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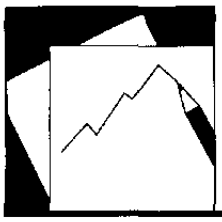

IMF Working Paper

Enterprise Restructuring and Transition: Evidence from the Former Yugoslav Republic of Macedonia

Juan Zalduendo

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European 1 Department

Enterprise Restructuring and Transition: Evidence from the Former Yugoslav Republic of Macedonia

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Authorized for distribution by Jerald Schiff

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Abstract

This paper reviews developments in corporate performance in the FYR Macedonia during the 1990s. The paper finds substantial differences in performance between surviving old firms and nimbler new ones. The paper reviews factors that facilitated restructuring among surviving firms, and concludes that private sector ownership, hard budget constraints, and market-based economic institutions have served to strengthen corporate performance. The paper also shows that the predominance of insider privatization and the resulting low ownership concentration is one of the reasons for the poor performance of surviving firms.

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Keywords: Enterprise restructuring, corporate performance, ownership concentration, transition economies

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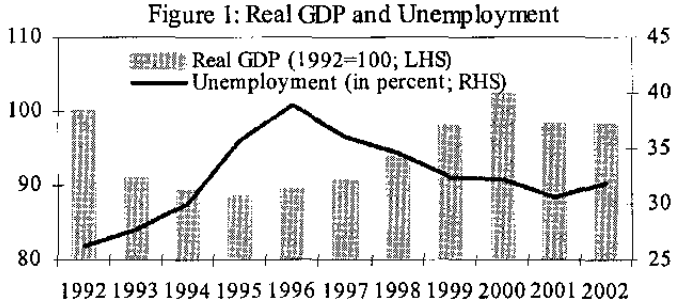
I. Introduction

The objective of this paper is to shed light on the economic performance of the Former Yugoslav Republic of Macedonia (FYR Macedonia) during the 1990s by reviewing different aspects of the enterprise sector. Specifically, low growth and high unemployment[2] in the initial years of transition were followed by a partial pickup in performance in the late 1990s (Figure 1). The main goal is to contrast this experience against the evidence arising from enterprise level data. Section II provides some background information on the enterprise sector. Section III presents an assessment of enterprise sector developments during the 1990s, including a review of profitability indicators, the extent of enterprise turnover, and the differences in performance between surviving firms (those operating without interruption since 1994) and new firms (those created during transition). The next section examines the factors that have facilitated enterprise restructuring among surviving firms since FYR Macedonia's independence in September 1991. Section V reviews the role of insider privatization in explaining the poor performance of these firms. Concluding remarks follow.

Figure 1: Real GDP and Unemployment



Source: Statistical Office and IMF staff estimates.

The enterprise level data used in this paper was collected by FYR Macedonia's now closed payments bureau—the ZPP. The dataset includes annual income statement and balance sheet information of individual firms for 1994-2000 and the presentation is broadly in line with the accounting standards of market economies. It also provides information for each firm on the type of ownership, economic sector, employment, and regional location.

II. Background

The behavior of firms in the FYR Macedonia, as in other planned economies, was driven largely by objectives other than profit maximization. The decisions taken by enterprises were influenced by political and social considerations, such as employment and regional development objectives. Often, the result was the creation of large enterprise conglomerates spanning several sectors. Indeed, a number of large enterprises in FYR Macedonia were created in backward regions where they provided a large share of the available jobs. For example, some 60 percent of the employment in the Kumanovo, Ohrid, and Tetovo regions in 1994 was provided by the ten largest firms in the respective regions.

[2] FYR Macedonia has had unemployment rates of over 20 percent since the 1980s. The lowest rate of the last 12 years was registered in 1990—23½ percent of the labor force.

But the performance of enterprises in the FYR Macedonia also reflects the unique features of the Yugoslav model of socialism in the Socialist Federal Republic of Yugoslavia (SFRY). The most important of these was that enterprises were socially owned rather than state owned. In FYR Macedonia at the time of independence socially owned enterprises accounted for about 85 percent of enterprise sector employment and 90 percent of the value added. Employees in socially owned firms had the right to appoint the managerial staff of the firm and to elect a council of workers that would review all major employment and investment decisions. Workers did not own shares in the firm in which they worked, however, and thus could not freely sell their stake in the company, a feature which introduced a short-term bias into the decisions taken by worker-controlled managers.

Perhaps because of the prevalence of social ownership privatization proceeded slowly and favored insiders. The privatization process was initiated by the SFRY in 1989, but entered a lull after FYR Macedonia's independence. The Law on Transformation of Social Capital, which set up the framework for privatization, was enacted in mid-1993, but no privatizations took place under this law until late 1994. The sale to insiders—employees and managers—was supported by providing them with generous payment terms. In the end, some 60 percent of all privatizations (weighed either by total number of employees or by total equity) were to insiders while strategic investors accounted for less than 20 percent of all privatizations (Table 1). In FYR Macedonia, as in other transition economies, such insider privatization often led to weak accountability and the pursuit of policies that did not maximize shareholders' value. In addition, also in line with the experience of other transition economies (Claessens and Djankov, 1999), insider privatization rarely brought the resources and trade links needed to modernize and expand production.

Table 1: Privatization Developments
(as of end-2000)

	Number of privatized firms	Number of employees in privatized firms	Equity in privatized firms
Total	1,616	225,790	4,485 1/
		(In percent of total)	
Insider privatization	50.0	62.2	57.8
Employee buyouts	24.4	7.7	3.5
Management buyouts	25.6	54.6	54.3
Outsider privatization	33.7	25.6	32.8
Strategic investors	28.3	15.8	18.8
Debt-equity conversions	5.3	9.8	14.0
Other	16.3	12.2	9.4

Source: Privatization Agency.
1/ In millions of euros.

III. Corporate Performance in the 1990s

Profitability indicators in FYR Macedonia improved significantly during the 1990s, but still lag behind those in other transition economies. Gross losses have declined over time and gross profits have improved (from 2.5 percent to 6.5 percent of GDP between 1994 and 2000;

Table 2: Profits and Losses in Transition Economies (in percent of GDP; before taxes)

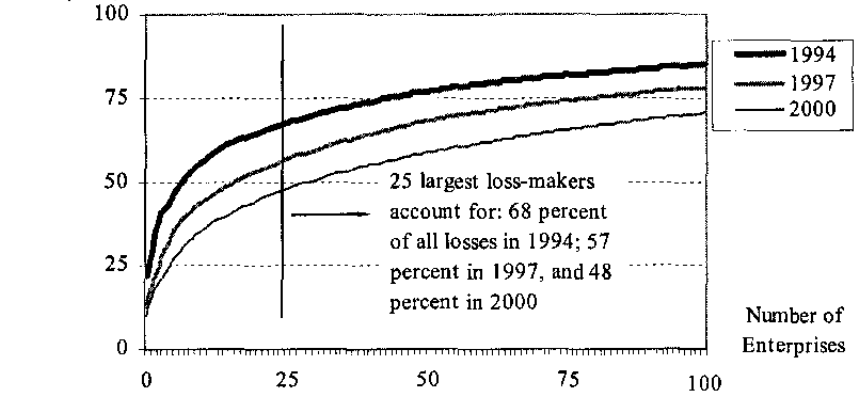
	Gross profits			Gross losses			Net Profits/Losses		
	1994	1997	2000	1994	1997	2000	1994	1997	2000
Bulgaria	na	11.3	9.1	na	-5.4	-8.0	4.5	6.0	1.0
Czech Republic	13.7	na	na	-5.7	na	na	8.0	2.5	1.6
FYR Macedonia	2.5	3.5	6.5	-14.5	-6.4	-5.9	-12.0	-2.9	0.7
Poland	10.0	8.8	7.4	-3.9	-2.9	-4.4	6.1	6.0	3.0
Slovak Republic	13.9	na	na	-7.2	na	na	6.7	na	8.8
Slovenia	4.5	na	na	-6.4	na	na	-1.9	na	na

Sources: World Bank (1999), *Statistical Yearbook*, and ZPP dataset.

Table 2). Although cross-country comparisons should be interpreted with caution owing to the underlying differences in accounting standards, the data suggest that FYR Macedonia has significantly reduced the gap with other transition economies. Nonetheless, net profits in 2000 remained the lowest among the core group of transition countries presented in Table 2.

A closer examination of losses in the economy suggests that there has been some success in addressing the status of large loss-makers. High concentrations of losses are common in transition economies given the bias towards the creation of large enterprise conglomerates. Data for the largest loss makers for each year in the period 1994-2000 show that the share of the 25 largest loss-makers declined from 68 percent of total losses in 1994 to 48 percent in 2000 (Figure 2).

Figure 2: Concentration of Losses



Source: ZPP dataset and IMF staff estimates.

The turnover of firms—with the exit of inefficient firms and the entry of nimbler new ones—has been a source of renewal in the enterprise sector. Some 60 percent of the firms in existence in 1994 had closed by 2000, and two-thirds of the firms existing in 2000 had started up after 1994 (Table 3). Market economies rely on entry and exit to weed out poor performers and foster efficiency in the allocation of resources. The available evidence suggests that such process has a strong footing in FYR Macedonia.

Table 3: Indicators of Enterprise Performance (all firms) 1/

	1994		1997			2000	
	Surviving firms	Dying firms	Surviving firms	Dying firms	New firms	Surviving firms	New firms
Number of firms	6710	10200	6710	4080	6961	6710	13725
Share of loss-making firms	36	55	35	64	42	35	39
Average employment	31.0	10.6	25.5	9.6	7.1	24.4	7.8
Total employment (in '000s)	207.7	107.7	171.4	39.2	49.6	163.5	107.6
Percent change	-	-	-17	-64	-	-5	117
Share of employment	66	34	66	15	19	60	40
Monthly gross wage (denars ave., '000s)	12.4	10.0	14.3	12.5	10.0	16.2	13.8
Percent change	-	-	16	25	-	13	38
Labor productivity (1994 denars, mill.)	0.22	0.12	0.20	0.16	0.14	0.23	0.23
Operating profits (share of value added)	0.33	0.01	0.24	0.20	0.20	0.30	0.39
Profits/losses (in % of GDP)	-6.1	-5.9	-1.1	-0.8	-1.0	-0.3	0.9

Source: ZPP dataset and IMF staff estimates.

1/ Surviving firms are firms that exist throughout the period 1994-2000. Dying firms are defined as firms in existence in 1994 but that cease to exist before 2000. New firms are firms that are created after 1994.

But improvements in aggregate profitability indicators, a decline in the concentration of losses, and a high degree of turnover of firms mask the profound difference in

performance between surviving old firms and nimbler new ones. In fact, the performance of surviving firms was weak. These firms exhibit a marked decline in operating profits in 1994-1997 and only a partial recovery in 1997-2000. Specifically, average operating profits as a share of value added declined from 33 to 24 percent in the first period, and the increase to 30 percent in the last three years of the 1990s was insufficient to reverse this deterioration. In addition, the share of loss-making firms among surviving enterprises (35 percent of firms) has remained broadly unchanged. In contrast, new firms, which account for 40 of total employment in 2000, have shown significant improvements in profitability: gross losses equivalent to 1 percent of GDP in 1997 were succeeded by gross profits of 1.1 percent of GDP in 2000, and average operating profits doubled during the same period.

Other indicators confirm this contrast between surviving firms and new firms. On the one hand, in spite of significant labor shedding, surviving firms exhibit a deterioration in labor productivity following the sharp decline in real value added (i.e., value added per employee deflated by sector prices[3]) between 1994 and 1997. Only a partial recovery in labor productivity is observed after 1997. On the other hand, new firms show a marked increase in labor productivity, which was also reflected in a 38 percent increase in nominal wages between 1997 and 2000—three times more than among surviving firms.

A qualitative review of profitability among surviving firms provides additional evidence of their poor performance. This review is carried out by classifying firms' into four categories according to the strength of their profits. Type A firms are profitable in the usual sense, earning enough resources to cover all costs and operating expenses, including depreciation expenses; type B firms generate sufficient resources to cover operating expenses (i.e., wages and material expenses) but not depreciation expenses; type C firms cover only the costs of material inputs (i.e., these firms have positive value added); and type D profits refer to firms with negative value added, hence not able to generate resources to cover the cost of the material inputs used in the production process. It can be argued that both type A and type B firms are viable as these firms exhibit positive operating profits. The data as classified show an increase in the relative importance of viable firms since 1997 (from 62 percent of all firms to 72 percent in 2000, in both cases weighted by employment; Table 4). However, this increase is modest and sufficient only for the share of viable

Table 4: Strength of Profitability in Surviving Firms

Year	Profitable	Unprofitable			Total	Viable firms
	(type A)	Positive operating profits (type B)	Cannot pay all wages (type C)	Negative value added (type D)		(type A plus type B)
	Percent of firms, weighted by employment					
1994	58	14	26	2	100	72
1997	55	6	34	4	100	62
2000	61	10	21	7	100	72

Source: ZPP dataset amd IMF staff estimates.

[3] Sector prices at the two-digit code level are used given that firm-specific prices are not available.

firms to return to the levels registered in 1994. The data also show a small increase in the number of value subtracting firms (type D firms).

IV. Factors that Facilitate Enterprise Restructuring

This section reports the results of regressions intended to assess the impact of three factors—ownership structure, hard budget constraints, and market-based economic institutions—on enterprise restructuring. The analysis is based on manufacturing firms that existed throughout the period 1994-2000 and thus focuses on the effects of institutional structure on a sample of surviving firms, abstracting from the discussion above related to the entrance of new firms and the exit of unsuccessful ones. We estimate equations of the form

$$R = \alpha + \delta F + \beta C + \varepsilon$$

where the enterprise is the unit of observation, R is a measure of corporate performance, F represents the factors that may facilitate enterprise restructuring (i.e., ownership structure, hardness of budget constraints, and presence of market-based economic institutions), C are control variables (such as firm size and sector characteristics), and ε is an error term. The main focus of the paper is on the characteristics of the coefficients represented in δ.

The firms studied are selected from the ZPP database on the basis of firm history and size. Specifically, the sample is composed of 823 firms which operated without interruption since independence (i.e., firms with data for 1994, 1997, and 2000) and which average 10 or more employees in any two years of the sample (i.e., medium- and large-size firms). Firms facing administered prices were excluded (e.g., utility companies). Although the sample is restricted to manufacturing firms that face market-determined prices, it represents a large share of the total employment recorded in the ZPP database—52 percent in 1994 and 44 percent in 2000. The analysis focuses on two periods of equal duration but with different growth rates: in the first period (1994-97) real GDP grew by ½ percent per annum and in the second period (1997-2000) growth averaged 4 percent per annum.

Of the three factors under study, ownership structure is perhaps the most important determinant of corporate governance in transition economies. In FYR Macedonia, even though a large number of firms have been privatized, most firms were sold to insiders. The prevalence of insider privatization, as shown in the next section, is partly responsible for the lack of significant improvement in enterprise performance (Table 5). The performance of firms that were in private ownership in 2000 has improved little during the 1990s, and the profitability of mixed firms (privatized firms where the state owns residual shares or has a potential ownership claim until full payment of sold shares has been completed) deteriorated in 1994-97 and registered only a limited turnaround after 1997. Still worse was the performance of firms that were still socially owned or state owned at the end of 2000—these firms exhibited a sharp decline in both profits and labor productivity during the 1990s.

The second factor is FYR Macedonia's experience in hardening budget constraints. Direct budget support to firms declined during the 1990s, but budget constraints are still softened by the toleration of wage, tax, and social contribution arrears. Consequently, the arrears of the manufacturing firms under consideration were high throughout the period. Over time these arrears exhibit sharp changes, rising between 1994 and 1997 (from 3 percent to 4 percent of GDP) before falling back to their initial levels in the late 1990s. In contrast, there has been some progress on the institutional and structural front—a new bankruptcy law has been enacted and new private banks have emerged. In principle these developments should compel firms to tighten financial discipline, but in practice enforcement remains weak.

Table 5: Performance and Ownership of Surviving Firms 1/

	Private	Mixed 2/	Socially owned	State owned	Total
Number of firms	425	300	93	5	823
			1994		
Total employment (in '000s)	28.6	111.5	12.7	10.6	163.4
Average monthly gross wage (denars, '000s)	14.1	11.7	10.1	16.5	12.3
Labor productivity (1994 denars, million)	0.27	0.20	0.15	0.50	0.23
Operating profits/losses divided value added	0.38	0.30	0.16	0.60	0.35
Profits/losses (net, in percent of GDP)	0.8	-3.0	-0.3	0.0	-2.5
Wage and tax arrears (in percent of GDP)	0.6	2.2	0.2	0.1	3.0
			1997		
Total employment (in '000s)	25.0	86.5	8.4	10.2	130.0
Average monthly gross wage (denars, '000s)	16.7	13.1	13.2	19.5	14.3
Labor productivity (1994 denars, million)	0.28	0.16	0.12	0.48	0.20
Operating profits/losses divided value added	0.36	0.12	-0.06	0.59	0.26
Profits/losses (net, in percent of GDP)	1.0	-1.1	-0.1	0.0	-0.2
Wage and tax arrears (in percent of GDP)	0.4	3.2	0.3	0.2	4.0
			2000		
Total employment (in '000s)	27.1	74.0	7.9	10.5	119.6
Average monthly gross wage (denars, '000s)	17.6	14.8	13.7	24.2	16.2
Labor productivity (1994 denars, million)	0.27	0.19	0.11	0.41	0.22
Operating profits/losses divided value added	0.37	0.25	-0.15	0.43	0.30
Profits/losses (net, in percent of GDP)	0.5	-0.9	-0.2	0.0	-0.6
Wage and tax arrears (in percent of GDP)	0.3	2.3	0.1	0.4	3.0

Source: ZPP dataset and IMF staff estimates.

1/ The ownership classification is based on the status of each "surviving firm" at the end of 2000.

2/ Privatized firms where the state still has residual shares.

Finally, the exposure to competition, usually transmitted through market-based economic institutions, is likely to have played a positive role in corporate performance. Strengthening the role of the market by liberalizing trade, removing price controls, and introducing other market institutions compels firms to increase efficiency, particularly when managers are disciplined by the possibility of bankruptcy (Angelucci et al., 2002). Progress on this front has been notable: FYR Macedonia has low tariffs, few trade restrictions, and a market-based price system where only a handful of sectors still face administered prices.

A. Empirical Design

In the regression equations reported in Table 6 the extent of enterprise restructuring is proxied by profits as a share of sales revenue. This measure does not suffer from inflation accounting weaknesses and corrects for the impact of firm size in total profits.

The type of ownership structure is captured by a time-invariant dummy variable that takes the value of one for firms in private hands at the end of 2000 and zero for all other firms. Treating ownership as an explanatory factor assumes that privatization decisions do not to a significant degree reflect enterprise performance, but it is certainly possible that firms with good performance prospects are more likely to be privatized. However, the objective of this section is to identify the factors that accompany enterprise restructuring and good corporate performance. In principle, one could use instrumental variables for the policy determinants of the underlying ownership structure, but it is difficult to identify appropriate instruments. The results obtained should therefore be viewed with this caveat in mind.

The hardness of budget constraints is represented in the equation by the share of wage and tax arrears (including arrears on social contributions) in total short-term liabilities. The rationale for using arrears is that financial discipline weakens when firms can rely on arrears as a source of financing.[4] A correlation between arrears and profits could also reflect the opposite direction of causality—i.e., the effect of corporate performance on arrears rather than that of financial indiscipline (proxied by arrears) on profits. The possibility of endogeneity has been reduced, however, by using a ratio of arrears to total short-term liabilities—instead of the level of arrears—as the explanatory variable. Hence, this ratio represents the relative importance of arrears among all sources of short-term financing. It also avoids a potential bias linked to the size of the firm, not only because arrears are represented as a ratio but also because the ratio excludes long-term liabilities which are more common among large firms.

The presence of market-based economic institutions and competitive forces is proxied by an import penetration index. The index used is the share of imports in total sales revenue at the two-digit sector code level. Import penetration is a direct measure of the importance of competition from abroad and may also signal a political decision to give freer rein to domestic competition in the sector in question. In addition, to explore the interaction between competitive pressures and private ownership, some equations also include a variable constructed as the product of import penetration and the private sector dummy. In this case the hypothesis is that private firms, which have more limited access to political influence, have less of a cushion against the impact of competition. In contrast, for other firms (including mixed firms) the risk of bankruptcy arising from competition is reduced by the likelihood of, for example, government bailouts. The interaction term in the equation also highlights the complementarity between private ownership and other market-based economic institutions (Roland, 2000): private ownership and competitive forces together are more effective in strengthening corporate performance than either of these in isolation.

Control variables are added for firm size and sector characteristics.[5] A dummy variable on firm size has a value of one for firms with 100 or more employees and is used to

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[4] See Coricelli and Djankov (2001) for a similar approach.

[5] Regional dummy variables were tested but found not to be statistically significant.

control for the role of size in determining firm behavior. A dual interpretation of firm size is possible. On the one hand large, firms in transition economies have access to political influence because of their potential impact on employment levels, particularly at the regional level. The resulting access by large firms to soft financing sources leads to weak financial discipline and poor corporate performance. On the other hand, small firms are more vulnerable as they lack the vertical integration opportunities that enable large firms to cross subsidize different phases in the production process. In this case small firms would exhibit weaker performance. Three dummies based on sector characteristics are added as a proxy for sector shocks.[6] The dummies are constructed by grouping firms according to labor skills and capital per employee. High labor-skill firms are those that have gross wages above the average for the economy. Likewise, capital-intensive firms are those with higher than average capital equipment per employee. Figure 3 depicts average wages and capital intensities for each sector and is broken into four quadrants based on average levels over three years.[7]

B. Results

The main results of the OLS regressions are shown in the first six columns of Table 6.

The coefficient on private ownership is in most cases positive and statistically significant. This supports the view that private ownership has a positive impact on profits. The magnitude of the coefficient increases over time, suggesting that the importance of private ownership for profitability has been increasing. This increase could be explained either by an improvement in the institutional environment for private sector activity, or by the fact that many of these firms performed poorly under social or state ownership.

The coefficient for the share of arrears in short-term liabilities has a negative sign and is statistically significant in most of the estimated equations. This is consistent with the interpretation that arrears reflect lax financial discipline (i.e., soft-budget constraints).

The import penetration index is statistically significant only when applied to private firms, and suggests a positive relationship between enterprise performance and market institutions. The existence of complementing forces between private ownership and competition supports the use of this index as a proxy for market institutions. It also provides some support to the views that call for a holistic approach to structural reforms. In particular,

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[6] The sector-related binary dummies identify (i) low labor skill (LL) and low capital intensity (LK) firms, (ii) high labor skill (HL) and low capital intensity firms, and (iii) high labor skill and high capital intensity (HK) firms.

[7] The data in the figure are different from the specification of the dummy variable; the former reflect sector averages for labor skill and capital intensity over the whole period, the latter reflects the labor skill and capital intensity of firms for each year in the sample.

Figure 3: Labor Skills and Capital Intensity
(averages for 1994, 1997 and 2000)

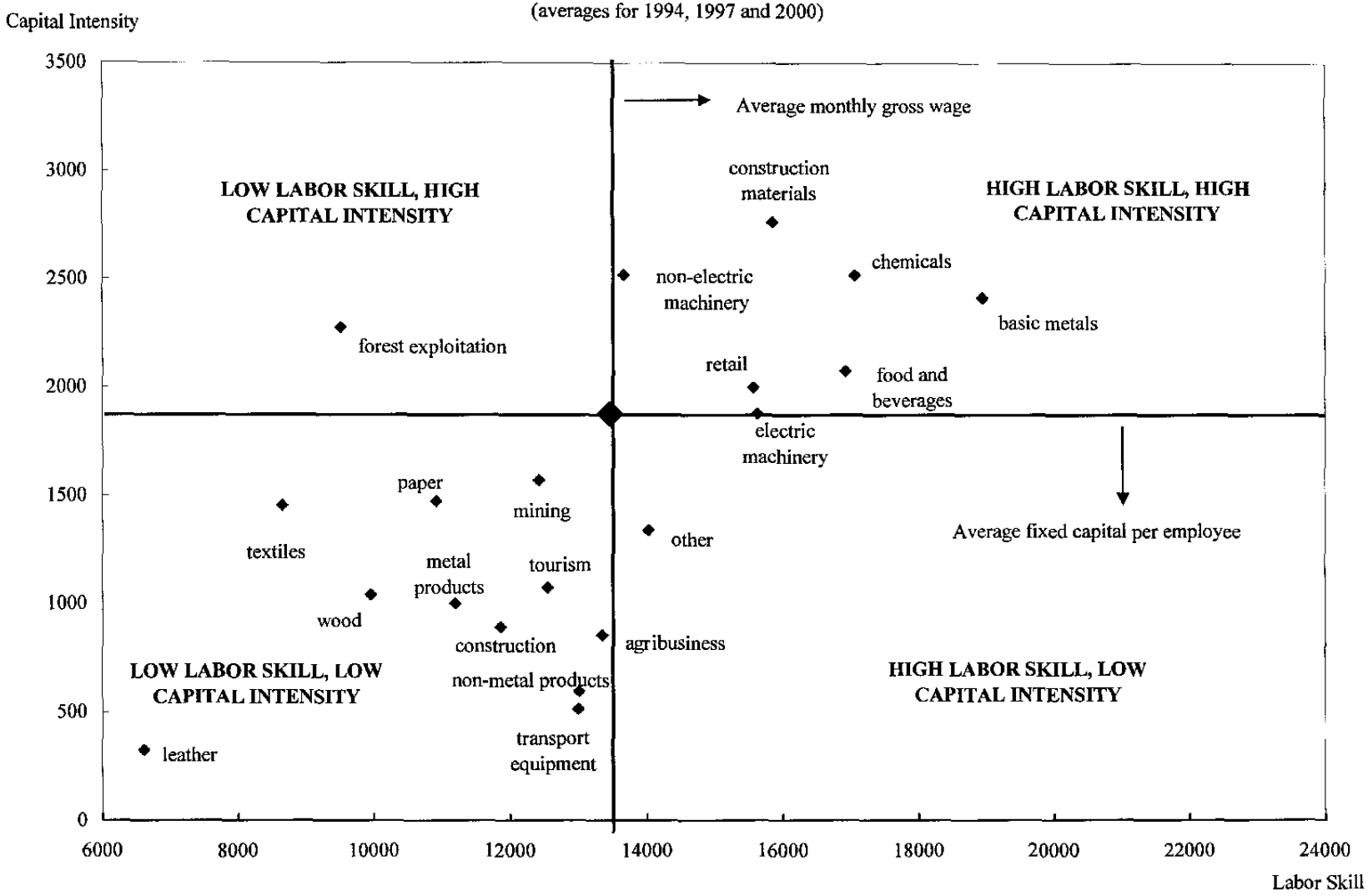

Table 6: Estimation Results – Factors that Facilitate Enterprise Restructuring 1/

	OLS for 1994				OLS for 1997	OLS for 2000	Random effects model (data for 1994, 1997 and 2000) 2/				Random effects 3/
	A	B	C	D	E	F	G	H	I	J	K
Dependent variable											
Profits as a share of sales revenues											
Restructuring regressors											
Ownership	0.079 *	0.071 *	0.068 *	0.033	0.093 *	0.141 *	0.134 *	0.124 *	0.125 *	0.090 *	0.098 *
	(3.8)	(3.4)	(3.3)	(1.3)	(2.7)	(2.8)	(6.8)	(6.3)	(6.4)	(3.7)	(10.0)
Arrears	-	-0.267 *	-0.265 *	-0.263 *	-0.439 *	0.242	-	-0.255 *	-0.256 *	-0.253 *	-0.220 *
	-	(-4.7)	(-4.7)	(-4.6)	(-5.4)	(1.1)	-	(-4.4)	(-4.4)	(-4.3)	(-24.1)
Import penetration	-	-	-0.051	-0.142 *	0.027	-0.089	-	-	0.022	-0.059	-0.143 *
	-	-	(-1.4)	(-2.6)	(0.4)	(-1.0)	-	-	(0.7)	(-1.2)	(-5.1)
Import penetration	-	-	-	0.175 **	-0.001	0.258 **	-	-	-	0.151 **	0.187 *
for private firms 4/	-	-	-	(2.3)	(-0.0)	(2.2)	-	-	-	(2.3)	(6.2)
Other regressors											
LL and LK 5/	0.053 **	0.069 *	0.067 *	0.065 *	0.082 **	-0.005	0.033	0.045 ***	0.045 ***	0.044 ***	0.014 ***
	(2.0)	(2.7)	(2.6)	(2.5)	(2.1)	(-0.1)	(1.3)	(1.7)	(1.7)	(1.6)	(1.8)
HL and LK 5/	0.158 *	0.166 *	0.163 *	0.161 *	0.044	0.135 **	0.089 *	0.095 *	0.096 *	0.095 *	0.027 *
	(5.3)	(5.6)	(5.5)	(5.4)	(1.0)	(2.1)	(3.0)	(3.2)	(3.2)	(3.2)	(3.5)
HL and HK 5/	0.150 *	0.151 *	0.145 *	0.144 *	0.055	0.077	0.077 **	0.079 **	0.081 **	0.082 *	0.044 *
	(4.2)	(4.2)	(4.1)	(4.0)	(1.1)	(1.1)	(2.3)	(2.4)	(2.4)	(2.5)	(4.0)
Firm size	-0.077 *	-0.062 *	-0.058 *	-0.054 *	0.079 *	0.078 ***	0.034 ***	0.049 **	0.047 **	0.050 **	0.042 *
	(-3.5)	(-2.9)	(-2.7)	(-2.5)	(2.5)	(1.7)	(1.6)	(2.3)	(2.2)	(2.4)	(3.7)
Year dummies	no	no	no	no	no	no	yes	yes	yes	yes	yes
R-squared 6/	0.09	0.11	0.11	0.12	0.05	0.04	0.07	0.08	0.08	0.09	0.05
Sample size	823	823	823	823	823	823	2469	2469	2469	2469	51055
Hausman test 7/							(6.8)	(6.7)	(10.4)	(10.0)	(218.2)

1/ All regressions include a constant term. The t-statistics are reported between parentheses; * significant at the 1% level, ** significant at the 5% level, *** significant at the 10% level.

2/ Balanced panel random effects model.

3/ Unbalanced panel random effects model for all firms averaging 10 employees or more in any two years; i.e., 13,561 firms with a total of 51,055 observations (i.e., an average of 3.8 years per firm).

4/ Calculated by multiplying the import penetration index by the ownership dummy.

5/ Dummy variables based on labor skills and capital intensity. LL and HL stand for low and high labor skill. LK and HK stand for low and high capital intensity.

6/ R-squared adjusted in OLS regressions.

7/ Critical values between parentheses.

as has been suggested by several authors, privatization is more effective if it is accompanied by market institutions that strengthen the competitive forces in the economy.

The dummies on size and sector characteristics exhibit interesting dynamics. The dummy on firm size has a negative coefficient in 1994 and a positive coefficient in 1997 and 2000, though in this last year the coefficient was not significant at the 5 percent level. This suggests that in the earlier years large firms were negatively affected by the lack of profit-maximizing objectives, perhaps reflecting the social role played by large firms (maintaining employment) even though this role has disappeared over time. One plausible explanation for the positive coefficients in 1997 and 2000 is that small firms are more vulnerable to competitive pressures due to the lack of vertical integration opportunities available to small firms. The coefficients for the dummies on sector characteristics are, in most cases, positive and statistically significant, and are larger among the high labor skill sectors.

A pooled regression confirms the results described so far: private ownership is positively related with profitability, the non-tolerance of arrears hardens budget constraints and improves performance, and the import penetration index is positively related to profits only when applied to private firms (Table 6, columns G to J). Sector dummies suggest that firms in high labor skill sectors perform better than firms in other sectors. Capital intensity makes less of a difference. This pooled regression is estimated using all observations in a balanced panel. The Hausman test indicates that the random-effects model is appropriate.

Two checks on the robustness of these results have been carried out. First, OLS and pooled regressions for alternative measures of corporate performance—such as labor productivity and profits per employee, not reported—are carried out with similar results as those described so far. This is particularly true with regard to the sign and significance of the ownership dummy. In some of the pooled regressions the Hausman test recommends the use of the fixed-effects model instead of the random-effects model.[8] However, several authors argue that the effects of differences in cross-sectional data should always be treated as random (Mundlak, 1978) and that the differences between both models diminishes when the sample represents a large share of the population, as is the case in this paper. Moreover, in this paper the fixed-effects model would preclude the use of our time-invariant ownership dummy. Hence, we opt for the random-effects model confident that such decision will not undermine the conclusions derived. Second, an unbalanced panel regression is implemented for all 13,500 surviving firms in the manufacturing sector that exist in the ZPP dataset.[9] This regression confirms the results described so far; namely, a positive relationship between

[8] The differences across firms are captured by the constant term in the fixed-effects model (with the limitation that the conclusions derived apply only to firms in the sample; see Greene, 1990), but are assumed to be randomly distributed in the random-effects model.

[9] The unbalanced panel dataset includes surviving manufacturing firms of any size and includes firms for which data for the period 1994-2000 might be incomplete. The panel includes a total of 13,500 firms and there is an average of 3.8 years of data per firm.

private ownership and corporate performance, a negative effect of soft-budget constraints on enterprise profitability, and a positive effect of import penetration on profits, in particular among privately owned firms (Table 6, column K). The Hausman test recommends the use of the fixed-effects model. However, for the reasons previously stated, we opt for maintaining the specification that treats differences across firms as being randomly distributed.

V. Role of Insider Privatization

It can be argued that the poor performance of surviving firms in the FYR Macedonia is linked to the low ownership concentration that unfolded from the privatization process. The privatization mechanisms used were dominated by employee and management buyouts. The latter have themselves been similar to employee buyouts as they usually entailed hidden agreements between the old managers of the firm and the employees who had selected these managers. As a result, insider privatization and the resulting low levels of ownership concentration could be a primary reason for the poor performance of the enterprise sector.[10]

In this context, this section reports the results of a pooled regression that intends to review the role of ownership concentration in corporate performance. The regression is based on data for about 500 firms, most of which existed throughout the period 1994-2000 (Table 7). The sample includes only firms with shareholding structure. The data on ownership by the five largest shareholders (privately owned shares, domestic or foreign), are available only for end-2000. These data have been provided by the Central Share Registry[11] and have been merged with the profit data in the ZPP database used in the previous sections.

Table 7: Ownership Concentration

	Mean			Standard deviation		
	1994	1997	2000	1994	1997	2000
Number of firms	353	401	498	na	na	na
Employment	393	294	227	734	561	432
Profitability 1/	-12.4	-10.4	-15.3	37.4	37.2	42.5
Operating profits 1/	0.2	-9.1	-7.0	27.7	46.9	37.2
Labor productivity	10.8	14.7	19.9	19.0	49.9	116.4
Share of the largest 5 shareholders 2/ 3/	na	na	41.5	na	na	33.6
Share of foreign ownership 2/	na	na	6.9	na	na	20.9

Source: ZPP dataset and IMF staff estimates.
1/ In percent of sales revenue.
2/ In percent. Data exists only for 2000.
3/ Domestic and foreign privately-owned shares.

[10] What precludes investors from taking value maximizing ownership positions? If profit gains from high ownership concentration are possible, then each firm converges to its most efficient level of ownership concentration. However, the presence of high transaction costs and asymmetric information could constitute a disincentive for equity investment.

[11] Since 2001 the Central Share Registry has been the responsibility of registering shareholders.

Except for the introduction of indicators of ownership concentration, the empirical design builds on the analysis of previous sections. Corporate performance is proxied by profits as a share of sales revenue. Dummies on firm size and sector characteristics are added as control variables. The regressor on ownership concentration is based on the ownership share of the five largest private shareholders (domestic or foreign). The square of this regressor is added to assess if concentration yields decreasing or increasing returns.

The estimated coefficients support the thesis that high ownership concentration strengthens corporate performance (Table 8). Specifically, an increase in ownership concentration serves to increase profits. In addition, the square of this regressor has a negative coefficient, suggesting that there are decreasing returns to increases in concentration. The latter is an interesting and intuitive result: as a small group of investors increases its control of the firm, the gains from additional increases in their ownership stake decline. All other regressors have coefficients that are statistically significant and with signs that are in line with the results discussed in previous sections even though the sample of firms used is different. More precisely, the dummy on firm size has a positive coefficient, suggesting a positive return on profitability arising perhaps from the vertical integration options available to large firms. In addition, the coefficients for the dummies on sector characteristics are, in most cases, positive and statistically significant, and larger among high labor skill sectors.

Table 8: Estimation Results – Role of Insider Privatization 1/

	Random effects model	
	Coefficient	t-statistic
Dependent variable: Profits as a share of sales revenues		
Concentration regressors		
Ownership concentration	0.452	2.8
Ownership concentration squared	-0.429	-2.5
Other regressors		
LL and LK 2/	-0.277	-0.9
HL and LK 2/	0.063	2.1
HL and HK 2/	0.073	2.4
Firm size	0.068	2.8
Year dummies	yes	
R-squared	0.07	
Sample size	2882	
Hausman test 3/	27.40	

Source: IMF staff estimates.

1/ The regression includes a constant term.

2/ See footnote 5 in Table 6.

3/ Critical values.

VI. Concluding Remarks

This paper has documented developments in corporate performance in the FYR Macedonia during the 1990s, and finds different performance patterns between surviving old firms and nimbler new ones. The favorable developments are the relatively strong performance of newer firms, which mirror the growth experience of the late 1990s, the sharp reduction in the concentration of losses in the economy, and a significant degree of entry and exit of firms. At the same time, progress in corporate performance among surviving firms has been limited, suggesting that enterprise restructuring has been lagging even though substantial levels of labor shedding have been observed. In fact, labor productivity at the end of 2000 is still weak and largely below the 1994 levels. Profitability performance among these firms is weak, though there are interesting differences linked to the firm's ownership structure at end-2000: private firms have maintained stable levels of profits, and mixed firms are doing better than those that remained in social or state ownership.

As to the factors that facilitate restructuring, the paper's conclusions are consistent with the literature on transition economies: private ownership, hard budget constraints, and market-based economic institutions have a positive impact on profitability. In particular, the role of the latter is stronger if accompanied by private ownership, suggesting a strong complementarity between privatization and the development of competitive forces.

The paper also argues that the predominance of insider privatization is one reason for the weak record among surviving firms. Diffuse ownership, against the backdrop of soft budget constraints and weak institutions, leads to either significant power in the hands of managers who have incentives to use corporate resources in a manner that does not maximize shareholders' value, or the pursuit of policies that support short-term, and often unsustainable, objectives. In either case enterprise restructuring is slowed and performance suffers. Specifically, in a sample of about 500 firms with shareholding structure, profitability is found to be higher among firms that exhibited more concentrated ownership structures.

Looking ahead, FYR Macedonia's challenge is to complete the transfer of ownership to private hands, to ensure that government policy does not soften budget constraints, and to maintain progress in establishing competitive forces. The paper suggests that nontolerance of arrears, improvements in bank lending practices, and mechanisms to increase private ownership will all serve to strengthen the enterprise sector. If the large group of surviving firms still under mixed ownership is to improve its performance, then a key role is to be played by full enforcement of bankruptcy procedures and other measures that harden the budget constraints faced by enterprises. In turn, these policies will serve to strengthen corporate governance and improve the performance of the enterprise sector.

Finally, the heterogeneity in enterprise performance has implications for exchange rate policy. The privatization process has advanced substantially in recent years and few firms remain to be sold, but the bias towards insider privatization has resulted in poor accountability and inadequate resources to modernize the capital infrastructure of firms. In this context, a devaluation is not likely to improve the country's competitiveness: the nimble new firms likely do not need a depreciation to be competitive, while the sluggish old enterprise sector would probably use a depreciation only to delay needed restructuring.

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