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IZA DP No. 2148

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May 2006

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## ABSTRACT

### Enterprise Restructuring in Belarus<sup>\*</sup>

We explore the impact of privatization and the entry of new firms on enterprise performance in Belarus, a transition economy in which reform and market-orientated institutional development has been limited. We hypothesize that private ownership will enhance company performance, measured in a variety of ways including profitability and capacity to export to the West, and that newly created firms will perform better than state-owned ones. Our work is based on a large enterprise level survey which includes state-owned firms, privatized companies and newly created enterprises. The data refute both hypotheses. We conclude that this is probably because the institutional environment has not evolved sufficiently from the socialist era to permit free competition and effective governance by new owners.

JEL Classification: P2, P31, L1

Keywords: enterprise restructuring, privatization, transition, Belarus

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## 1. INTRODUCTION

The literature contains numerous studies of how the transition process has influenced enterprise behaviour (e.g. Djankov and Murrell, (2002)). The focus has been on the privatization policies and institutional arrangements conducive to improved company performance (Estrin (2002)), and enterprise-level empirical work has concentrated on the more advanced transition economies such as the Czech Republic, Hungary or Poland (e.g. Frydman *et al* (1999), Claessens and Djankov (1999), Grosfeld and Tressel (2001)) or on Russia (e.g. Estrin and Wright (1999), Guriev and Rachinsky (2005)). In general, one observes a positive relationship between the impact of privatization on company performance on the one hand and the business environment, including property rights and the institutional framework, on the other (e.g. Sachs, Zinnes and Eilat (2000)). However, little attention has been focussed on economies that have been lagging in the transition process, though there are a significant number of them (see EBRD (2005)). An interesting way to test whether privatization and *de novo* entry can by themselves engender improved company performance is to analyse behaviour in economies where privatization has occurred but in which institutional evolution has been more limited. In this paper, we provide an example of such an approach by exploring the impact of privatization and new firm entry on enterprise performance in Belarus.

Belarus is an economy with one of the lowest scores in terms of progress in transition, according to the annual EBRD Transition Reports. Progress has generally been poor across the nine areas of reform covered in the Reports, and even in price and trade liberalization, which is one of the most successful reform activities in Belarus, the recent rating of 2.5 is lagging behind all transition economies but Turkmenistan and Uzbekistan (EBRD (2005)). In common with other transition economies, Belarus suffered a major recession at the start of reform (see Vinhas de Souza and Havrylyshyn (2006)). In 1995 (the last year of recession), GDP in Belarus accounted for 65 percent of its 1990 level, industrial output was 61 percent, and capital investments only 37 percent, though most prices had been liberalised, and significant

progress in small-scale and some in large-scale privatisation had been achieved. During 1992-1995, despite many shortcomings, the creation of the new market institutions had started and, though macro stabilization was not reached, inflation was reduced from a 4-digit to a 3-digit level while a large nominal depreciation of the Belarusian Rouble (BRB) between September 1993 and March 1994 allowed for the recovery of exports. However, especially from the end of 1995 onwards, progress in transition in Belarus became rather slow and inconsistent, and this was reflected in a reduction in the EBRD transition indicators, from 2.1 in mid-1995 to 1.5 in mid-2000 (see Savchenko (2002). The move towards a “socially-oriented market economy” became an officially adopted target<sup>2</sup>, implying a transition path which in many respects undermined the previous reform efforts and led away from rather than towards a market economy.

Economic policy in Belarus since 1995 has been aimed at increasing growth through managing aggregate demand. The environment was characterised in the mid-1990s by multiple exchange rates, a lack of free foreign exchange markets, negative interest rates, high tax burden, widespread quasi-fiscal activities and barter operations, and increasing final product inventories. However, GDP growth resumed in 1996 and was high in 1997-98 (11.4% and 8.4%), while industrial output grew even faster (18.8% and 12.4%) and investment expanded by 20% and 25%. Rates of GDP growth in 1999-2002, in the aftermath of the Russia crisis, were more moderate, but growth accelerated in 2003 to 7% and further to 11% in 2004 with an even faster expansion of industrial output and investment. The exchange rate was unified in September 2000 and, since then, macroeconomic policies have been gradually improved.<sup>3</sup> However, very little progress took place in the area of structural reforms and the business environment remained one of the most hostile in the region (World Bank 2003, 2005a and 2005b). The share of private sector in Belarus' GDP in mid-2004 was only about 25 percent - the lowest figure out of all 27 transition economies, equal to that of Turkmenistan.<sup>4</sup> “Bottom up” privatization had run its course by 1993/4 and

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<sup>2</sup> The government introduced in 1996 the “Main Directions of the Social and Economic Development of the Republic of Belarus” and other programs designed to increase economic regulation and to strengthen the role of the government in the economy. From that date, the government has regulated prices and foreign trade, while slowing down privatization and institutional reform.

<sup>3</sup> For the analysis of the differences in policies during the two growth periods see, Bakanova and Freinkman (2006), World Bank (2005a). See also Zheltkov (2005), Shimov (2005).

<sup>4</sup> EBRD (2004).

managers in state owned firms gradually gave up aspirations to privatize their firms and learnt to work in the “socially orientated market economy” and there were almost no privatizations of sound enterprises after 2000, but some firms that were performing badly were privatized (see World Bank (2005a), Istomina (2005)).

Our analysis is primarily based on the survey undertaken in 2004 which covered 402 enterprises in the industrial sector, out of an estimated total of around 2200 firms. The survey contained new firms (DNs) as well as state owned (SOEs) and privatized former state owned firms (PFs). We also draw on surveys undertaken by the Institute of Privatization and Management (IPM) in 2000 and 2003. The paper has four further sections. In the second section, we outline the hypotheses to be explored and our specification of them for empirical work. The findings of the survey with regard to enterprise performance are summarized in the third section and our econometric findings are contained in the fourth. In the final section we bring together our results and provide policy conclusions.

## **2. OWNERSHIP AND ENTERPRISE PERFORMANCE**

### **2.1 Hypotheses**

There is a considerable literature on the relationship between ownership and enterprise performance, summarised in Megginson and Netter (2001) and Megginson (2005). Djankov and Murrell (2002) have provided a survey of the findings for transition economies. Rather than present these arguments afresh, we outline the relevant predictions of the literature for our work in two hypotheses:

***Hypothesis 1:** Privately owned and privatized firms will perform better than state owned ones.*

Relative to state owned firms, private companies in developed market economies are hypothesised to have superior corporate governance via the role of external owners in monitoring managerial performance. Incentives for managers to act in ways that

improve corporate value are also sharper because of managerial markets that reward efficiency and punish poor performance and payment schemes that align managerial and owners' incentives. In private firms, monitoring of management can be made more efficient by competition in stock exchanges and with information highly transparent through share prices. There is also the threat of hostile takeovers whereby poorly functioning managers can be replaced through competitive bids by alternative management teams. Moreover, since bankruptcy laws impact on private but not state owned firms, resources can be allocated away from private firms that are inefficient, but the absence of the bankruptcy threat in state owned firms can lead to soft budget constraints which hinder this.

The process of transition has added several issues to the analysis of privatization. Firstly, it may matter how the firms were privatised. In Western market economies, privatization is almost always to the highest bidder, and either via the stock exchange or to a group of strategic owners. Hence agents able to generate the highest returns from the assets make the highest bids. However transition was associated with some major innovations in privatization methods, including restitution, so-called "small privatization", management-employee buyouts, vouchers, certificates and a number of other methods of "mass privatization". Different privatization methods can lead to a variety of owners and governance structures and therefore to different performance post-privatization (Bennett, Estrin, Urga (2005)).

It may also be relevant to understand to whom firms were privatised, in the sense of the controlling ownership group. For example, if the dominant owners post-privatization are insiders - workers and managers - they may be less willing to restructure because their own jobs will be at risk. They may also be less willing to invest because this would dilute their ownership stake and hence their ability to protect their employment and other non-commercial interests. Thus one might expect insider owned firms to perform worse than outsider ones. However, it is not clear how to evaluate insider ownership relative to state ownership. Earle and Estrin (1996) argue that insider ownership may be superior to state ownership since cost improvements are reflected in the returns to the owner, giving workers and managers an incentive to improve efficiency. On the other hand, insider ownership might be

associated with non-profit motives in the firm to such an extent that company performance will be worse than under state ownership.

Finally, institutions are relevant everywhere in determining the impact of privatization (Djankov and Murrell (2002), Megginson (2005)). The benefits of privatization may fail to materialize if the institutional environment for the newly privatised firms is insufficiently developed to support the corporate governance structures underpinning private ownership. For example, the enhanced incentives for managers rely on the operation of either an Anglo-Saxon type stock exchange, with competing groups of private owners being given both the information and the authority to intervene effectively in cases of poor management, or an effective strategic owner such as a foreign firm. Either form of governance relies on the key attributes of a market system being in place, including the rule of law, a commercial code which for example guarantees minority shareholder and debtors' rights and a bankruptcy code (Hare and Davis (2006)). In an environment in which managers are more easily able to achieve their own objectives through rent seeking, or in which property rights enforcement is so weak that owners cannot prevent managerial abuse, for example tunnelling out assets (see e.g. Boycko, Shleifer, Vishny, 1995; McMillan and Woodruff, 2002; Johnson *et al*, 2000), privatization cannot be guaranteed to improve company performance.

*Hypothesis 2: De Novo (DN) firms will perform better than privatised or state owned firms.*

Privatization in transitional economies should improve corporate governance of former state owned firms if the appropriate institutional arrangements have been set in place, but even then progress may be slow because of legacy issues. In contrast, new firms will not face the problems of restructuring to the new market environment that is at the heart of the transition problem for SOEs and PFs. Being created from scratch, they do not inherit the structural problems - over-manning, underinvestment, poor quality control, weak marketing and financial control and all the other difficulties - which beset SOEs and PFs (Estrin (2002)). In many cases, the inherited structures, attitudes and organisational cultures of the old state owned firms were so strong that restructuring has been very slow. The selection process that determines the

foundation of new firms may ensure that more market focused and entrepreneurial people will lead them from the outset (Estrin, Meyer and Bytchkova, (2005)). This implies that policy-makers seeking successful restructuring might be better advised to focus their attention on the encouragement of new firm entry (Kornai, (1990));

## 2.2 Specification of Hypotheses for Empirical Work

We can summarise hypotheses 1 and 2 in a simple equation,

$$X = f(O, Z) \quad (1)$$

where  $X$  is a vector of performance variables;  $O$  is ownership (three categories; SOE, PF and DN); and  $Z$  is a vector of control variables. The hypotheses summarise our expectations about  $dX/dO$ . A number of variables have been employed extensively in the literature as a proxy for the  $Z$  vector i.e. to control for the factors other than ownership that might influence company performance. We briefly summarize the most important ones for our empirical work, commencing with company size. Large firms, which can exploit scale economies, may be more productive than smaller ones, especially in the industrial sector and size can also bring pecuniary benefits, for example lower inputs costs or higher prices because of monopoly power. We use the number of employees in the firm to proxy for size in our empirical work, predicting a positive relationship with company performance.

Different sectors have different technologies, capital intensities and factor productivities, and may also have different market structures and price-cost margins. We therefore control for industry-specific effects with sectoral dummy variables and also include an additional variable for the intensity of market competition. Moreover, transition economies often have regionally fragmented markets, so that, even for firms in a given sector, demand patterns or market structures may vary according to geography, which we control for using regional dummies. We also discussed above the importance of dominant ownership (insider versus outsider) for company performance and we control in our empirical work for this using a dummy variable

for insider (managerial) ownership. Since there is some evidence that foreign owned firms perform better in transition economies (Svejnar, Terrell and Sabirianova (2005)), we include a dummy variable for whether the firm is engaged in a joint venture. Finally, we control for managerial quality by including a variable for the duration of manager's tenure in the company as well as for the Belarus institutional environment using the extent of barter in enterprise transactions.

### **3. ENTERPRISE PERFORMANCE AND RESTRUCTURING IN BELARUS**

In this section, we use the Belarus samples to describe the characteristics of SOEs, PFs and DNs in Belarus and to analyse differences in company performance, in terms of a variety of quantitative and qualitative indicators, by the three ownership types; state owned, privatized former state owned firms and firms created *de novo*.

#### **The Nature and Scope of the Enterprise Sector in Belarus**

There have been three surveys of Belarusian industrial firms. The first two were by IPM undertaken in 2000 and 2003 and cover 222 firms, 119 of them SOEs and 103 PFs. The most recent one was in 2004 and covers 402 industrial enterprises, out of an estimated total of between 2100 and 2300 industrial enterprises in Belarus. In terms of ownership structure, 23.1% of the 2004 sample were SOEs, 48% PFs and 28.9% DNs<sup>5</sup>. The sample is a structured random one so as to ensure adequate representation of large firms<sup>6</sup>. This is because the underlying firm size distribution is highly skewed;

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<sup>5</sup> SOEs are defined as enterprises whose legal status is "unitary state owned enterprise", while former state owned firms are enterprises whose legal status is other than unitary state owned enterprise and which indicated that they had been established in the process of privatization. This category includes enterprises bought from the government and joint stock companies in which the government still owns a stake, including a majority stake. We later distinguish between firms that are controlled by the state or privately controlled in the sense that the state owns more or less than 50% of shares. All other enterprises are contained in the new private enterprise category.

<sup>6</sup> This approach leads to some bias in the sectoral distribution of the sample relative to the population. Some 17% of firms in the sample are in the energy, fuel and chemical/petrochemical industry as against only 6.5% in the population. However, these three sectors produce 42% of industrial output. Construction materials are also over represented; 12% in the sample compared with 5.8% in the population. This necessarily leads to under-representation of the remaining industries. Thus, 26% of firms in the sample are in machinery and metalworking, as against 29% of the population; 11% in forestry, wood, paper and pulp as against 15.5%; 18% in light industry (21.2%); and 16% in food (22.1%).

42.6% of firms in Belarus employ fewer than 100 people, but only produce 2.7% of industrial output and provide 1.2% of industrial employment. We structured the sample by sector and size class to ensure adequate representation of the large and important SOEs and PFs in metallurgy, machine building, fuel, chemicals and petrochemical sectors.

The characteristics of Belarusian firms in our sample are summarized in Table 1. We find all the firms to be major employers, especially the SOEs, and even DNs in our sample employ on average more than 140 workers. These numbers are quite large even by the standards of other transition economies. Thus Belka *et al* (1995) report that in early-transition Poland, SOEs on average employ 703 workers, PFs employ 1007 if they are majority state owned but only 594 if privately held, and DNs employ 111. The figures for Russia are similar to those of Belarus; for example Linz and Krueger (1998) report that firms in their Russian enterprise sample vary in size between less than 200 and more than 10,000 workers, though 80% of the sample is in the size class between 2000 and 5000 workers. Earle, Estrin and Leschenko (1996) also find comparable employment levels in Russia; average employment in SOEs was around 3000 workers (see also Ioffe (2004)).

The proportions of sales that are exported are surprisingly low for what one might expect to be a small open economy: less than 30% of revenue. Unsurprisingly DNs export least - less than 20% of their sales - while SOEs have the largest export share at 28.7%. Table 1 also suggests that there has been little progress towards Belarusian integration into the world economy; exports to Russia and the former communist bloc predominate. Only one quarter of firms that export do so to developed western economies. Another sign that reforms have not yet taken root can be seen in the slow rate of managerial turnover. On average, managers have worked with their firms for more than 12 years, more than half of them in the top post. Unsurprisingly, managerial turnover is particularly low in SOEs, where the average tenure is nearly eighteen years, but also in PFs, where managers have worked for the firm on average for 12.4 years, the majority of them in the senior position. Even in new firms, managerial turnover is rather slow, with the average tenure exceeding seven years. Thus reform and ownership change has not been much associated with changes in management, even in privatized firms.

Policy-makers in the transition economies had hoped that the introduction of new technology and the expansion of foreign trade could be spearheaded through foreign direct investment (FDI) and joint ventures (see e.g. Estrin, Gelb and Singh (1995)). However, in practice foreign investment has played no significant role as yet in Belarus's economic development: FDI is negligible and only around 5% of firms are in a joint venture. The comparable figure for Poland in 1994 was 14% (Belka *et al* (1995)). Interestingly, joint ventures with foreign firms are slightly more common among *SOEs* and *PFs* than *DNs*, perhaps indicating foreign firms' preference for arrangements with larger or better connected enterprises or an institutional bias against *DNs* in the granting of licenses. There is also no evidence for the emergence of financial holding companies, as was occurring in Russia and which have come to be seen as a potential source of concentrated outsider ownership (see Perotti and Gelfer (2001)). Less than two percent of the firms in our sample are members of a holding group.

Turning to investment financing, there are important differences in the sources of financing by ownership type. *De novo* firms rely largely on retained earnings; only 36.2% of *DNs* (as against 67.7% of *SOEs*) view banks as an important source of finance, and *DNs* are also much less likely to obtain subsidies or to exploit deficiencies in the property rights system by accruing overdue arrears. In contrast, former and especially current state ownership is associated with superior access to banks for loans, the possibility of selling or leasing unused assets and a much enhanced ability to obtain subsidy, government exemptions and preferences or to exploit soft budget constraints. Overall, some 39% of all firms in Belarus continued to benefit from some form of government concession, down from 49.1% in 2000. These are primarily tax concessions (15.9%), writing off budget arrears (13.7%) and targeted budget financing and subsidies (8.2%). However, these benefits are enjoyed by more than half of *SOEs* (51.6%) and 44% of *PFs* but only 21.6% of *DNs*. For example, writing off budget arrears has benefited almost 24% of *SOEs* but only 2.6% of new firms.

In the socialist era, firms were also the basis for a significant share of welfare provision, and the move to a market economy has meant that the sale of social assets, the crèches, health facilities etc owned by the socialist enterprise is an important aspect of restructuring. Estrin and Schaffer (1997) undertook a study of such restructuring for Poland, and found that while, SOEs had only restructured slightly, there was somewhat more change in the ownership and provision of social assets among privatized firms. *De novo* firms, since they did not inherit such structures from the socialist period, owned very few social assets in Poland in 1995. Overall, the level of social provision in enterprises was found still to be quite high in Poland in 1993; for example 34% of firms provided childcare, 64% health care, 52% housing or housing subsidies and 29% a cafeteria. There was also considerable variation by ownership type; for example 48% of privatized firms and 65% of SOEs but only 3% of DNs provided housing or housing subsidies. Table 2 reveals that the levels of social provisions were still higher in Belarus in 2004 than they were in Poland in 1993, and that there has been almost no restructuring at all of social assets since the fall of communism in either state owned or privatized firms. There are some differences between SOEs and PFs in the structure of the provision of social assets; for example SOEs provide on average more canteens and day care centres. But the differences that existed in 1991 between the firm types remain in 2004. The only area where there has been any significant reduction of enterprise provision of social assets is in day-care centres and nurseries, but this has declined considerably in both SOEs and PFs. The sample does not provide information on social provision in DNs.

#### **4. ENTERPRISE PERFORMANCE, RESTRUCTURING AND OWNERSHIP**

For firms in developed market economies one can identify several approaches to measuring performance. A common one is enterprise efficiency, often proxied by total factor productivity (TFP) or labour productivity. A second is profitability, measured by profits and usually normalised by some measure of firm size such as assets (profit to assets ratio) or sales (profit to sales ratio). However it is hard to use these standard measures of performance in transition economies because they require

more data, especially with respect to capital, than are usually available<sup>7</sup>. Hence, studies of corporate performance in transition have tended to rely on labour productivity, or alternative measures constructed to address the issues raised by the reform process (see Djankov and Murrell (2002)). Commonly used measures have included sales growth, employment growth and, given the importance of opening to the global economy in the process, export growth, especially to western economies.<sup>8</sup>

In the light of this, we employ a wide variety of measures of enterprise performance in our empirical work:

1. *Measures of enterprise productivity and profitability* - sales per worker (SL), and profitability (ratio of profits to sales) (PS). Since these are continuous variables and the data is cross-sectional, we use OLS estimation methods in these regressions.
2. *Indicators of export performance*. We use the export to sales ratio (EXP) and the expected change in future exports (DEX) and in exports to the West (DEX1). The latter are limited dependent variables (taking the value of unity if exports (exports to the west) increased and otherwise zero) so we estimate using probit methods.
3. *Indicators of changes in company performance*; productivity change (DSL) and change in employment (DEMP). The former is a limited dependent variable (taking the value of unity if sales per worker increased) so the estimation method is probit, but OLS is used for the employment change equation<sup>9</sup>.

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<sup>7</sup> For example, TFP can only be measured if there are good measures of capital input, a variable that was poorly measured under planning and beyond. Profits are also not good indicators of performance in periods of rapid price change and company information about profitability is often unreliable for political or tax evasion reasons. Deficiencies in the capital market also often precludes the use of financial measures.

<sup>8</sup> The equation for employment growth must be interpreted differently from the others however. Faster output or productivity growth in a given sector in DN firms than privatised ones would be a consequence of better management but current and former state owned firms would almost certainly be over manned (see Estrin (2002)). Hence employment in such firms might fall whatever was happening to output and sales. In contrast, DNs are likely to have entered the market at or below optimal scale, and hence will have a positive correlation between output and employment. (see Richter and Schaffer (1996)).

<sup>9</sup> There is positive correlation between some of the performance measures. Productivity and profitability are positively correlated, and firms with higher labour productivity also have greater exports to the West. Productivity growth is strongly correlated with other measures of good performance, including high export shares and growth, including to the West. The improvement of exports to the West is correlated with SL, DSL, EXP, DEX, but not correlated profitability or

Our hypotheses concern the sign and significance of the firm type dummies; DN and PFs relative to SOEs in these seven performance equations. We also further subdivide the category of “privatized enterprises” (PF) to take account of the fact that some firms, which have formally been privatized, retain dominant state ownership. Thus while all former state owned firms, including those with majority state ownership, are denoted PF, privatized firms with majority private ownership are denoted PF1. SOEs are the omitted category in the regressions.

As discussed in Section 2, we control for size of firms using employment (*EMP*) and for differences based on product markets using industry dummy variables.<sup>10</sup> We construct a dummy variable *GEO* for firms located in Minsk<sup>11</sup>. We construct a dummy variable *JV* that takes the value unity if the firm is a joint venture, or has set up a joint venture. We control for managerial turnover with a dummy variable, *LOS*, which takes the value of unity if the manager started working at the enterprise prior to 1996. We expect performance to be enhanced in firms with managers who have served for a shorter number of years. Product market competition can put pressure on enterprises to improve their performance and we address this with the dummy variable *COMP*, which takes the value of unity if managers perceive domestic or foreign competitors as being a considerable or major influence on their choices. Since large insider stakes can act to slow restructuring and improved performance, we include a dummy variable *MAN*, which takes the value of unity if managers are majority owners of the firm.

At first thought, one might expect soft budget constraints to act to undermine enterprise performance, diverting management energies from satisfying consumer demands towards rent seeking. However, in a partially reformed environment like Belarus, where resources are scarce and capital markets underdeveloped, soft budget

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employment growth. Indeed employment growth is not correlated with any other performance measures. Profitability is not associated with productivity, employment growth, or exports.

<sup>10</sup> Industry 1 is machinery and metalworking; 2 is timber, woodworking, pulp and paper; 3 is construction materials; 4 is light industry and 5 the food sector. The omitted industry category is “other”.

<sup>11</sup> All other regions are the omitted category.

constraints may instead represent valuable access to financial (and political) resources and hence may enhance the performance of firms that receive them. We employ two dummy variables for soft budget constraints in our regressions; SBC which equals unity if the firm reports that subsidies or exemptions and preferences granted by the state are an important source of enterprise funding and SBC1 which equals unity if the state has granted the firm any of soft loans, targeted budgetary financing and subsidies, customs or tax exemptions, sale of foreign proceeds on privileged terms, soft settlement regime for energy payments or writing off unpaid dues to the budget. Thus SBC represents a higher level of subsidy than SBC1.

We use a variety of specifications in our regression analysis because SOEs are typically larger, and DNs smaller than PFs. For this reason, we provide estimates that both exclude and include the employment variables, columns (1) and (2) of each regression respectively.<sup>12</sup> The regressions are reported in Tables 3 to 5, with results for measures of business performance (SL and PS) in Table 3; export performance (EXP, DEX and DEX1) in Table 4; and growth performance in Table 5 (DSL and DEMP).

We commence our testing of the hypotheses by exploring the relationship between productivity and profitability on the one hand and firm ownership types on the other in Table 3. The SL equation suggests that industry effects are significant in understanding productivity differences between firms, with enterprises in the timber, woodworking, and pulp and paper industry significantly more productive. Moreover, monopoly power is found to yield higher prices, and therefore revenues and sales per worker, since COMP is negatively associated with productivity and we find a positive effect from managerial ownership.<sup>13</sup> However, privately owned firms – both privatized and created *de novo* – are not found to perform better than state owned ones. Indeed privatization, when it takes the form of majority control being placed in private hands, is actually found to be associated with lower productivity than state ownership. We also find no significant difference between the profitability of former

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<sup>12</sup> New firms are also concentrated in Minsk, and are more likely to have joint ventures, but this does not influence any of our results so we do not report regressions with these variables omitted.

<sup>13</sup> The causality here is not unambiguous - managers may have taken ownership stakes in more productive firms. We are not able to explore this issue further in this paper.

state owned firms as a class, new firms or state owned firms. However, in a very poor equation, we find that firms that have been privatized fully (PF1) are more profitable.

The regressions in Table 4 have a better fit than the performance equations. Commencing with export shares, the regressions find that larger firms export more, have faster growth of exports and increase their exports to the West more. Length of service seems to be a (negative) indicator of managerial quality, in that export shares are significantly lower in firms in which managers were appointed before 1996. There are also strong sectoral and regional effects, with a base in Minsk being a significant disadvantage for all three measures of export performance. Export shares are also positively related to both measures of softness of budget constraint, perhaps indicating that firms may need to be subsidized to maintain high levels of exports. This result holds when we control for size of firm. There is also some weak evidence that firms in receipt of soft budget constraints may be increasing exports to the West faster. As in Table 3, the ownership effects in Table 4 do not for the most part support our hypotheses. Thus there is no evidence that privatized or new firms increase exports or exports to the West faster than state owned firms, though surprisingly new firms have significantly higher export shares.

We consider the indicators of changes in enterprise performance in Table 5. The employment growth equation contains rather few significant determinants, with firm size, soft budget constraints and product market competition all proving not to be significant. There are also no significant effects from managerial quality or the presence of JVs. Indeed the only significant control effects are sectoral and via insider ownership.<sup>14</sup> There are no significant differences in employment change according to whether a firm is state owned, privatized or *de novo*, though the category of former state owned firms in which private owners hold a majority stake do adjust employment significantly more than the other types of firm. The productivity growth equation is interesting in that soft budget constraints are again found to have a positive effect and length of managerial service a negative one. However, there are no significant differences between any PF and SOEs though DNs display significantly slower productivity growth.

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<sup>14</sup>Firms with managerial ownership increase and reduce employment more slowly. This is consistent with the view that insiders will act to slow the pace of restructuring

These equations taken together suggest that the determinants of company performance in Belarus, using a wide variety of indicators, are not for the most part those that are relevant in most other transition economies; the fits are poor and few “economic” variables are significant. However, we are still able to test our hypotheses about the impact of different firm types on the variety of performance measures. Hypothesis 1 – that privatized firms will perform better than state owned ones - is rejected in every equation: the coefficient on PF is never significant. However this may be because the state retains significant stakes in formally privatized enterprises. But when we separate out the group of privatized firms that have non-state majority owners, the findings are inconsistent, though a few significant effects from private ownership emerged. Majority private ownership of former state owned firms is associated with greater profitability and productivity growth, but lower productivity levels and less property restructuring. The results with respect to new firms in hypothesis 2 are even more emphatically negative. For the most part, new firms in Belarus are not found to perform any differently to state owned or privatized firms. However there are two contradictory exceptions; exports, which are greater in DNs, and productivity growth, which is found to be slower.

## 5. CONCLUSIONS

Our sample suggests Belarusian firms have made very limited progress in enterprise restructuring. We will focus on three aspects of these difficulties: the failure to integrate sufficiently into the world economy, the effects of soft budget constraints and the institutional environment for privatized and new firms. Studies of other transition economies suggest that foreign firms could have a very important role to play in enterprise restructuring. They can provide new technologies, and mechanisms to benefit from the global division of labor including export growth, capital investments and managerial skills. In Belarus, we find the levels of foreign direct investments and joint ventures to be low, and in our equations, we do not find that membership of a joint venture yields any benefit in terms of improved performance. This suggests that the policy environment is particularly unattractive to potential foreign investors, and that the Belarus authorities have much to learn about how to exploit joint ventures to the benefit of the host firms.

Contrary to expectations, we find that firms in receipt of direct or indirect subsidy never perform significantly worse and sometimes perform better. One might interpret this result as indicating that soft budget constraints are effective in improving company performance. However, this conclusion is probably misleading. The Belarus economy has only partially moved in a direction of the market. Firms are financially constrained and financial instruments other than retained profits or sale of socialist assets are virtually non-existent. In such a situation, resources from any source may allow firms in receipt of them to improve their own performance somewhat. However, soft budget constraints also dull the incentives generated by the market economy, and their continued relevance in the Belarus environment may indicate why other variables proxying for market incentives in our equations are rarely found to be significant.

The refutation of Hypothesis 1 suggests the Belarusian institutional environment has not yet taken a form that can sustain the operation of a market economy. For the most part, privatization is found to have no significant effect on a variety of aspects of

company performance. This could be because the new owners were inappropriate, but the study does not indicate that insider ownership is the key issue. It seems more plausible that privatization is having no impact because the new owners are not able to exercise effective corporate governance because of weaknesses in the enforcement of property rights, restrictions on the operations of product markets and softness of budget constraints. The extended length of service of managers in privatized firms also suggests that the new private Belarusian owners have not changed management post-privatization and this is indicative that ownership changes alone have not been sufficient to engender behavioural shifts.

An equal worry for the future path of the economy is the refutation of Hypothesis 2 about *de novo* firms. Evidence is emerging that the path of institutional development between the former Soviet Union countries and Central and Eastern Europe is diverging (Djankov and Murrell (2002)), particularly in the area of property rights and institutions conducive to the emergence and growth of a dynamic *de novo* sector (see Estrin, Meyer, Bychkova (2005)). Such institutions include a flexible capital market, a sound commercial code, enforcement of property rights, a limitation on rules and bureaucracy, especially for small and medium sized enterprises, and relatively low levels of corruption. The institutional differences with respect to the business and legal environment for new firms seem to be strongly associated with the rate of creation of new enterprises, and therefore productivity and economic growth. Our findings that new firms in Belarus are rarely in any significant way different from current and former state owned firms with respect to performance are contrary to the transition literature that identifies new firms as an important potential source of restructuring and growth. The results seem once again likely to be explained by the particular legal, institutional and business environment in which *de novo* firms operate in Belarus.

**Table 1**  
**Characteristics of Belarus Enterprises**

	<b>Sample Average</b>	<b>SOE</b>	<b>PF</b>	<b>DN</b>
Employment (2004) (EMP)	594	1237	565	146
% firms exporting to: -				
- developed economies	25.1			
- former socialist economies	35.1			
- Russia	70.6			
Share of exports in revenue (%)	25.8	28.7	28.0	19.1
Years of service of general manager (LOS)	12.1	17.6	12.4	7.4
% firms with or in a joint venture (JV)	5.5	7.5	6.2	2.6
% firms which are members of holding companies	1.7	-	-	-

**Source:** Institute of Privatization and Management, 2004

**Table 2****Share of Enterprises Having Social Assets, %**

<b>Social asset</b>	<b>Form of ownership</b>			
	<b>SOE</b>		<b>PF</b>	
	<b>1991</b>	<b>At present</b>	<b>1991</b>	<b>At present</b>
Canteen, cafe	64.5	63.4	46.1	45.1
Holiday center, recuperation center	22.6	20.4	12.4	11.4
Cultural center, club	26.9	22.6	18.1	17.1
Information and education centers	5.4	3.2	4.7	3.6
Residential houses	47.3	44.1	30.6	32.1
Sport facilities	20.4	21.5	13.5	14.5
Health facilities	43.0	45.2	23.8	23.8
Day care centers, nurseries	47.3	18.3	28.5	11.4

**Source:** Institute of Privatization and Management, 2004

**Table 3****Performance Equations: Productivity and Profitability**

	Productivity (SL)		Profitability (PS)	
	(1)	(2)	(1)	(2)
<b>DN</b>	0.022	0.017	-0.107	-0.061
	0.203	0.154	-0.986	-0.519
<b>PF</b>	0.106	0.104	-0.113	-0.143
	0.811	0.786	-0.876	-1.068
<b>PF1</b>	-0.205*	-0.207*	0.182	0.261**
	-1.828	-1.83	1.598	2.202
<b>MAN</b>	0.194**	0.195**	0.029	0.033
	2.154	2.152	0.347	0.381
<b>GEO</b>	-0.045	-0.046	-0.013	-0.04
	-0.565	-0.568	-0.161	-0.489
<b>LOS</b>	0.045	0.043	-0.077	-0.078
	0.591	0.548	-1.037	-1.013
<b>JV</b>	-0.012	-0.012	0.065	0.042
	-0.174	-0.162	0.933	0.588
<b>SBC</b>	-0.052	-0.05	0.003	0.023
	-0.663	-0.637	0.033	0.291
<b>SBC2</b>	-0.095	-0.093	0.052	0.035
	-1.187	-1.152	0.655	0.438
<b>COMP</b>	-0.158**	-0.158**	-0.038	-0.058
	-2.28	-2.26	-0.567	-0.84
<b>EMP</b>		-0.013		0.108
		-0.159		1.329
Industry Dummies	Yes***	Yes***	Yes***	Yes***
<b>R2</b>	0.102	0.102	0.071	0.099

Figures below estimated coefficient are t statistics, \* denotes significance of 10% level, \*\* at 5% level and \*\*\* at 1% level

**Table 4****Performance Equations: Exports and Export Growth**

	Exports (EXP)		Change in Exports (DEX)	Change in Exports to the West (DEX1)
	(1)	(2)	(1)	(1)
<b>DN</b>	0.162*	0.26***	0.284	0.707
	1.806	2.683	0.927	1.429
<b>PF</b>	0.081	0.106	-0.019	0.041
	0.747	0.946	-0.051	0.08
<b>PF1</b>	0.019	0.071	0.471	-0.674
	0.203	0.712	1.285	-0.88
<b>MAN</b>	0.067	0.07	-0.127	-0.018
	0.96	0.993	-0.52	-0.043
<b>GEO</b>	-0.275***	-0.251***	-0.761***	-0.694*
	-4.154	-3.654	-3.65	-1.878
<b>LOS</b>	-0.204***	-0.163**	-0.232	-0.253
	-3.25	-2.531	-1.145	-0.765
<b>JV</b>	0.014	-0.013	-0.449	-0.052
	0.233	-0.224	-1.586	-0.122
<b>SBC</b>	0.144*	0.129*	0.297	0.344
	1.769	1.953	0.831	0.85
<b>SBC2</b>	0.17**	0.114*	0.246	.622*
	2.555	1.678	1.117	1.695
<b>COMP</b>	0.082	0.111*	0.121	0.133
	1.445	1.93	0.618	0.402
Industry Dummies	Yes***	Yes***	Yes***	Yes***
<b>EMP</b>		0.257***	0.000***	0.000**
		3.785	2.736	2.455

Figures below estimated coefficient are t statistics, \* denotes significance of 10% level, \*\* at 5% level and \*\*\* at 1% level.

**Table 5****Performance Equations: Productivity and Employment Growth**

	Productivity	Employment Growth	
	Growth (DSL)	(DEMP)	
	(1)	(1)	(2)
<b>DN</b>	-0.66**	0.074	0.092
	-2.256	0.73	0.873
<b>PF</b>	-0.116	0.053	0.062
	-0.317	0.437	0.5
<b>PF1</b>	-0.252	0.27**	0.277**
	-0.718	2.533	2.579
<b>MAN</b>	-0.213	-0.141*	-0.142*
	-0.921	-1.754	-1.764
<b>GEO</b>	-0.115	0.031	0.032
	-0.562	0.415	0.427
<b>LOS</b>	-.340*	0.065	0.073
	-1.732	0.939	1.041
<b>JV</b>	-0.107	-0.01	-0.013
	-0.392	-0.161	-0.198
<b>SBC</b>	0.357	-0.041	-0.047
	1.058	-0.578	-0.653
<b>SBC2</b>	0.576***	-0.066	-0.072
	2.716	-0.898	-0.977
<b>COMP</b>	0.236	-0.018	-0.02
	1.285	-0.287	-0.321
<b>EMP</b>	0		0.047
	0.831		0.635
Industry			
Dummies	Yes***	Yes***	Yes***
<b>R2</b>		0.129	0.13

Figures below estimated coefficient are t statistics, \* denotes significance of 10% level, \*\* at 5% level and \*\*\* at 1% level.

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