 31 AAA firms, 8 AA firms, and 25 A firms. Table 1 summarizes the characteristics of these groups and appendix A provides further information.

An important feature of the AAA firms is that they defy any simple classification. These firms include consumer and producer goods companies; heavy and light industry; those that were heavily affected by the collapse of the CMEA and those that were not; exporters to the West and those whose markets are predominantly domestic. The dominant explanatory factor of profit performance in the early part of the ETP—sectoral origin—is irrelevant today. Notably, roughly half the A firms are light manufacturers, making such products as shoes and textiles. Firms in this group also produce a broad cross-section of products, but these firms employ significantly more workers, on average, than AAA or AA firms and have much lower sales. The A firms do not necessarily lack good prospects. Their fortunes could depend upon suitable financial and labor arrangements and other restructuring, as we discuss below.

Our finding that *within each sector* some firms are doing well while others are not faring as well is a sure sign that the pre-reform allocation of resources is now bending to market forces. Initially, sectors responded

12. Net profit is retained earnings after paying corporate income tax, the dividend (a misnomer for a minimum asset tax paid to the government), and the excess wage tax. Gross profit is pretax profit. See appendix B for complete definitions of these terms, which conform to Polish accounting conventions.

Table 1. Characteristics of Polish Enterprises in the Sample

Characteristic	*Financial performance*[a]		
	A	*AA*	*AAA*
Average sales[b]	55	99	103
Avg. employment[c]	3,300	2,890	2,939
Sectoral origin			
Metallurgy	4	4	5
Electromachinery	5	0	5
Chemicals	2	1	10
Light industry	12	0	3
Food processing	2	3	8
Governance			
Privatized	1	0	2
Commercialized	10	1	13
State-owned	14	7	16
Main products	Semifinished steel products, raw steel, processed steel products, buses, trailers, machine tools, construction equipment, man-made fibers, plastics, hosiery, shoes, textiles, threads, woolen threads, and sugar.	Raw and semi-processed steel products, steel pipes, fertilizers, meat products, and sugar.	Processed ferrous and nonferrous products, refrigerators, ovens, heavy engines, transformers, wires and cables, paints and varnishes, tires, fertilizer, floor tiles, finished garments, cigarettes, sweets and chocolates, and processed meat.

Source: Authors' calculations based on survey of firms. See appendix A for more information on the sample and a further discussion of the data.

a. Financial performance was based on gross or net profit data for January to June 1992. AAA firms showed net profit; AA firms showed positive gross profit, but negative net profit; and A firms showed negative gross profit.

b. Average sales are in millions of dollars.

c. Average employment was calculated as of June 1992.

resiliently to the reform shocks, depending upon the relative strength of various starting points such as dollar accounts, inventories carried over, and special access to the captive CMEA market, which lasted until March 1991. Now free market forces are beginning to sort things out, and factors *within each firm* (such as management actions), rather than sectoral origin, are becoming the main determinant of performance.

Of the 64 firms that responded to our second survey, 3 were privatized, 24 were commercialized (wholly owned by the Treasury), and 37 were still SOEs. Among the 39 AAA and AA companies, 2 were privatized, 14 were commercialized, and 23 were SOEs. The least successful A group contained a significant number of commercialized firms, indi-

cating that a change in governance by itself does not guarantee improved financial performance. Managers in all groups expressed a preference for commercialization and consider privatization inevitable and desirable, but overwhelmingly believe that prior restructuring is necessary.

In the next section, we correlate key facets of adjustment with the three firm groupings. Because the sample contains only a small number of AA firms, we focus on the two extremes: AAA and A.

Labor Adjustment: Real Sales, Productivity, and Unit Labor Cost

The big bang was accompanied by an immediate and sharp drop in industrial output measured by real sales. This was an economy-wide phenomenon, resulting eventually in a 12 percent decline in GDP in 1990.[13] But the drop in output was not matched by labor shedding; this led to declining productivity and eventually, rising unit labor cost.

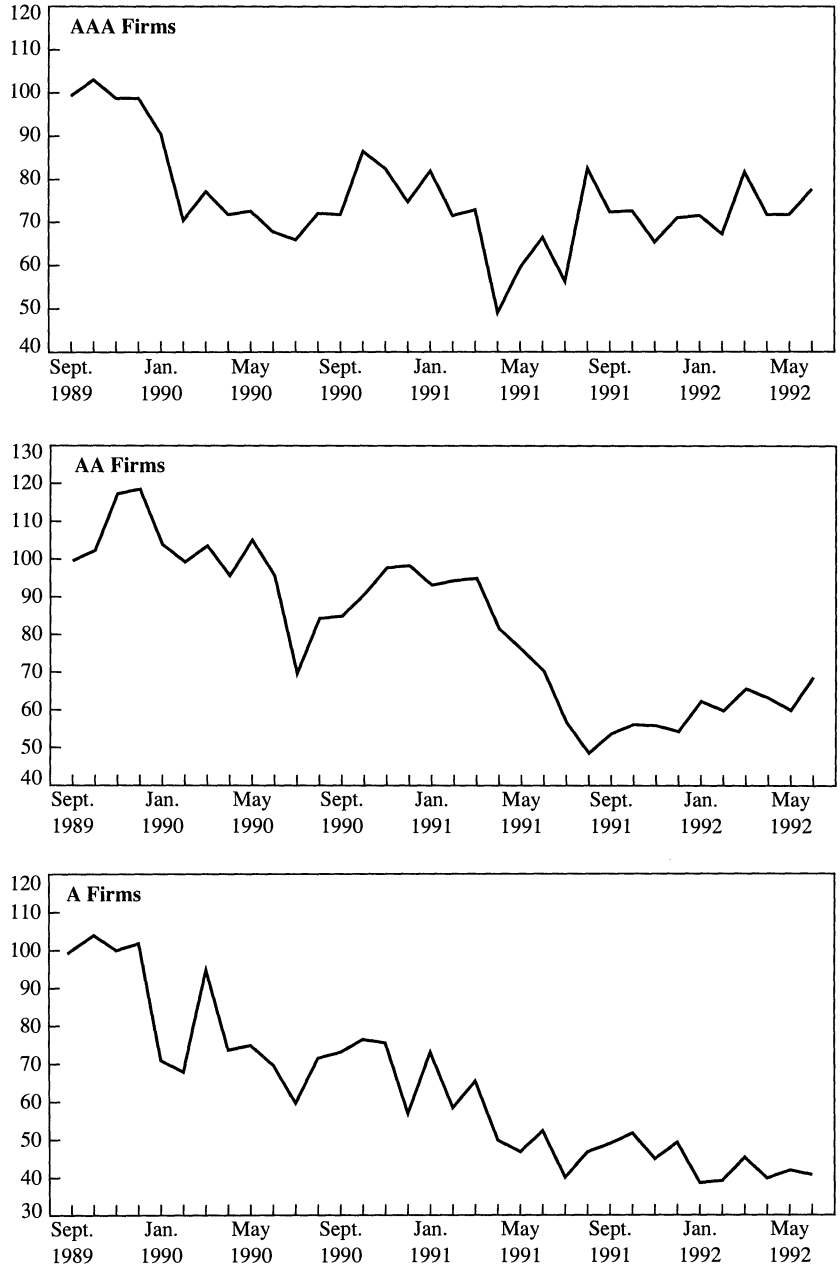
Results in the sample followed this general pattern. However, employment reduction has continued while sales have gradually stabilized. Figure 1 plots real sales for selected months for the AAA, AA, and A firms. For AAA firms, real sales hit rock bottom in April 1991 and have been rebounding since; this movement coincides with the relaxation of the fixed nominal exchange rate anchor with the first devaluation during the reform in May 1991 and a switch to a preannounced crawl in October. AA firms recovered somewhat in 1992. A firms were on a downtrend throughout the period. The difference is evident in productivity. Between September 1989 and June 1992, AAA firms nearly maintained productivity levels (falling only 3 percent), while levels fell 15 percent for AA firms and 40 percent for A firms.

Figure 2 plots the trend in real unit labor cost. Wages rose sharply in

13. Calvo and Coricelli (1992) argue that the output drop was caused by credit constraints, while Blanchard (1992), Berg and Blanchard (1992), and Kharas (1991) make a strong case for an aggregate demand shock. Bruno (1992) is more balanced, citing factors both on the supply and demand sides. Pinto, Belka, and Krajewski (1991, 1992) cite interviews with managers and use firm-level data to conclude that the high nominal interest rates on working capital (50 to 72 percent per month for January 1990 alone) led to a rush to liquidate zloty loans; repayment implied a certain return of 50 to 72 percent, preferable to producing and selling in a highly uncertain environment. Nominal wages were frozen to absorb the jump in interest and input costs accompanying the big bang, leading to a demand squeeze through a drastic fall in real wages. Rising finished goods stocks and higher exports in the face of declining profitability indicate the emergence of domestic demand constraints, but the nominal interest rate and price level shocks of the big bang had a definite impact.

Figure 1. Real Sales of Firms, September 1989–June 1992

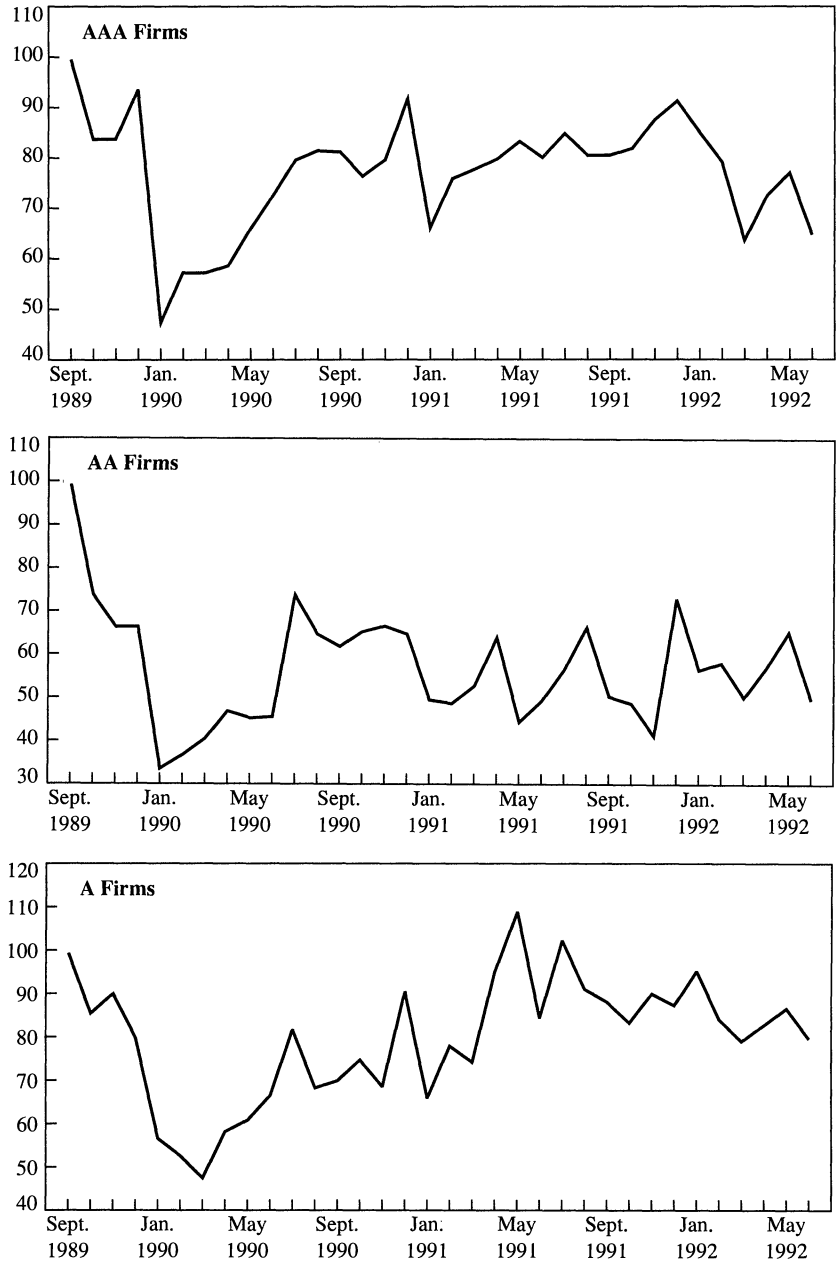
Index, September 1989 = 100



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.

Figure 2. Real Unit Labor Cost of Firms, September 1989–December 1992

Index, September 1989 = 100



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.

Table 2. Employment of Firms in the Survey, December 1989–June 1992
Index, September 1989 = 100

Financial performance	*December 1989*	*June 1990*	*December 1990*	*June 1991*	*December 1991*	*June 1992*
AAA	101.7	95.1	93.4	87.4	84.4	79.4
AA	99.7	98.7	95.2	87.3	78.5	76.5
A	100.1	95.9	88.5	81.9	74.0	67.1
Total	100.8	95.8	91.3	84.7	78.8	73.2

Source: Authors' calculations based on firms in the survey, which are sorted according to their financial performance.

1989, especially in the last quarter as SOEs believed year-end wages would form the basis for wage increases during the ETP. But there was a sales boom, keeping unit labor costs in check. The big bang was marked by a huge increase in the prices of materials and energy and a more than threefold increase in interest rates, which ranged from 50 to 72 percent for the month of January 1990 alone. Firms froze nominal wages as a shock absorber; this led to a sharp drop in unit labor costs. However, as fears of bankruptcy receded, real wages and unit labor costs grew rapidly—until the end of 1990.[14] After mid-1991, the trend has been downward, indicating that all firms in the sample are taking measures to control labor costs, including restraining wages, shedding labor, and maintaining output. In comparing the two extremes, the performance of AAA firms is decidedly superior to that of A firms.

As table 2 shows, substantial labor shedding has occurred—despite the presence of workers' councils. For the total sample, labor was reduced by a remarkable 27 percent, with the labor-intensive A group leading the way. However, this group has also been plagued with the biggest marketing problems, which have led to falling productivity.

Materials and Energy Costs

Table 3 contains the ratio of materials and energy costs to sales for selected periods. In 1990, all three groups were level. The dollarizing of CMEA prices (switching from administered transferable ruble prices to international dollar prices) and the removal of related implicit subsidies show up in the numbers for the first six months of 1991. After that, the

14. Pinto (1992) contains a discussion of firm-level wage-setting behavior.

Table 3. Ratio of Material and Energy Costs to Sales, January 1990–June 1992
Percent

Financial performance	*January–December 1990*	*January–June 1991*	*January–December 1991*	*January–June 1992*
AAA	52	58	50	45
AA	47	60	61	50
A	48	47	45	39

Source: Authors' calculations based on firms in the survey, which are sorted according to their financial performance.

ratios decline, indicating that the efficiency of materials and energy consumption is on the rise. It is remarkable that A firms exhibit this increased efficiency as well. This leads us to conclude that a key problem for A firms is low capacity utilization. This is shown by the sharp compression of real sales, which continued to decline in 1992. As the data in figure 2 and table 1 show, these firms have a larger labor stock on average and are plagued with inefficient labor usage, despite the much greater labor shedding shown in table 2.

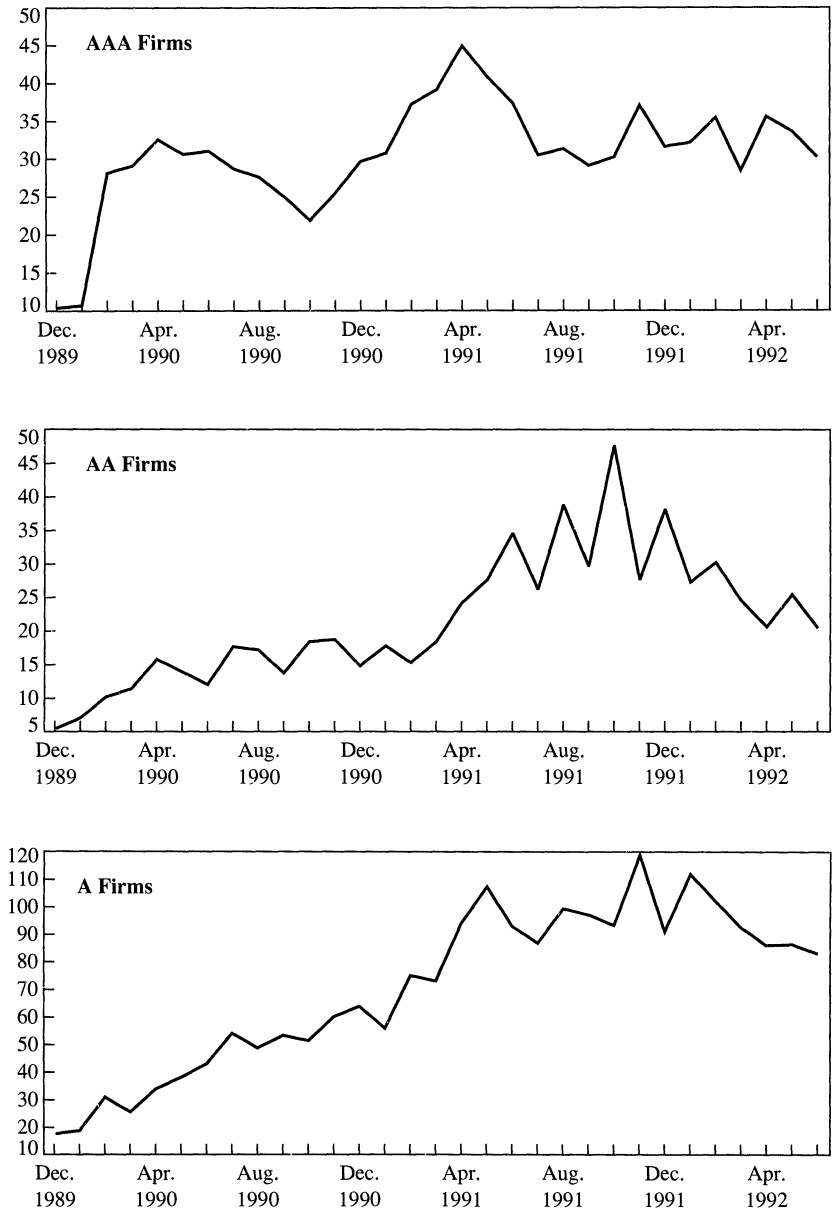
Borrowing and Tax Arrears

Many observers argued during 1990 and early 1991 that the discipline of macroeconomic stringency was being diluted by bank loans, interfirm credit, and the accumulation of tax arrears. In short, the firm-level budget constraint was not yet hard. Using sample evidence, this section concludes that the firm-level budget constraint, while lax through 1991, is now marked by three important features: substantial tightening of bank loans; leveling off of net interfirm lending by AAA firms; and considerable laxity in tax payments.

Preceding results showed that A firms lagged significantly behind AA and AAA firms in maintaining sales. As figure 3 shows, inventories of finished goods rose rapidly for A firms and then stabilized at a high plateau. This pattern contrasts sharply with AAA firms, whose inventories initially jumped up in January 1990 from the low, shortage-economy levels, reached a peak in April 1991, and then declined. Inventories for AA firms peaked in October 1991 and declined thereafter. If the inventory accumulation of A firms was financed by working capital loans or interfirm borrowing, this would indicate softness in the budget constraint.

Figure 3. Ratio of Finished Goods Inventories to Sales, December 1989–June 1992

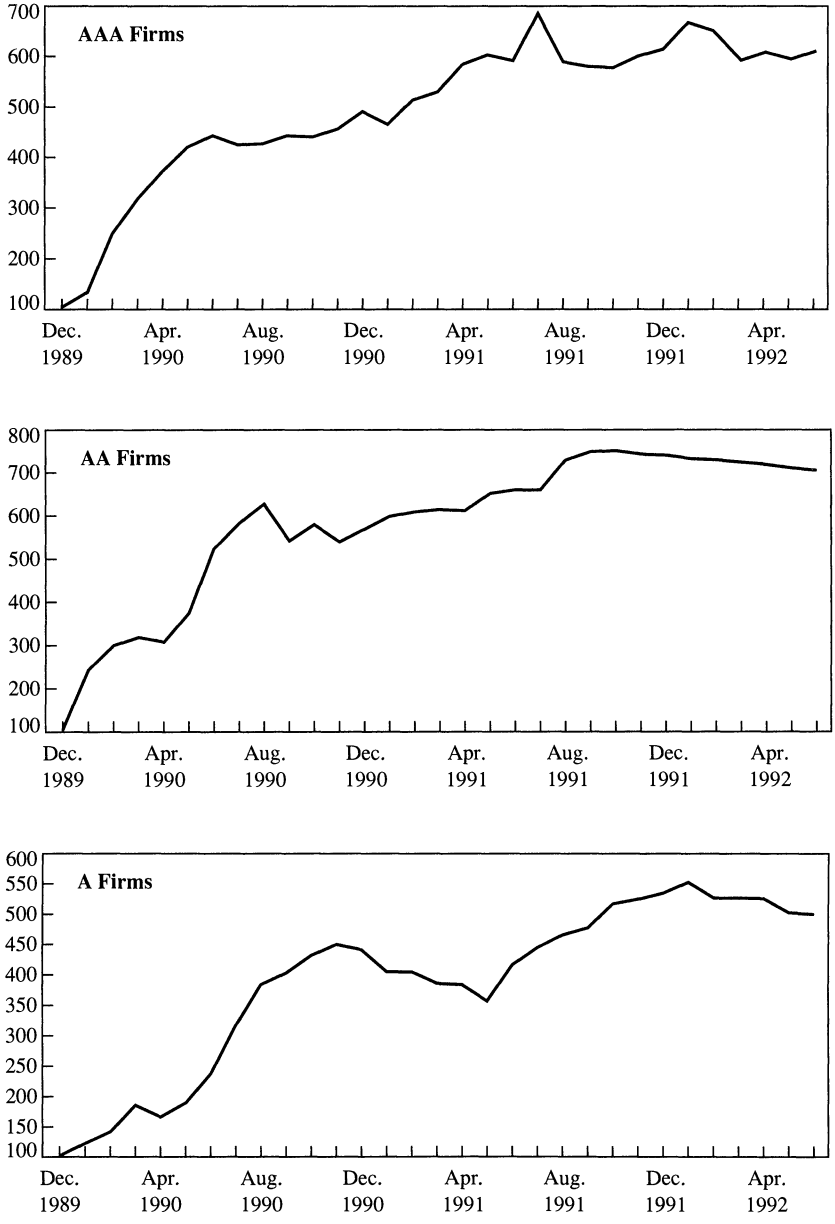
Percent



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.

Figure 4. Working Capital Loans, December 1989–June 1992

Index, December 1989 = 100



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.

Figure 4 plots the path of nominal working capital loans from banks for the three groups of firms. Comparing AAA and A firms, January 1990 was marked by a modest nominal increase in loans despite 110 percent producer price inflation. Between January and March 1990, loans to AAA firms increased rapidly, coinciding with lower interest rates. However, A firms increased borrowing much less. Thereafter, the pattern was drastically different. In the 21 months from March 1990 to December 1991, loans to A firms rose by 214 percent, while those for AAA firms rose 92 percent. This period coincided with the rapid accumulation of finished goods stocks by A firms noted above.

The period from December 1991 to June 1992 was also remarkable. Working capital loans rose very slightly for AAA firms but fell slightly for A firms. This suggests that the commercialization in late 1991 of the nine banks spun off from the National Bank of Poland (the central bank, and before 1989, Poland's mono bank) and the appointment of supervisory boards, combined with closer monitoring by the Ministry of Finance of the bad loans portfolio, were having the desired effects.

Table 4 shows that the ratio of working capital loans to total operating costs more than doubled for A firms between March 1990 and December 1991, while almost no change occurred for AAA firms. This suggests that the big increase in working capital loans to A firms did not support a higher level of activity, but was a result of rolling over interest payments as they fell due and financing growing stocks of inventories.

Figure 5 shows the investment loans from banks from December 1989 to June 1992. AA firms' borrowing for investments jumped at the start of the economic transformation program and then stagnated. Between December 1989 and mid-1991, investment loans for A and AAA firms grew at about the same rate. Only after mid-1991 did investment loans to AAA firms begin growing faster than those for A firms. The more successful AAA firms are presumably investing. But the fact that A firms have been receiving investment loans as well, despite rapidly dropping capacity utilization and shrinking profitability, suggests that funds are being used for other purposes.

Table 4 also examines the dynamics of net lending (interfirm credit measured as receivables minus payables). The table confirms the view that such credit served as a substitute for bank loans. This result shows up especially dramatically in 1992, when the curtailment of bank loans led A firms to sharply increase interfirm borrowing. Lending by the bet-

Table 4. Borrowing and Lending Behavior of Firms, December 1989–June 1992

Percent

Ratio	*Financial rating*	*December 1989*	*March 1990*	*June 1990*	*December 1990*	*March 1991*	*June 1991*	*December 1991*	*March 1992*	*June 1992*
Working capital loans to operating costs[a]	AAA	49.5	84.3	111.6	96.0	90.2	116.0	86.8	88.6	89.7
	AA	24.5	26.4	48.2	34.2	38.0	50.9	70.8	50.7	45.4
	A	93.3	73.7	118.5	142.4	149.3	157.4	176.0	217.1	207.4
Net interfirm lending to sales[b]	AAA	68.5	88.4	100.3	54.6	77.4	81.2	54.1	57.3	54.1
	AA	59.4	73.7	104.6	43.7	57.5	53.6	−97.4	−36.6	−6.1
	A	64.7	71.7	71.4	49.9	45.6	37.7	−32.8	−9.9	−33.2

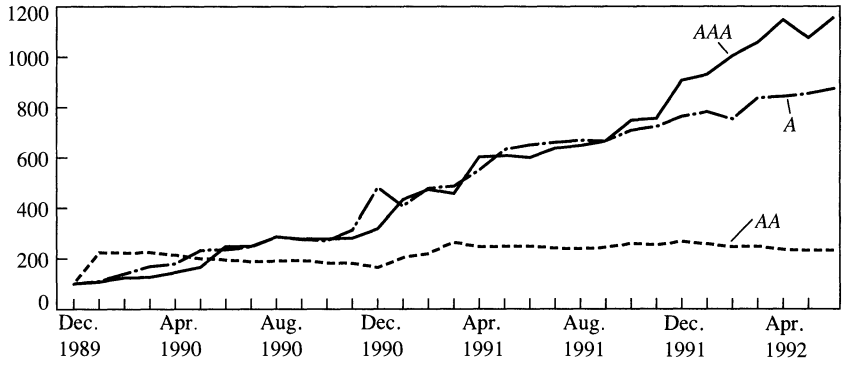
Source: Authors' calculations based on a survey of firms.

a. Working capital loans were calculated by aggregating the loans of firms of similar financial performance and expressing them as a percent of the total cost of sales.

b. Net interfirm lending was measured by aggregating receivables minus payables for firms of similar financial performance and expressing the result as a percent of total sales. Manufacturing firms are net lenders to distributors and to other manufacturers.

Figure 5. Investment Loans, December 1989–June 1992

Index, December 1989 = 100



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.

ter-off AAA firms stabilized in 1992, suggesting that they are exercising greater caution.

The last leakage at the microeconomic level is tax arrears. Table 5 shows these arrears to be substantial for both AA and A firms. Because A firms by definition did not owe income tax in 1992, we conclude that the arrears stem from the dividend and excess wage tax payments. By contrast, AAA firms are virtually current on tax payments.

Interest Burden

The evidence suggests that A firms financed growing inventories through increased working capital loans. Figure 6 plots the ratio of interest payments to profits before interest and taxes. Beyond mid-1991, A

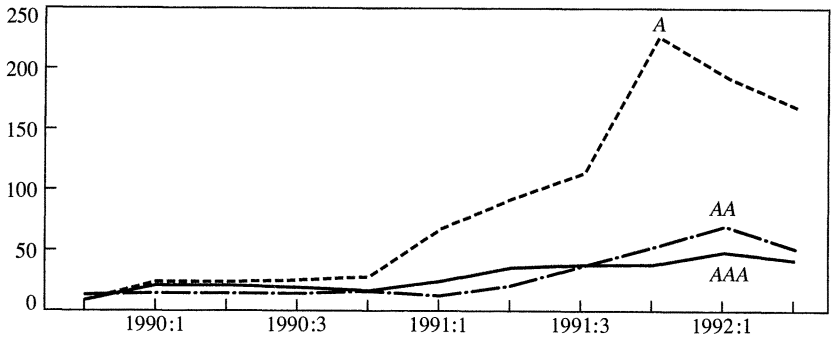
Table 5. Ratio of Tax Arrears to Taxes Due, January 1990–June 1992

Percent

Financial performance	*January–December 1990*	*January–December 1991*	*January–June 1992*
AAA	1.8	3.3	3.7
AA	0.2	17.4	26.8
A	5.0	42.7	50.8

Source: Authors' calculations based on firms in the survey, which are sorted according to their financial performance.

Figure 6. Interest Burden of Firms, 1989:4–1992:2[a]



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.
a. The interest burden is defined as the ratio of interest payments to profits before interest and taxes, where both the numerator and the denominator are cumulative within the year.

firms were unable to meet interest payments. For AAA firms, this burden never exceeded 50 percent.

Wage Setting and Decapitalization

Our evidence suggests that the most profitable firms pay the highest excess wage tax (or PPWW)[15] but are the least decapitalized. In fact, these firms (the AAA firms) are also the ones that have been investing the most.

Table 6 shows that for all three groups of firms, average wages for selected months were level at the beginning of reforms. AAA wages ran about 25 percent ahead of A wages by December 1991, but the gap narrowed to 17 percent by June 1992. By then, AAA firms had actually frozen nominal wages, while AA and A firms had increased such wages. Notably, the AAA wage in June 1992 was significantly below the national average of 2.4 million zloty reported by the Central Statistical Office. Table 7 shows PPWW per worker for 1990, 1991, and the first six months of 1992. The table demonstrates the link between higher profits and wages.

15. The excess wage tax, better known by its Polish acronym, PPWW, is a punishing progressive tax paid on wage awards in excess of norm wages. The highest marginal rate reaches 500 percent (subsequently lowered to 400 percent and then 300 percent). Norm wages are determined by fractional indexation to inflation. September 1989 was chosen as the base month, to neutralize the wage explosion of the last quarter of 1989 that occurred in anticipation of end-year wages being used as the base.

Table 6. Average Wages for Firms in the Survey, December 1989–June 1992
Thousands of zlotys per worker

Financial performance	*December 1989*	*June 1990*	*December 1990*	*June 1991*	*December 1991*	*June 1992*
AAA	658	918	1,568	1,573	2,178	2,169
AA	765	1,014	1,763	1,334	1,885	2,017
A	603	852	1,395	1,440	1,737	1,858

Source: Authors' calculations based on firms in the survey, which are sorted according to their financial performance.

Table 7. Excess Wage Tax per Worker, January 1990–June 1992[a]
Thousands of zlotys

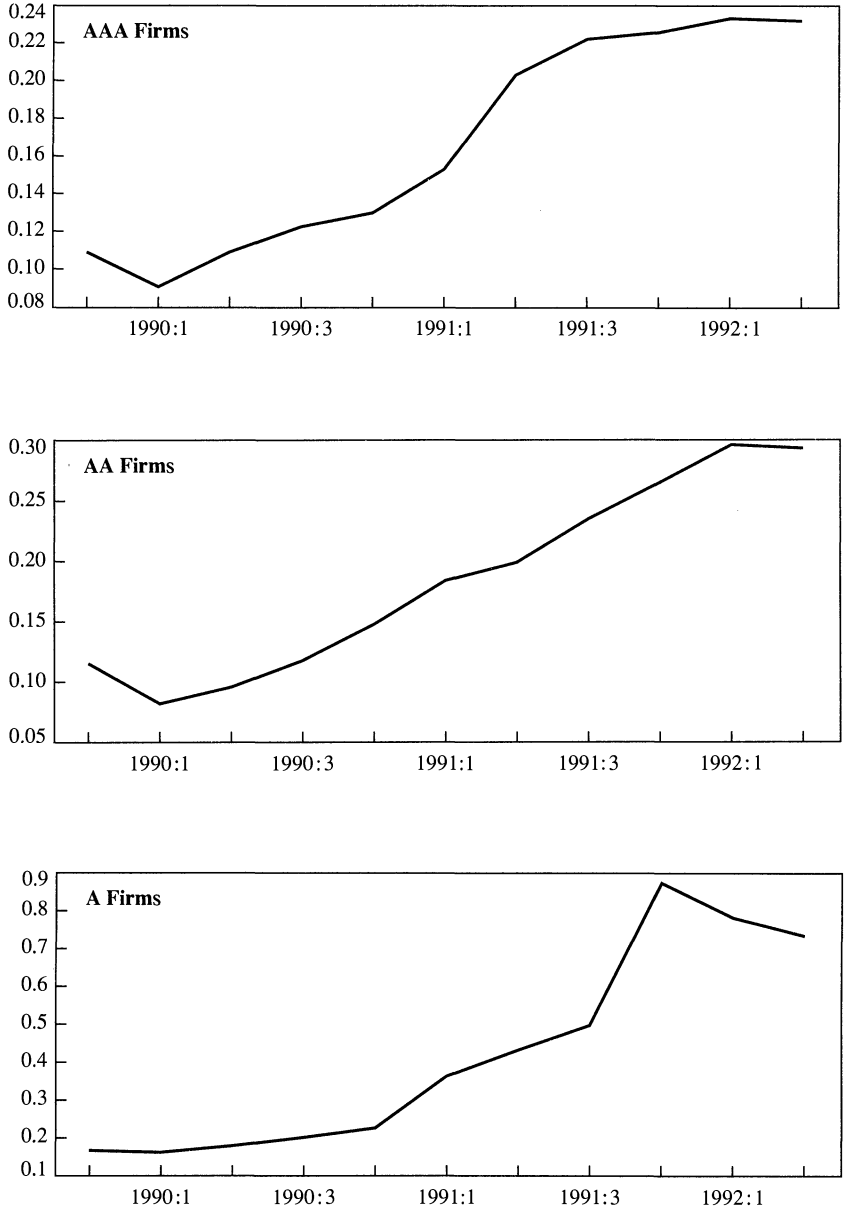
Financial performance	*January–December 1990*	*January–December 1991*	*January–June 1992*
AAA	3,655	6,500	1,635
AA	5,675	4,740	219
A	1,319	1,518	256

Source: Authors' calculations based on firms in the survey, which are sorted according to their financial performance.
a. The excess wage tax, PPWW, is a progressive tax levied on wages exceeding the norm of wages.

A useful measure of wage restraint is provided in figure 7, which plots the share of wage costs in a crude measure of gross value added (GVA) (pretax profit plus depreciation plus wage costs equals gross value added). The starting point for the graph is artificially low because of the stock profits of late 1989 and early 1990. Moreover, a huge compression of real wages occurred in the first quarter of 1990 to offset the shock of higher costs and interest rates. The collapse of gross value added underlies the sharply rising share of wage costs in gross value added for A firms, consuming virtually all the GVA by 1992. For AAA firms, this share rose, but did so at a diminishing rate. These results show that the higher wages in AAA firms are accompanied by a maintenance of surplus gross value added. This indicates a bargaining solution by which surplus is shared between labor and capital.

Table 8 contains two measures of decapitalization. The first is the ratio of accrued PPWW to disposable cash; this represents the capacity to pay PPWW after paying income tax and the dividend, and adding back depreciation, which is a noncash expense. The second compares accrued PPWW payments to depreciation (recall table 5 on tax arrears). According to the first measure, AAA firms and AA firms have roughly

Figure 7. Ratio of Wages to Gross Value Added, 1989:4–1992:2[a]



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.

a. The figure shows wages as a fraction of gross value added, defined as pretax profits plus depreciation and wage costs, where both the numerator and denominator are cumulative within each year.

Table 8. Measuring and Confirming Decapitalization, 1990–92
Percent

Ratio	*Financial performance*	*January–December 1990*	*January–December 1991*	*January–June 1992*
PPWW to disposable cash[a]	AAA	10	19	8
	AA	12	20	2
	A	7	−12	−4
PPWW to depreciation	AAA	90	48	18
	AA	66	17	1
	A	36	13	4
Investment to depreciation	AAA	147	144	. . .
	AA	125	134	. . .
	A	82	80	. . .

Source: Authors' calculations based on firms in the survey.
a. PPWW is the Polish excess wage tax. Disposable cash is defined as pretax profit minus income tax and dividends plus depreciation.

the same results, but A firms are clearly in a state of decapitalization. (A firms as a group had pretax losses in 1991 and 1992.) The trend of the second measure is interesting. All three groups displayed a strong downward trend. The last part of table 8 provides further evidence of decapitalization in A firms. Investments comfortably exceed depreciation for AAA and AA firms, but are lower for A firms in 1990 and 1991.

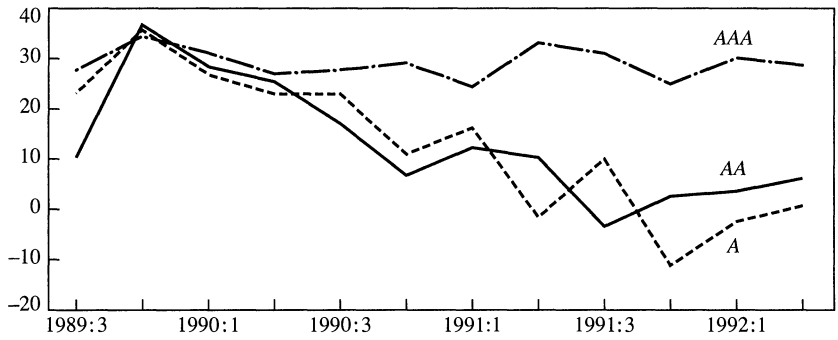
From these findings, we draw two conclusions. Profitable companies are not prone to decapitalization, and the wage-setting process seems to be a bargaining solution between workers and management. By contrast, decapitalization is pronounced in firms suffering losses. These firms are also heavily indebted, employ the largest number of workers, and have experienced steady declines in their real sales. Decapitalization can thus be interpreted as more of an adjustment phenomenon than a deliberate attempt to squander state assets.

Success Stories: Good Luck, Good Management, and Governance

The sharp contrast between the performance of AAA and A firms is underscored by figure 8, which plots quarterly underlying profitability.[16]

16. Underlying profitability attempts to track the profit rate on the basic business of firms, abstracting from sales of assets and net extraordinary gains. See appendix B.

Figure 8. Underlying Profitability of Firms, 1989:3–1992:2[a]



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.
a. Underlying profitability is measured as pretax profits plus the turnover tax minus net other income and the balance of extraordinary gains, expressed as a percent of sales. See appendix B for more information.

Interestingly, not much difference appeared between AAA and A firms at the start of the sample period, but the gap widened with time. Not surprisingly, the ratio of other income (mainly, sales and leasing of assets) to sales is the highest for A firms. Figure 9 plots this by quarter for 1991 and 1992.

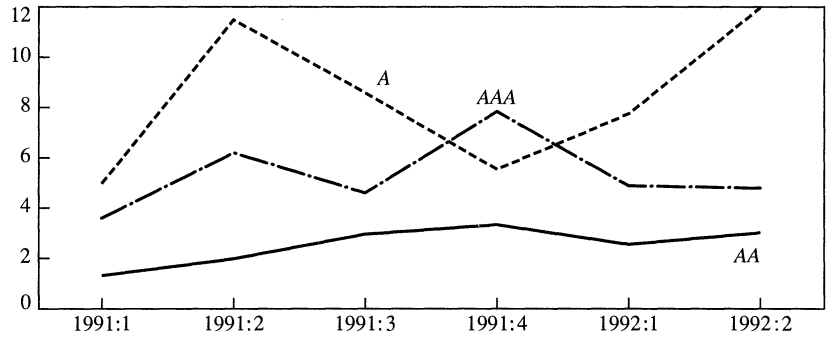
Good Luck

The group of AAA firms has been dominated by chemical and food sector companies, while in the A group, light manufacturing companies are the most numerous (see table 1). In fact, light manufacturers—and more generally, companies making consumer goods—were more deeply affected than the heavier sectors by the initial collapse of output following the big bang. Furthermore, they have continued to lag behind. Table 9 shows that these companies faced much stiffer import competition (measured by the growth in the imports/domestic sales ratio).[17] Table 10 shows that they were able to raise prices much less following price and foreign trade liberalization than the other sectors. This table shows the remarkable positive correlation between the cumulative producer price increases from December 1989 to June 1992 and the number of AAA firms in the different sectors.

17. In addition, we suspect considerable competition from unrecorded imports of light goods, which are easier to import than heavy machinery.

Figure 9. Ratio of Other Income to Sales, 1991:1–1992:2[a]

Percent



Source: Authors' calculations based on firms in the survey, which are sorted according to financial performance.
a. Other income consists primarily of sales and leasing of assets.

Table 9. Import Competition by Sector, 1989–91

Imports as a percent of sales

Sector	*1989*	*1990*	*1991*
Metallurgy	12.5	8.3	9.7
Electromachinery	21.2	25.3	38.9
Chemical	23.9	18.2	29.4
Light	9.0	11.9	18.0
Food	6.3	6.3	10.6

Source: Authors' calculations using *Rocznik Statystyczny* (various issues).

The differential ability to raise prices constitutes the "good luck" component of the success stories. Table 10 traces the dynamics of the producer price increases. The table shows that the bulk of the inflation took place in 1990 and decelerated thereafter. In fact, 1990 inflation can be interpreted largely as price level and relative price adjustment following price and trade liberalization on January 1. This leads to the conclusion that prices for light manufactures were much closer to world prices than were those for heavier goods.[18] Tables 9 and 10 suggest that product market competition was higher for A firms, that they faced more elastic demand, and that the random pre-reform allocation of resources for AAA firms was more in sync with the new price system.

18. For discussions of inflation and price-level adjustment in 1990, see Bruno (1992), Pinto, Coricelli, and de la Calle (1990), and Wellisz, Kierzkowski, and Okolski (1991).

Table 10. Producer Price Increases by Sector, December 1989–June 1992
Percentage change

Sector	*Dec. 1989–Dec. 1990*	*Dec. 1990–Dec. 1991*	*Dec. 1991–June 1992*	*Dec. 1989–June 1992*	*Number of AAA firms*
Metallurgy	170.10	16.54	16.00	265.14	5
Electromachinery	173.22	24.20	13.37	284.71	5
Chemical	207.37	26.65	17.72	358.27	10
Light manufacturing	108.58	21.86	9.85	179.21	3
Food	144.22	39.85	16.69	298.54	8

Source: Authors' calculations using *Biuletyn Statystyczny* (various issues) and survey data.

Good Management

AAA firms are set apart by their superior ability to sell and thereby improve productivity as labor shedding continues. As table 2 shows, labor in this set of firms was reduced by 21 percent on average—no mean feat. Despite high capacity to pay PPWW as discussed above, AAA firms' wages remained below national averages. AAA firms also restrained borrowing and never let the interest burden get out of hand. AAA firm managers were also apt to stress product mix changes and improved marketing as factors helping sales; were highly critical of the time wasted by the fine-tuning of the PPWW (discussed below); and had the time to focus on strategic planning. By contrast, their counterparts in A firms were bedeviled by a crushing debt overhang, the largest average amount of labor and, as we shall see below, the highest excess employment.

But A firm managers have not been idle. These firms reduced labor the most. Like the other firms, A firms have no problem covering materials and energy costs (as shown in table 3). Many A firms have also started basic marketing efforts and are focusing on improving product quality. Thus these firms could show promise with downsizing and debt restructuring and should not be written off.[19] In sum, managers across the board have defied the stereotype of being inert and driven by "perverse" incentives. Later we shall see why.

19. Blanchard (1992) discusses various aspects of restructuring enterprises and dealing with the resulting bad loans problem in banks. Van Wijnbergen (1992) provides a detailed and innovative framework for addressing the enterprise-bank nexus and the role of banks as agents of change.

Governance

The AAA companies consist of 16 SOEs, as well as 13 commercialized enterprises and 2 private companies (which will be referred to loosely as the 15 commercialized companies). In trying to ascertain whether commercialization helps, three factors are worth noting. First, firms were commercialized around mid-1991, leaving only one year of sample performance. Second, as discussed earlier, commercialization has been driven by the desire to secure tax advantages and to prepare for the beleaguered mass privatization program, not necessarily by a desire to improve governance or to secure better managerial incentives and performance. Third, SOEs do not receive any special benefits and operate on the same market terms as all other companies.

Appendix C compares the experiences of state-owned AAA firms with their commercialized and privatized counterparts (labeled "other enterprises" in the appendix tables). Commercialized firms employ many more workers (almost 800 more per firm). They have lower sales and labor productivity, but higher loan amounts and interest payments. They pay similar wages but much less PPWW out of disposable cash; pay much higher dividends (asset taxes) as a share of profits after income tax; and have been less profitable. But if the two cigarette companies in the AAA SOE group are excluded, the indicators for SOEs and commercialized companies are similar (although commercialized companies employ far more workers and have a bigger debt and dividend burden).[20] On some key indicators, commercialized companies seem to have an emerging edge.

The fact that commercialized companies are much larger and carry a bigger dividend burden indicates self-selection. The elimination of the workers' council that accompanies commercialization would simplify decisionmaking, thus yielding a larger benefit to bigger companies, which are more unwieldy. Moreover, as explained earlier, managers hoped that the dividend burden would be reduced.

The acid test of whether commercialization helps is how it is viewed by managers—the key players in the transformation. Managers in our

20. Cigarette companies are immensely profitable, but also pay huge turnover taxes. These, together with such taxes on gasoline and alcohol, are significant revenue earners.

survey recognized the importance of changes in governance. They expressed a distinct preference for commercialization and, after restructuring, privatization.

Nonfinancial Adjustment

Hard currency exports took off in 1990. This led to an almost embarrassingly large increase in reserves that rendered use of the $1 billion zloty-stabilization fund unnecessary.[21] However, our firm-level evidence questions the common presumption that more exports mean more adjustment. An important finding of our first set of surveys was that the export boom resulted from a switch to the West because of weak domestic demand, rather than rising export profits. In fact, as we reported in our 1992 paper, export profitability fell to low and even negative levels by the first quarter of 1991, mirroring the real appreciation of the zloty during 1990 and early 1991 (when the exchange rate remained fixed at its January 1, 1990 level).

Diversion from the domestic and Eastern European and Soviet export markets to the West is obvious from aggregate data: hard currency exports grew by some 40 percent, while total industrial sales fell by 23 percent and CMEA exports shrank by 10 percent in 1990. However, what is not so obvious is that this meant that exporters had the ability to meet Western quality standards. The hard currency export boom coincided with the persistence of CMEA trade in 1990, which continued subsidization of energy (gas) and material (iron ore) inputs. At the same time, trade with the West was liberalized and the transferable ruble/dollar rate (implied by the zloty/dollar and zloty/transferable ruble rate) depreciated significantly, falling from 2.97 TR/dollar in 1989 to 4.52 TR/dollar in 1990.[22] The boom was the most prominent in the chemicals and

21. This fund was set up by a group of Western countries to support Poland's fixed nominal exchange rate anchor. The fact that it was not used does not mean that the fund was irrelevant; it provided an ex ante signal of credibility.

22. This can be seen by writing a simplified profit function in dollars as follows: profit ($) per unit of exports $= p_x - p_m(m/E)$, where p_x is the (sticky) dollar price of unit exports to the West, p_m is the (sticky) ruble price of imports, m is the volume of imported CMEA inputs per unit of exports (fixed by short-run technology), and E is the implied TR/dollar rate. The depreciation of E raised unit profitability of exports to the West at the same time that a demand constraint appeared in the home market.

Table 11. Management Response to 1990 Export Boom
Percent of total

Answer	*Exports involved*[a]
The same product[b]	91
Diversion in 1990[c]	89

Source: Based on authors' survey of metallurgy and chemical firm managers.
a. Total exports refer to the 1990 exports of the firms polled.
b. Percent of total exports involved based on managers who answered that the 1990 export boom to the West was a result of diverting the same products that were previously sold to CMEA countries and to domestic Polish markets.
c. Percent of total exports involved based on managers who thought that firms that were able (because of product quality and technology) to divert exports in 1990 without waiting for the 1991 collapse.

metallurgy sectors; both benefited from implicit CMEA subsidies on inputs. The relative profitability of exporting to the West increased so drastically, especially for firms importing inputs from the East, that it is likely that firms that could reorient did so *en masse* in 1990, without waiting for the 1991 CMEA collapse and dollarization of prices. It is tempting to believe that most of the reorientation took place in 1990 and those firms that were affected in 1991 were those that simply could not sell in the West at any price.

We tested this view by asking managers of metallurgy and chemicals firms two questions. First, did the hard currency export boom to the West in 1990 result from diverting the same products earlier sold in the CMEA and Polish markets to the West or from selling new products? Second, did firms that were able to (because of product quality and technology) divert sales from the East to the West immediately in 1990, without waiting for the 1991 collapse? Table 11 summarizes the answers we obtained.[23]

The answers show that firms exporting to the West in 1990 were selling the same products and had diversified to Western markets. However, these firms were not necessarily more competitive or better adjusted than those selling at home under the pressure of low import barriers. Although exceptions are possible, as managers pointed out, it is almost impossible to develop new products and adjust technology in one year. On implicit CMEA subsidies, the clearest answer came from

23. These firms were the same subset for which we presented regression results in our 1992 paper. The firms represent a significant percentage of total metallurgy and chemicals exports in 1990 (24 percent and 33 percent, respectively). The regression results suggest that weak domestic demand, rather than rising export profitability, stimulated exports.

a manager of a chemicals firm who said, "In 1990, energy in the form of gas was cheap. We exported it in the form of fertilizer."

These results support the view that in a neutral trade regime like Poland's during the ETP—with no anti-export bias, no quota restraints, and low tariffs—more exports as a rule do not mean more adjustment. Trade liberalization imposes discipline on all firms that produce tradables, whether exported or sold at home.

Dealing with Social Assets

In the January 1990–March 1991 period covered by our first round of surveys, worker housing and social assets (such as vacation resorts, health centers, sports amenities, cafeterias, kindergartens, hostels, cultural centers, and vocational schools) presented a significant financial and huge managerial burden; no apparent solution appeared in sight. Although the problem is still considered serious by managers, evidence this year indicates that imaginative solutions have been developed, focusing largely on cost recovery.

Generally, these assets are taken over by local communities, often for free, or rented or bought by small and mid-size private firms or by ventures set up by former employees of the enterprise. Rental contracts are common; one firm has no fewer than 54! Nevertheless, social assets remain on the books; sales are difficult because the market is saturated and ownership rights remain unclear. The process of giving the assets away is slowed by both the costs for a potential donor (including gift taxes and the obligation to establish clear ownership title) and the reluctance to take on high maintenance costs.

Worker housing is by far the biggest problem, especially for the larger firms, although the problem is not as severe as last year. Managers noted that the financial burden had eased because of the rise in controlled rents and utilities, which also apply to firm-owned housing. Many offered concrete suggestions:

—Remove worker housing from the umbrella of controlled rents and utilities and permit commercial operation.

—Enact laws allowing eviction of nonworkers, who benefit from the firm-financed subsidies.

—Create a system of owner mortgages (which would apply more generally).

—Speed up clarification of ownership rights and titles to property so that firms could more easily divest themselves of such property. Flats could even be given away free.[24]

While posing an unnecessary burden in times of crisis, social assets never really weighed that heavily in the cost structure. For most firms, these costs accounted for less than 2 percent of total cost; in only four firms (out of 64) did this amount surpass 5 percent. Managers identified the easing of the managerial burden as the main benefit in resolving issues surrounding social assets and working housing. It is worth noting that the Government of Poland has recognized the need to address title and ownership of such "superfluous" assets. It should also be stressed that at this stage, the problem is largely a legal one relating to property rights and will not be solved by privatization alone. To the contrary, private investors may be deterred if this issue is not resolved.

Improving Distribution

In 1989, state-organized wholesale trade, which had frequently enjoyed (local) monopoly power, began disintegrating. By the end of 1990, liberalization of wholesale trade fostered growing competition from private firms. Coupled with high interest rates and weakening domestic demand, traditional networks in nearly all sectors collapsed.

This became a real challenge for SOE manufacturers, never well equipped in marketing and after-sales service and unaccustomed to dealing with a multitude of small customers who often were financially unviable. Moreover, the new traders, consisting predominantly of small private "wholesalers," preferred dealing with private importers because of their greater flexibility and cooperation in evading taxes. The collapse of traditional trade networks greatly strengthened import competition, particularly in consumer goods, and contributed to the crisis in the state industrial sector.

After the initial shock, SOEs started responding. Where possible, producers have established direct contact with the ultimate consumers or with retailers. In metallurgy, managers reported that in 1992 more than 80 percent of sales were direct deliveries to the ultimate user; in electromachinery, the percentage was only slightly lower. Two years

24. Otherwise, a firm would have to buy the asset at book value before giving it away.

earlier, steel mills had only a few customers—and sometimes only one—who would take care of the entire distribution process. The producer was fully isolated from the market.

In consumer goods sectors such as food processing and light manufacturing, a similar process is underway. More than half of output is sold directly to retailers to avoid wholesalers' commissions and contacts with partners that are often small and unviable. Firms are getting rid of unreliable partners, choosing better ones, and strengthening them through a system of price concessions and relaxed terms of payment in return for controls on prices and territorial distribution of deliveries. These arrangements, however, are only part of the solution. The best firms are building up their own networks of reliable distributors for wholesaling and storage, sometimes supplementing these with factory-sponsored retail shops.

Improving distribution is not an easy task. It takes financial resources, resolution, and competence. In many respects, it is more difficult for the SOEs to sell domestically than abroad, where quality requirements are higher but distribution networks are better. All in all, improvement of distribution is one of the most important indicators of adjustment.

Key Aspects of the Transformation

Quantitative evidence and our discussions with managers indicate that four stimuli have been paramount in inducing firms to adjust. First, trade liberalization has forced firms to abandon cost-plus pricing and pay attention to costs and efficiency—with some success. Second, the government's determination to eliminate manufacturing subsidies and external support mechanisms has compelled firms to focus on internal efficiency and take the initiative for change. Likewise, the realization that the government does not have the resources for a bailout has led firms to rely on their own resources to find new products and markets. Third, tighter supervision of state-owned commercial banks and increasing reluctance of good firms to lend to weaker ones has hardened the budget constraint. Fourth, managers care about their reputations, identify their own success with the firm's, and realize that based on their experience, they have a future with the SOE as is or when it is privat-

Table 12. Changing Funding Structure of A Firms, January 1990–June 1992
Percent of total funding

Source	*End of December 1990*	*End of December 1991*	*End of June 1992*
Working capital loans	94.60	57.50	47.30
Investment loans	25.10	18.80	19.80
Capitalized interest	1.20	1.90	1.90
Tax arrears	7.39	15.77	24.23
Interfirm borrowing[a]	−28.39	6.04	6.71

Source: Based on authors' calculations of firms in the survey that had a financial performance rating of A.
a. Interfirm borrowing is defined as payables minus receivables.

ized. This section discusses three elements of this transformation: the hardening of the microeconomic budget constraint, PPWW reform, and managerial attitudes and incentives.

The Efficacy of Hard Budgets

By and large, subsidies to SOEs have been eliminated. Bank loans were also tightened through improved supervision and control of the state-owned commercial banks at the end of 1991. Our sample evidence suggests that AAA firms are becoming more cautious in lending to other firms. The hardening of the firm-level budget constraint shows up vividly in table 12 on the changing funding structure of A firms.

A clear substitution of interfirm loans for bank loans occurred between December 1990 and December 1991. Bank loans diminished in importance and were replaced by a large increase in interfirm borrowing and tax arrears. As a comparison of June 1992 and December 1991 shows, tax arrears have continued to rise while bank loans have continued to drop and interfirm borrowing has stabilized. But tax arrears do not represent new sources of cash. The signal is clear: firms should not expect anyone to bail them out.[25] Thus while it is difficult to pinpoint exactly when the budget constraint will have hardened, the process is certainly moving in the right direction. Interestingly, A firms have not been

25. The main leakage now is tax arrears, primarily on the dividend and PPWW. This leakage is difficult to stem without introducing bankruptcy, which is not credible because of limited court capacity and high social costs. An alternative may be to handle the arrears through the enterprise-bank conciliatory proceedings now being designed in Poland.

Table 13. Bank Credit and Financial Opportunity for Firms, January 1990–June 1992
Scale, 0–5

Question	*Financial performance*	*January–December 1990*	*January–December 1991*	*January–June 1992*
Ease of obtaining bank credit	AAA	3.0	2.8	3.2
	AA	3.1	2.4	1.3
	A	3.2	2.0	1.2
Involvement of banks	AAA	2.5	3.0	3.2
	AA	3.1	3.6	3.7
	A	2.4	2.6	2.8

Source: Based on authors' survey of firms. Managers were asked to identify the ease of obtaining bank credit and the extent to which bankers seek information about enterprise operations, and rank them on a scale of 0 to 5, with 5 being easiest. Responses of firms of similar financial performance were then averaged.

idle. They shed the most labor and appear to be operating on an assumption of no bailouts. Thus the share of wages in gross value added fell in 1992 for these firms, as shown in figure 7.

The managers we surveyed felt that the firm-level budget constraint had hardened and was now credible. They unanimously reported changed bank behavior. As they described it, in 1990 banks acted like cashiers, eager to dole out money. By 1992, banks were behaving like partners with an equity stake in the company and had become highly conscious of quality. Managers also indicated that because of rising competition among banks for the limited number of sound clients, good firms were bargaining for lower interest rates.

Table 13 shows the changing perceptions of managers over time regarding the ease of obtaining credit and the extent to which their bankers seek information about enterprise operations. We labeled this feature "bank involvement" and based our averages on a 0–5 point scale ranking.[26] These results show that AAA firms experience the same ease in getting loans as in 1990, while A firms experienced a sharp diminution in 1992. Impressively, all types of firms reported increased bank involvement.

When asked why they believed bank behavior was changing, managers commonly gave two replies. First and most frequently, managers stated that banks have no option but to change because of their vanishing net worth and deteriorating portfolios. Second, managers said

26. In such responses, the trend is more relevant and easier to evaluate than the absolute value of the response.

that banks, like enterprises, are learning. Although managers never alluded to it, there is a remarkable coincidence between perceptions regarding tighter bank behavior and the change in the governance in late 1991 of the nine commercial banks spun off from the National Bank of Poland. Changes included commercialization, supervisory board control, and strict monitoring by the Ministry of Finance, including a freeze in lending to some 2,000 suspect firms. At the same time, banks have been benefiting from the skills acquired from twinning with foreign banks.

The budget constraint is also hardening internally. Increasingly, firms have installed cash management and reporting systems. Profit centers have been created in some cases to pinpoint responsibility and ease performance measurement. There are unmistakable signs that financial management is strengthening.

There has been a remarkable change in interfirm credit. Strong firms are no longer interested in supporting weaker ones. Firms frequently create their own ranking lists of buyers, specifying which will be dealt with only on cash terms, which will receive two weeks' credit, and which will not be supplied at all. Some make use of published lists of firms in conciliatory proceedings published in newspapers such as *Rzeczpospolita*.

Tax arrears is the area where the least change is visible, as table 5 amply showed. Not only has the dividend (minimum asset tax) criterion not been enforced (firms have found all sorts of ways to persuade local tax chambers that deferments beyond the stipulated three months for triggering bankruptcy were justified), but any large-scale bankruptcy is not credible because of limited court capacity.

Excess Wage Taxation: Help or Hindrance?

Our quantitative evidence showed that AAA firms were much more efficient in labor usage than A firms. Table 14 contains managerial assessments of excess employment as of mid-1992.

The weighted average of excess employment (using the midpoint of the ranges in the table) for A firms is 14 percent and for AAA firms is 11 percent. This seemingly marginal difference needs to be put in context. A firms are typically larger, more labor intensive and have already shed labor much faster than AAA firms. The higher excess employment re-

Table 14. Excess Employment in Firms, June 1992
Number of firms responding

Financial performance	*Percent of excess labor*				
	0	*5–10*	*10–20*	*20–30*	*30+*
AAA	2	14	11	2	0
AA	2	4	1	1	0
A	3	6	7	7	0
Total	7	24	19	10	0

Source: Based on authors' survey of firms. Managers were asked to assess their firms' demand for labor.

ported by A firms is consistent with figure 7, which shows labor costs consuming an ever increasing share of value added. Labor reduction will obviously be an important part of any restructuring plan for A firms.

Has PPWW helped or hurt labor rationalization? Earlier results showed that PPWW is paid by the best firms, which are also the least decapitalized. As expected from an instrument as controversial as PPWW, managerial attitudes were mixed, although generally negative. PPWW was blamed for hampering workforce rationalization and flattening the wage structure because of the "average wage norm" basis for excess wage taxation. On a 0–5 scale, managers rated PPWW's negative impact on the wage structure as a 4.3.

Managers cited a social, rather than an economic goal—the desire to minimize unemployment—as the reason behind the change in formula for wage indexation from the wage bill in 1990 to the average wage norm in 1991. With only four exceptions out of 64, managers believe the wage bill formula is superior. Any attempt to shed labor, which is in excess, automatically raises the average wage. An extreme example of the perverse effects of the average wage norm was given by a firm in dire straits that shed 600 workers (25 percent of its workforce) and found it had to pay the PPWW because the average wage then exceeded the norm. Managers complained that the average wage formula directly impeded workforce management: hiring a good worker (who costs more) raises the average wage, while firing a bad worker (who costs less) does exactly the same. A wage bill norm would help speed up labor rationalization and also improve the relative wage structure.

Managers frequently repeated the assertion they expressed in our first set of surveys that strong managers with a clear, long-run vision of the firm did not need the PPWW to contain wage demands. Managers

expressed irritation at having to still deal with the PPWW, whose role and time they felt had passed. They complained about the time it wasted and the discrimination it represented vis-à-vis the private sector. On the other hand, some managers (of profitable and unprofitable firms alike) said that the PPWW presented a solid excuse for not raising wages. Others complained that it was impossible to offer workers rational incentives, a constraint private firms did not face. Managers admitted in 41 out of 64 questionnaires that removing the PPWW would result in a wage increase. AAA firms reported that they were likely to raise wages more often and more generously than A firms. However, only a handful of those that said they would increase wages expected the jump to exceed 20 percent. Managers identified three influences on wage setting: firm-specific liquidity, profitability, and comparisons with national average wages.[27] They regarded the PPWW as having reduced relevance for wage setting because of illiquidity and low profitability.[28]

Some managers complained about the discriminatory enforcement of the PPWW. The manager of one enterprise—which is profitable and current in all payments but whose wage is more or less at the national average—cited the example of a shipyard, which was paying about 30 percent more than the average wage, was in arrears on the PPWW, and had recently received a one-third reduction in debts (including in accounts payable to this manager's firm). Many of the managers we interviewed expressed such resentment against the most powerful giants of the Polish industry.

What about exceptions that give some firms a break on the PPWW based on selected efficiency criteria? Managers strongly opposed exceptions, even when they stood to gain from these. They mentioned that exceptions had never worked. One manager cited an example to show that well-meaning changes in policy, when combined with other policies, can have perverse effects. The proposed incentive, whereby a 100 percent exporter is exempted from the PPWW, could lead to a rush to export semiprocessed steel; this in turn could hurt finished steel producers because the 15 percent import tariff on semiprocessed steel exceeds

27. When asked the average wage, managers would give it and then instinctively compare it to the national average. The national average is an important yardstick for trade unions.

28. A firm does not actually have to be paying the PPWW for it to limit wages. Merely the threat of incurring it could have a restraining effect on wages.

the 3 percent tariff on finished steel. This example points to the difficulties of making exceptions on PPWW payments based on essentially arbitrary criteria. Managers were quick to point out that during the socialist era, all sorts of imaginative schemes of exceptions had been tried and invariably had failed.

Managerial Attitudes about the Government

In our interviews, almost without exception, managers endorsed hard budgets. When explicitly asked, they were indifferent about import tariff increases designed to help them. By and large, managers expected the government to stick to the original Balcerowicz policies that were embraced in the big bang.[29] Most saw no alternative and no chance of returning to the old system. (Only nine had any doubts; four of them were from the beleaguered light industry.) Managers were emphatic about the determinants of credibility. They stressed the importance of avoiding subsidies and bailouts and of not capitulating to strikes.[30] Managers emphasized the need to control the government deficit to avoid increases in inflation and interest rates. They repeatedly argued that planning is very difficult if inflation stays high and volatile. In addition, managers stressed that the government must be consistent in its discussions and actions. They noted that government officials have discussed the possible need to let state enterprises fail, at the same time that they have drawn up a state budget assuming sizable taxes from the state sector. Finally, managers said that the "stop-and-go" attitude toward mass privatization has considerably reduced the program's credibility. Managers of successful companies that were candidates for privatization were concerned that the proceeds would go to finance the deficit rather than to restructure the company.[31]

29. Leszek Balcerowicz, Minister of Finance and Deputy Prime Minister in the first postreform government, is widely regarded as the architect of Poland's economic transformation program.

30. Managers made this statement in the context of strikes occurring in the summer of 1992. At one point, these threatened to turn into a wave, but fizzled out as the government took a hard line—for example, in the case of the car company, FSM Tychy, that was negotiating with Fiat. Managers expressed little sympathy for strikers.

31. At present, privatization proceeds are treated as current revenue, even though sales of assets are involved. This artificially reduces the size of the deficit, putting less

It is noteworthy that managers did not include the need for higher import tariffs in their list of expectations from the government. Some managers even recognized the need for import competition; most were confident about their ability to deal with it. The only plea for protection came from a sugar factory, motivated by the European Community system for agriculture.

The change in attitude toward the role of the government is significant. In the days before the economic transformation program, the best managers bargained with the central authorities for favored allocations of subsidies and investments under the central investments program and delivered the production target in return without regard to marketability or cost. A typical manager was an engineer, whose entire professional career was connected with the same enterprise; as a specialist in production, he knew little about marketing and financial management. On the other hand, good managers knew how to deal with social conflicts within firms, a quality still in high demand in Poland.

Following the shock therapy of the ETP, managers seemed overwhelmed by the changes they had to deal with: big, sudden changes in relative prices, a demand constraint, and import competition. In addition, the SOEs—with their social assets, old technology, excess employment, and quality problems—hardly seemed the ideal springboard to a market economy. 1990 was a year of unsustainable performance and minimal adjustment; temporary favorable factors tided firms over. 1991 was the year of the CMEA shock and hope for government help—a hope that quickly vanished. That experience marked the start of deeper adjustment. Our interviews indicate that 1992 was a year of self-help and virtually no expectation of government help. The only plea was for stability in the rules of the game. This suggests that enforcement of announced penalties will be easier. Because examples of successful adjustment can be pointed to, and because expectation of bailout is limited to a small number of dinosaurs, the government can pursue a consistent policy without a fear of a systemic backlash.

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pressure on the government to introduce fundamental spending and tax reform. Privatization is discussed further below. In Poland's mass privatization program, groups of 15–20 companies will be managed by national investment funds to be run by well-known investment banks. These banks will be compensated partly through a success fee linked to the increase in the companies' value. See Frydman and others (1993).

Restructuring and Privatization

Managerial attitudes toward sequencing were overwhelmingly in favor of commercializing enterprises (as opposed to remaining SOEs) and restructuring before privatizing. Managers voiced straightforward reasons. Potential investors do not want to talk to workers' councils or deal with firms burdened with social assets, excess employment, and unmarketable products.

Interestingly, managers of commercialized SOEs were more apt to stress improved managerial compensation, while all managers assessed job stability about equally. Also, managers of commercialized SOEs reported more positive relations with trade unions than managers of pure SOEs, where the workers' council complicates the relationship.

It is also noteworthy that without exception managers underlined the need for restructuring before privatizing, especially in view of the problems of social assets, excess labor, enterprise division, and in many cases, debt overhang.[32]

Managers expressed skepticism about mass privatization for several reasons. They cited lack of clarity about the role of national investment funds (NIFs) in relation to a specific firm, and the division of responsibility and authority between firm management and NIFs. They discussed the problem of the firm's assets being "given" to the NIFs, even though the NIFs would not put their own money at risk. Finally, managers mentioned the perception that the main goal of the mass privatization program is to solve budgetary problems, not restructure firms.

Managerial Compensation

The system of managerial compensation remains unchanged in the SOEs, at least on paper. Managers still receive a multiple of the national average wage or the firm's average wage (ranging between five and seven times the basic wage) and are hired by the workers' council.[33] The council determines the basic wage. Managers also receive a bonus pay-

32. Pinto, Belka, and Krajewski (1991, 1992) describe organizational changes in sample firms between January 1990 and March 1991.

33. We encountered a sole exception: one manager had negotiated with the workers' council to receive only a percentage of profits.

ment, but the legislatively fixed link of managerial compensation to profits is weak and has been diminishing with time. Ironically, this link was the strongest in 1990, when financial measurement was strongly biased by all sorts of temporary factors.

An example will show the extremely weak link between profits and managerial bonus. In 1990, if the firm made profits of $50 million (the base being profits before tax minus PPWW), the managers' bonus would be about $3,800 for the year. In 1991, this bonus would have dropped to about $2,800 for the year. In a case where the manager's basic wage is seven times the average wage in the firm, this amounts to a onetime rise in monthly wages of about $45 in 1990 and only $33 in 1991.

When managers who had clearly engaged in deep restructuring (introducing new products, venturing into new markets, or bringing firms back from the verge of liquidation) were asked what motivated them to take a long-run view given the compensation system, they mentioned such motivations as emotional reasons, patriotism, and personal ambition. However, a few candidly admitted that they expected to gain from privatization, hoping to acquire part of the shares at below-market prices. Such a benefit would be their deferred compensation. Managers were secure about keeping their jobs after privatization. They reasoned that they are the best repository of restructuring talent in this economy; even if fired, they expected to find new jobs easily.

Lessons from Poland: Hard Budgets and Implicit Incentive Structures

Hard budgets, import competition, and concern for managerial reputation can induce significant restructuring even when changes in governance lag behind. This does not mean that commercialization, privatization, and better managerial incentives are redundant. Managers—the key players in the transformation of SOEs—expressed a clear preference for commercialization and privatization preceded by restructuring. Further, they expect to gain when privatization does arrive. But a transparent incentive system may be preferable to this implicit expectation of gain as uncertainty about the shape and speed of privatization grows.

Although restructuring has been impressive in successful and less successful companies alike, many problems persist. Social assets are

still on the books and excess employment remains. As the tables in appendix C show, even AAA companies have a way to go in restoring productivity and sales levels (although both factors have been rising since mid-1991). What is clear is that hard budgets and competition have led to substantial restructuring. With firms clearer about their long-term goals and the banking system beginning to work, SOEs are much better prepared for privatization by whatever means. In short, the delay in privatizing has not led to wasted time or decapitalized assets—thanks to hard budgets and competition.

Hard budgets are effective in inducing enterprises to transform, but take time to become credible. It was only after mid-1991—more than 18 months after the big bang—that managers were finally convinced that no bailouts would occur. Tighter control over commercial bank lending also did not occur until late 1991. Finally, better-off firms became increasingly reluctant to help less well-off firms through interfirm credit. It is worth stressing that despite periodic political instability, the Government of Poland held a consistent policy line—no bailouts—even though this stance may have appeared unreasonable at the time. Given the budget's tremendous dependence on state sector enterprises, the government apparently had every incentive to reverse policy, introduce protection, and soften budgets. But it did not do so, and eventually firm managers began to believe the government's hard line.

The rapid elimination of relative price distortions that flowed from big bang liberalization was also important. Trade liberalization placed tight constraints on cost-plus pricing behavior. Firms were forced to look at efficiency and costs and at the marketability of their products, rather than simply emphasizing production targets as they had in the past. With fixed exchange rates, foreign prices provided a nominal anchor for domestic prices, thereby not only establishing clear signals and performance yardsticks, but also imposing discipline on domestic prices. The decisions to devalue in May 1991—the first relaxation of the fixed exchange rate 17 months after the big bang—and subsequently to move to a crawling peg were initially seen as an undesirable relaxation of the nominal anchor. However, they actually helped by avoiding excessive real appreciation, which was beginning to hurt the tradables sector. The changes coincided with a recovery in sales. While the shock of the big bang and the initial fixity of the exchange rate were invaluable in establishing the right prices, it would have been counterproductive to keep

the exchange rate fixed indefinitely without regard to the real exchange rate.[34]

A punitive tax-based incomes policy can control wage expansion, helping to secure the initial goal of stable prices. However, if maintained for too long and kept too finely tuned in its exceptions, such a policy can become a burden and obstruction. It is essentially a penalty, not a good incentive or distributional mechanism. If current goals are making sure that firms earn profits and that long-run investments take place, it would be better to use more direct incentives, such as linking managerial pay to profits or changing governance to emphasize long-run considerations.

Managerial performance and attitudes highlight the vital but neglected role of managers in the economic transformation and underline the importance of reputation effects and implicit incentive structures in affecting managers' behavior. On the surface, SOE managers have no stake in those enterprises, either in terms of ownership or profit-linked compensation. But managers believe that good performance will be rewarded at the time of privatization and that their reputation, and hence compensation, will depend upon their performance today. This is a major factor in explaining why SOE firms have been more farsighted than expected.

Summing up, Poland's experience shows that shock therapy can have valuable effects by giving an unambiguous signal, changing relative prices, and indicating the government's commitment to hard budgets. But Poland's experience also shows that rapid changes in ownership may be unnecessary, and that restructuring before privatization may be desirable.

APPENDIX A

Description of the Sample and Data

THE 75 FIRMS in the sample are drawn from five manufacturing sectors: metallurgy; electromachinery; chemicals; light manufacturing (such as textiles and leather); and food processing. The original criterion for se-

34. It is well-known that the nominal exchange rate cannot determine the real exchange rate; the issue is more one of consistency between fiscal policy, inflation, and exchange rate policy, which can certainly influence the real exchange rate.

lection was 1989 sales value; we attempted to select 15 firms from among the 21 largest in each sector. However, we eliminated obvious giants (the biggest steel mills and shipyards) because these would dominate the statistical calculations. Out of the 75 firms, we successfully revisited 73. (One was in liquidation and the other was under investigation.) Eventually, 64 firms completed the questionnaires.

The SOEs examined employ 1,500–6,000 workers, although one exceeded 20,000. A typical sample firm is not a giant URSUS-type firm, which gets much media attention but is no longer representative of the state sector. Annual sales of the sample firms are in the region of $100 million. Products sold by these enterprises include pipes, rails, metal sheets, wire, machine tools, transformers, electric engines, railway carriages, refrigerators, and bicycles (metallurgy and electromachinery); fertilizer, plastics, and organic and inorganic chemicals (chemicals); fabrics, clothes, hosiery, shoes, and leather goods (light manufacturing); and meat products, sugar, processed fruit, chocolate, and cigarettes (food processing). Virtually all the firms were SOEs at the start of the economic transformation program, with powerful workers' councils, two (or more) trade unions, and management legally subordinated to the workers' council. By 1992, almost half had been "commercialized" (transformed into entities wholly owned by the Treasury) and three had been privatized. The enterprises are located all over Poland, both in the big industrial centers (Krakow, Poznan, Upper Silesia, Warsaw, and Wroclaw) and in smaller cities (in such areas as southeast Poland, Bydgoszcz, Piotrkow Trybunalski, Radom, Szczecin, and Torun).

Table A1 summarizes the percentage shares of sample firms with respect to total sector sales, employment, and exports. To some extent, the sectoral classification is artificial: convenient for statistical reporting, but not necessarily for a study of adjustment. In this respect, the sample contains sufficient product and geographical variance to draw interesting conclusions.

The Data

The data set from each enterprise included statistical information for the period June 1989–June 1992 and answers to a qualitative questionnaire administered during visits to firm managers.

Table A1. Sector Shares of Sample Firms
Percent of total

Sector	*Sales*	*Employment*	*Exports*
Metallurgy	38.0	41.4	25.9
Electromachinery	9.4	7.8	11.0
Chemical	32.2	30.1	39.8
Light manufacturing	7.9	8.1	9.1
Food processing	9.1	8.3	2.4

Source: Authors' calculations based on firms in the survey and *Rocznik Statystyczy* (various issues).

The statistical information included monthly, quarterly, and yearly information. Forty-two variables were collected on a monthly basis. These included information on value of sales, costs of sales, subsidies, turnover tax, extraordinary gains and losses, gross profit, tax payments, net profit, inventories (total and divided into inventories of raw materials, work-in-progress, and finished goods), cash balances, credit outstanding, interfirm credit (payables and receivables), dollar deposits, employment, the wage bill, and the PPWW norm. Twenty-four quarterly variables were collected, including information on total costs incurred, structure of costs, and imports (not available in many firms). Thirty-six variables were collected on a yearly basis, including information on value of fixed assets, investment expenditures, profit distribution, tax obligations, and tax arrears.

The qualitative questionnaire focused on the following: optimism and expectations about the government, including the credibility of policy in the third year of the economic transformation program; labor adjustment and reactions to the excess wage tax; the enterprise-bank relationship and the role of banks in the transformation of firms; the social assets problem and potential solutions; and long-run strategy, including sequencing of restructuring and privatization.

APPENDIX B

Accounting Framework

THE ACCOUNTING CONVENTIONS used in this paper differ somewhat from standard U.S. conventions. Our conventions correspond to Polish accounting conventions and are adapted to fit the information that was

available to us on Polish firms participating in our survey. In this appendix, we first present a sample statement of income that we used to tabulate gross profits. We then provide accounting definitions that we employed to make the tabulations in this paper.

Statement of Income

(+) Revenues
  Sales (main business)
  Other income
    Subsidies (all)
    Sales and leasing of assets
    Financial income
(−) Costs of Revenues
  Costs of sales
    Materials and energy
    Depreciation
    Interest
    Wage cost (see definition below)
    Other
  Turnover tax
  Costs of other income
(+) Balance of extraordinary gains and losses

(=) Gross Profit (also pretax profit)

Accounting Definitions

Disposable cash	=	Gross profit − income tax − dividends + depreciation
Net other income	=	Other income − costs of other income
Underlying profitability	=	(Sales − cost of sales)/Sales
	=	(Gross profit + turnover tax − net other income − balance of extraordinary gains)/Sales

Net profit	=	Gross profit − income tax − dividends − PPWW
PPWW	=	Polish acronym for excess wages tax (wages paid in excess of indexation norm).
Wage cost	=	Basic wage + payroll tax + social insurance contributions
Wage cost before 1992	=	Wage bill × 1.65

(This assumes a 20 percent payroll tax and 45 percent contributions to social insurance.)

Wage cost in 1992 = Wage bill × 1.2 × 1.45

(This reflects payment of social insurance contributions on gross wages.)

APPENDIX C

A Comparison of State-Owned AAA Firms with Privatized and Commercialized AAA Firms

THIS APPENDIX compares the experiences of state-owned AAA firms with their commercialized and privatized counterparts. In June 1992, commercialized and privatized AAA firms averaged 3,316 workers per firm, while AAA SOEs averaged 2,528 workers per firm. Average sales in 1991 for commercialized and privatized AAA firms were $85.8 million; for AAA SOEs, they were $112.4 million. Of the 15 commercialized and privatized firms, 2 produced electromachinery, 7 were chemicals firms, 2 were in light industry, and 4 were food processors. Of the 16 AAA SOEs, 5 were in the metallurgical sector, 3 produced electromachinery, 3 were chemicals firms, 1 was in light industry, and 4 were food processors. Tables C1 through C8 summarize other financial characteristics of AAA firms, distinguishing among SOEs, SOEs excluding cigarette companies, and commercialized and privatized firms. (The last category is labeled "other enterprises.")

Table C1. Real Sales of AAA Firms, December 1989–June 1992
Index, September 1989 = 100

Firm governance	*December 1989*	*June 1990*	*December 1990*	*June 1991*	*December 1991*	*June 1992*
All SOEs	100.0	72.4	73.5	74.5	80.4	91.2
Subset of SOEs[a]	99.0	62.9	62.5	51.9	57.5	55.1
Other enterprises[b]	97.2	64.0	77.8	57.4	56.7	58.3

Source: Authors' calculations based on AAA firms in the survey.
a. AAA SOEs excluding cigarette companies.
b. Commercialized and privatized AAA enterprises.

Table C2. Labor Productivity of AAA Firms, December 1989–June 1992[a]
Index, September 1989 = 100

Firm governance	*December 1989*	*December 1990*	*December 1991*	*June 1992*
All SOEs	97.5	76.6	92.2	113.3
Subset of SOEs[b]	98.0	68.1	70.6	71.9
Other enterprises[c]	96.2	85.3	68.8	74.0

Source: Authors' calculations based on AAA firms in the survey.
a. Productivity is measured as output per person-hour.
b. AAA SOEs excluding cigarette companies.
c. Commercialized and privatized AAA enterprises.

Table C3. Ratio of Working Capital Loans to Sales for AAA Firms
Percent

Firm governance	*December 1989*	*December 1990*	*December 1991*	*June 1992*
All SOEs	33.6	80.9	63.2	54.5
Subset of SOEs[a]	28.3	93.1	82.8	75.2
Other enterprises[b]	28.4	58.1	91.8	75.5

Source: Authors' calculations based on AAA firms in the survey.
a. AAA SOEs excluding cigarette companies.
b. Commercialized and privatized AAA firms.

Table C4. Ratio of Total Interest to Sales for AAA Firms

Firm governance	*January–December 1990*	*January–December 1991*	*January–June 1992*
All SOEs	1.1	1.2	1.1
Subset of SOEs[a]	1.3	1.8	1.8
Other enterprises[b]	2.8	4.7	6.9

Source: Authors' calculations based on AAA firms in the survey.
a. AAA SOEs excluding cigarette companies.
b. Commercialized and privatized AAA firms.

Table C5. Average Wages for AAA Firms

Thousands of zlotys per worker

Firm governance	*December 1989*	*December 1990*	*December 1991*	*June 1992*
All SOEs	721	1703	2370	2285
Subset of SOEs[a]	755	1768	2434	2202
Other enterprises[b]	602	1911	2119	2187

Source: Authors' calculations based on AAA firms in the survey.
a. AAA SOEs excluding cigarette companies.
b. Commercialized and privatized AAA firms.

Table C6. Ratio of the Excess Wage Tax to Disposable Cash for AAA Firms

Firm governance	*January–December 1990*	*January–December 1991*	*January–June 1992*
All AAA SOEs	9.1	17.7	11.3
Subset of AAA SOEs[a]	8.2	16.6	10.4
Other enterprises[b]	10.6	19.7	4.1

Source: Authors' calculations based on AAA firms in the survey. Disposable cash is pretax profit plus depreciation minus income taxes and dividends.
a. SOEs excluding cigarette companies.
b. Commercialized and privatized AAA firms.

Table C7. Ratio of Dividends to Profits after Income Taxes for AAA Firms

Percent

Firm governance	*January–December 1990*	*January–December 1991*	*January–June 1992*
All SOEs	5.2	8.6	10.9
Subset of SOEs[a]	6.1	12.2	15.3
Other enterprises[b]	10.8	25.9	24.8

Source: Authors' calculations based on AAA firms in the survey.
a. SOEs excluding cigarette companies.
b. Commercialized and privatized AAA firms.

Table C8. Underlying Profitability of AAA Firms

Percent

Firm governance	*1989*	*January–December 1990*	*January–December 1991*	*January June 1992*
All AAA SOEs	31.0	30.3	33.5	36.8
Subset of AAA SOEs[a]	27.3	22.4	18.4	15.8
Other enterprises[b]	27.3	24.1	17.4	16.6

Source: Authors' calculations based on AAA firms in the survey. Underlying profitability is the difference between sales and cost of sales divided by sales.
a. SOEs excluding cigarette companies.
b. Commercialized and privatized AAA firms.

Comments and Discussion

Andrei Shleifer: All over Eastern Europe, reformers are asking the same questions: what policies will allow emerging enterprises to restructure, to find new markets, and to become more efficient. Generally in Eastern Europe, answers are based on theoretical priors about the wisdom of various strategies, without much evidence. The excellent paper by Brian Pinto, Marek Balka, and Stefan Krajewski begins to provide evidence about what policies are really needed to achieve restructuring. In my comments, I will first discuss five questions relevant to an analysis of restructuring; then I will examine the paper's evidence for answers.

The first fundamental issue is whether privatization is necessary. Can state enterprises, in some form, actually restructure if put into an appropriate environment, complete with such favorable factors as hard budget constraints and managerial incentives? There are two views on this issue. The first maintains that privatization *is* necessary. Policymaking in Russia is very much driven by this view. In contrast, in Poland so far, large-scale privatization has not occurred (although various other policy changes bearing on enterprises have been much more dramatic than in Russia).

The second debate concerns the need for corporatization and commercialization of state enterprises. Does it help state enterprises to be set up as independent entities with boards of directors (or with supervisory boards, as in Poland)? One view is that it does help. Another view is that all state firms, commercialized or not, respond to the government's political objectives, rather than working to maximize profits.

The third important issue is the role of competition. Firms that enjoy either monopoly rents or quasi-rents often spend them on excess employment or excess wages or perquisites. But when firms face product-market competition, the amount of waste and inefficiency that they can

sustain to pursue political objectives is considerably reduced. Consider a few examples. Presumably, Lufthansa has high employment and new planes because the German government wants to have a fancy national carrier. When Lufthansa begins to operate in open Europe, it will have to become more efficient, even if it remains a state-controlled enterprise. Further east, Poland has largely opened up its economy to competition. Russia has not at all; the real threat is that the government will consolidate existing state monopolies.

The fourth issue is the role of hard budget constraints and the reduction of state subsidies. The issue here is not so much whether hard budget constraints are needed; just about everyone agrees that they are. When firms remain subject to soft budget constraints, they respond to the objectives of the government, rather than those of profit-maximizing shareholders. The government will pay firms to meet these objectives and nothing efficient will ever result.

The real question is how to get hard budget constraints. One view is that a stringent monetary policy goes a long way. As long as the government adheres to fixed exchange rates or must otherwise pursue a tight monetary policy, it will lack the resources to subsidize firms. According to this view, monetary restraint suffices to harden budget constraints.

A second view is that the banking system must be reorganized. Banks must be commercialized or privatized so that they stop channeling credits to enterprises irresponsibly. A third view, which I favor based on my experience in Russia, is that privatization is required to get hard budget constraints because firm managers need very high-powered incentives to restructure. This view implies that monetary restraint, and even banking reform, will not suffice to harden the budget constraint. Of course, this view is partly based on the hopelessness of Russian macroeconomic policy in 1992.

A subsidiary question relating to hard budget constraints is what forms state subsidies take. In Poland, firms are subsidized through bank loans, inter-enterprise arrears, enterprise loans, and tax arrears. These methods of subsidies are substitutes. In Russia, in contrast, they appear to be complements.

The final issue is managerial incentives. The Polish privatization program was driven by the idea that to restructure, firms need blockholders (large shareholders), managerial incentives, and bankruptcy. In Russia, designing incentives into the organization of firms has more or less been

abandoned because of managers' tremendous political influence. The extent to which managerial incentives are needed for restructuring, and in what form, are very much in the forefront of this debate.

The paper sheds light on each of these five fundamental issues relevant to the analysis of restructuring—which is why it is so valuable.

What about the evidence? The authors' starting point is that some restructuring has indeed occurred in Poland. The authors report that all firms in their sample are shedding labor; an average over a couple of years is an astounding 27 percent. Poorly performing firms are shedding more labor than well-performing firms, which is evidence of restructuring.

It is less clear whether this evidence reflects better incentives for some firms' managers or better luck. The authors also find that sales of profitable firms have increased somewhat or at least have not fallen as much in real terms as sales of poorly performing firms. But the strong firms are the ones whose relative prices have increased in the sample; they had good luck. These firms are moving along their supply curves; their prices and quantities have risen (in relative terms). So while all firms appear to be restructuring, some are facing much more favorable conditions than others.

Polish data suggest that privatization is not needed for restructuring because so far, no privatization to speak of has occurred in Poland. The question is how Poland achieved restructuring without privatization. To begin, what is the role of corporatization and commercialization? The paper presents some evidence on the relative performance of state enterprises and commercialized enterprises.

The evidence appears to be completely the reverse of what one would expect. In terms of profit relative to output and various other measures, state enterprises are performing much better than commercialized enterprises. State and commercialized firms might have been drawn from very different populations. Even so, this paper does not provide an empirical case for the need for commercialization alone.

Is competition needed for restructuring? The paper presents no direct measures of competition, but the evidence shows greater employment cuts in firms that experience relatively greater price declines, which might reflect demand shocks. This evidence supports the view that competition fosters restructuring.

The paper argues that budget constraints have tightened in Poland. I think the evidence is not as clear as the authors suggest. First, when working capital loans to enterprises are standardized by cost of sales, these loans have roughly doubled for all firms, for A firms, and for AAA firms from the end of 1989 to mid-1992. Working capital loans have expanded considerably for all enterprises in the sample; this does not seem like a tremendous tightening of budget constraints.

Second, substitution is occurring among the types of subsidies that the firms receive. At the very end of the sample period, after the banking system has been commercialized, the role of working capital loans for poorly performing enterprises declines. At the same time, inter-enterprise loans to these enterprises expand (they are not paying their bills), as do their tax arrears (they are not paying their taxes). As to the question, "Have overall budget constraints tightened for these enterprises?" I am left a little bit skeptical. None of these firms has really gone bankrupt yet. None of them has yet been financially restructured, as least insofar as I can tell from this paper. It is true that the banking system is a little bit tougher toward them, but they are able to get cash elsewhere.

So I think the evidence is suggestive that budget constraints are tightening in Poland. At the same time, the end of the paper's sample period raises a puzzle. At some point, some sort of credit has got to give. Either the government will come back and bail out the A enterprises, or they will run out of cash. In the paper's sample, it is not clear yet which will occur.

Another relevant piece of evidence is that bank reorganization—as opposed to initial tightening of monetary policy that took place at the beginning of 1990—has played an important role in reducing bank loans to state enterprises. This suggests that monetary policy alone, without banking reform, might not suffice to harden budget constraints.

The final issue is that of incentives. In Poland, enterprise managers have not received any very direct high-powered incentives. This contrasts with Russia and the former Czechoslovakia, which have put more effort into providing managers with incentives: Russia through management ownership and the Czech and Slovak republics through both management and blockholder ownership. Poland plans to introduce blockholders through a mass privatization program, but that program has not materialized yet.

The authors argue indirectly that incentives work in Poland. First, managers want to behave well to be retained in the future, when the market economy really arrives. Second, managers want to shape up their enterprises to attract foreign investment to get cheap shares of reasonably good enterprises when privatization occurs. These two incentive mechanisms suffice. Of course, managers might want to trash their enterprises before privatization so they could buy shares very cheaply and restructure later. How incentives work is a little ambiguous.

What conclusions can be drawn? Obviously Poland is doing something right. The economy is growing, with more than half its employment now coming from the private sector. Enterprises are shedding labor. Restructuring is taking place. Poland has opened up its economy. Compared to Russia, Poland is paradise.

But what is responsible for the success? The picture here is a little murkier. It appears that competition has played some role and that some hardening of the budget constraints also took place (although it is very difficult to conclude from this paper that such hardening was critical). In the end, it is still unclear how to get a lot of restructuring of state enterprises without privatization.

General Discussion

Olivier Blanchard observed that the slow pace of privatization in the former centralized economies that had disillusioned many Western economists was, in retrospect, not surprising. According to Blanchard, the explanation is quite simple. Privatization is, basically, taking jobs away from workers in plants that have to be closed; workers are profoundly opposed to that prospect. In the absence of alternative jobs or severance pay, privatization is likely to remain slow. Many economists feared that without rapid privatization, state firms would be in limbo and deteriorate quickly, and assets would be wasted. The paper's message is that the slowness of Poland's privatization process is less cause for concern. However, Blanchard argued that the surprisingly strong position of Polish state-owned enterprises (SOEs) sampled in the paper does not imply that privatization is not needed. Rather, the paper shows that, given low wages and harder budget constraints, state-owned enter-

prises have been in a viable holding pattern. But the holding pattern itself depends on the expectation that privatization will eventually take place. Blanchard concluded that the major cost of the slow speed of privatization may just be the opportunity cost of not achieving the gains from privatization sooner.

Andrei Shleifer did not doubt that Polish SOEs were in a successful holding pattern, waiting for privatization, but stressed that the important question for other economies in transition was how the favorable performance during the holding period was being achieved. In view of firms' use of new types of credit, he questioned whether hard budget constraints were actually in place. Pinto argued that the substitution of one source of credit for another was not without limit. He also believed that a major reason for success during the holding period is that firms realize that there will be no bailout, and that managers' future jobs are dependent on the viability of their enterprises.

Richard Cooper wondered whether the holding pattern would endure in the long run, as in Italy or Spain, where state-owned enterprises continue to exist. He asked whether substantial economic growth and new entry of firms were occurring in Poland, which would dilute the share of SOEs over time. Pinto replied that in 1992, growth in the manufacturing sector was positive, and would have been positive overall, except for a drought that depressed the agricultural sector. Poland is thus the first Eastern European economy to turn around. Also, new entry has been significant—not only in the transportation and service sectors, but in manufacturing, as well. Pinto ventured the guess that new firms account for as much as one-quarter of manufacturing sales. Cooper also wondered whether markets in assets were emerging. Pinto identified the growth of income in the "other" category, which mainly has been income from leasing assets, as evidence that asset markets were developing.

Several participants questioned the source of incentives for managers to manage well. Pinto stated that managers of SOEs are motivated in part by the promise of financial reward that they would earn upon privatization. In addition, they are concerned about their reputations because these would be important when they had to borrow to purchase shares in their companies in the future. Hence, in his view, managers would be unlikely to strip down their firms in order to be able to buy them cheaply upon privatization.

William Brainard asked whether managers' perception of competition in their product markets was an important additional discipline. Pinto replied that imports offered increasing competition. He pointed to evidence that suggested that prices in various sectors were restrained by world prices, reflecting Poland's status as a small, open economy. In addition, many firms in his sample had reorganized their management structures to make their second most important position finance or marketing, rather than production, as before. This suggests that firms are placing a greater emphasis on the need to be competitive in the market.

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