

What determines enterprise performance in Russia? A survey of the evidence

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1 Introduction

In order to achieve sustainable economic growth in the transition countries, it is crucial that enterprise performance is improved (e.g. EBRD, 1997). However, it is not clear which factors are essential for this. Different policy prescriptions (should) result depending on the answers to this question.

To get some more grip on the possible answers (and non-answers) for Russia, this paper will survey the *empirical* (econometric) studies on potential determinants of enterprise performance concentrating on this transition country. To my knowledge, the relevant studies have been few so far (see table 1 in the appendix for a quick overview, but watch the main text for caveats to the results).² The most important reason for this probably lies in the fact that relevant data is still scarce. Nevertheless, Russia is a particularly interesting case, not only because it is the most important of the transition countries, but also because the performance of its enterprises since reform started has falsified expectations most widely, generally remaining poor.

The typical empirical approach is to regress variables of interest and control variables on a performance measure, and see whether there are robust effects of the former (i.e. coefficients which are consistently significant and of the expected sign). Different performance measures have been chosen, but it is important to recognize that

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² The empirical literature on enterprise performance in Central and Eastern Europe (CEE) is more extensive (a recent example being Claessens and Djankov, 1998), but I am not aware of any comprehensive survey. Case-study evidence is also more widely available, e.g. from the survey by

many of those used for market economies are inadequate in the transition (and certainly the Russian) context. As the most obvious example, profitability, the performance measure most widely used for market economies, is hard to interpret as such for transition economies, mainly because of inadequate accounting standards and widespread underreporting as a means of evading taxes.³ The same goes for stock prices, another more or less standard financial performance measure, because stock markets have just begun to operate in the transition countries. As a final example, employment is hard to interpret as a performance measure in the transition context, mainly because of widespread labor hoarding. The least problematic measure of enterprise performance in transition appears to be labor productivity (e.g. Linz and Krueger, 1998). Improvement (deterioration) in performance should at least be reflected in increase (decrease) in labor productivity.

The main variable of interest so far has certainly been ownership (privatization). There has also been some, though much less, attention to the effects of competition, subsidization, institutions and human capital. The latter factor concerns 'people', all other factors are generally taken to concern 'incentives' (aimed at the hardening of budget constraints, which are unobservable in themselves). The different sections of this paper will evaluate the empirical studies on these potential determinants of enterprise performance in Russia in turn. This will lead to a conclusion on what determines enterprise performance in this transition country (and what not), and which policy lessons to learn from it.

2 Ownership

The plan economy implied ownership by the state, a market economy implies ownership by private agents. Given this essential difference, it may be understandable that the effects of ownership have attracted most empirical investigation for the transition countries. These studies check whether the generally hypothesized positive

Carlin, Van Reenen and Wolfe (1995), which does include Russia, generally confirming the evidence from econometric studies.

³ Earle (1998, p. 16) notes that 'A currently popular saying in Russia is that 'the good manager will achieve zero profits', the implication being that it would be foolish to report profits since they would then be lost as tax payments or as dividends to the state or outside owners'.

impact of privatization (particularly if the new ownership structure is dominated by non-employees) on enterprise performance has indeed been materializing.⁴ Earle, Estrin and Leshchenko (1996), Richter and Schaffer (1996), Earle (1998), and Earle and Estrin (1998) focus on the effects of ownership on enterprise performance in Russia (see table 1 in the appendix).

The pace and magnitude of ownership change in Russia in the early 1990s dwarf any contemporary or historical comparisons. In 1990 the state still owned nearly 100% of the industrial sector, by mid-1994 a majority of enterprises had been mostly privatized (Earle and Estrin, 1998).⁵ The best data available on ownership structure in Russia comes from a 1994 World Bank survey of 439 industrial enterprises, and is described in Earle, Estrin and Leshchenko (1996). They construct five categories of ownership. Enterprises are first classified according to whether they are old enterprises or new private ones (*de novo*, DN, of which there are 45 in the sample).⁶ Old enterprises are categorized into state-owned (SO) and privatized ones, on the basis of information on legal form, method of privatization, status of privatization, and structure of ownership, the latter being determined by the distribution of *voting* shares. Privatized enterprises are dubbed outsider-owned (OO) if different kinds of non-employees together hold more shares than insiders. Insider-owned enterprises are considered manager-owned (MO) when the percentage of shares held by managers is at least as great as that held by non-managerial employees. When a larger share is held by non-managerial employees, they are classified as worker-owned (WO). According to this data, in privatized Russian enterprises workers have become the dominant owners in a majority of cases. 65% is WO, 19% MO, and the remaining 16% OO. Workers hold an (unweighted) average of 47.5% of all shares in privatized enterprises, and managers hold 20.8%, yielding an insider stake of over two thirds. The remainder is divided between the state (10.7%), outsiders (19.7%), and unclassifiable others. This data paints a roughly similar picture as obtained from three earlier, less comprehensive

⁴ For a survey of the evidence on the effects of privatization on enterprise behavior in CEE see Estrin (1998).

⁵ For more about the Russian privatization process itself see e.g. Boycko, Shleifer and Vishny (1995).

⁶ The classification of DN is based on the answers to a set of questions, including whether the enterprise had a legal antecedent, the current and past legal form, and several questions about privatization, where 'always private' was one possible answer. DN were selected from lists at local statistical offices by the Russian Center for the Study of Public Opinion (VTSIOM); the selection of the main sample was carried out by the World Bank itself (Lee, 1996).

surveys, by Blasi (1994), Pistor (1994) and Webster, Franz, Artimov and Wackman (1994).

The authoritative World Bank survey data is the data used in the empirical studies on the effects of ownership on enterprise performance in Russia mentioned above. Earle, Estrin and Leshchenko (1996) do not find any robust differences in enterprise performance by dominant ownership category. Thus, they falsify the hypothesized positive impact of privatization on enterprise performance in Russia. However, their estimates do suggest some differences, in that DN show better behavior than all other ownership categories.

Richter and Schaffer (1996) confirm that this is indeed inherent to these enterprises being DN and cannot be attributed to their size, location or industrial sector. They also note that, while the de novo sector in Russia is not negligible, it is clearly much smaller than its counterparts in the transition countries that started the reform process early. In particular in Poland rapid growth in manufacturing is primarily driven by DN.⁷

Excluding DN from his analysis, Earle (1998) further disaggregates OO, into individual and different kinds of concentrated investors (banks, investment funds, other domestic firms, and foreign investors), to test whether they have different effects. He also explicitly addresses potential simultaneity problems between privatization and performance. Even if estimation with Ordinary Least Squares (OLS) shows a significant correlation between privatization and performance, this may be the result of reverse causation, because better (worse) performance caused enterprises (not) to be chosen for privatization. This is why Earle (1998) adds estimation with Instrumental Variables (IV), drawing on Earle and Estrin (1997) for instruments for ownership, the main one being privatization *method*. This seems a suitable instrument, because it is highly correlated with ownership structure, but is unlikely to have any independent effects on enterprise performance. IV shows some robust positive effects, but only of *concentrated* OO, investment funds being the main organizations driving this result. Differences between IV and OLS results provide support for the contention that the Russian privatization program was systematically biased against (concentrated) OO,

⁷ Interesting case-study evidence for this is given by Johnson and Loveman (1995).

and that it is critical to take into account the simultaneous determination of different kinds of ownership and performance through the privatization process.

Also concentrating on old enterprises, Earle and Estrin (1998) perform the most comprehensive empirical study of potential determinants of enterprise performance in transition so far, certainly for Russia. They broaden previous empirical analyses of privatization effects by explicitly including variables for product market concentration and state subsidization (about which more below), to test for the relative effects of these three variables of interest. The latter two are generally hypothesized to have negative effects on performance. Earle and Estrin (1998) find some robust evidence of positive effects of privatization (not distinguishing between different kinds of private owners as in Earle, 1998). IV, using similar instruments as in Earle (1998), largely confirms OLS results, indicating that simultaneity problems between the aggregate ownership measure and enterprise performance are roughly absent (unlike for the disaggregate ownership measures in Earle, 1998). Generally, the evidence of positive effects of competition is weaker, depending on measurement and model specification, but the extent to which enterprise revenue is generated *regionally* (concentration at the oblast level) is consistently significantly negative for performance. While subsidies are estimated to have negative effects, these are also not robust and usually small. Another novel aspect in the study by Earle and Estrin (1998) is that they explicitly test for complementarity and substitution effects (with interaction variables). They find some evidence that privatization and subsidy reduction are substitutes, that privatization and competition are complements, and that competition and subsidy reduction are independent in their effects on Russian enterprise performance.

Summarizing, the above shows dominance of insiders in the transitional private sector in Russia, and absence of positive effects of this insider privatization on enterprise performance. Differences between results based on IV and OLS suggest that the Russian privatization program was biased against (concentrated) OO, causing them to get worse-performing enterprises. There is some robust evidence in favor of positive effects of privatization, but it seems to be resulting from concentrated OO only, and is only obtained if DN are excluded. Unfortunately, the data used here has no information on which of the outsiders might themselves still be SO, and therefore implicitly assumes they are all private. More importantly, if DN are included these results are evaporated by *their* better behavior relative to *all* other ownership categories. Note

that this implies that, although *privatization* does not seem to be related to better performance, *private ownership* still does. On the basis of Earle and Estrin (1998), the evidence of positive effects of the extent of competition and the reduction of subsidies seems to be weaker, but for those of regional competition. On the one hand, it may be that by 1994 it was still too early to properly uncover effects at all. In this respect, it would have been nice if the data used here would have included the date of privatization, allowing to test whether its effects increase in time. On the other hand, it may be that other variables are more important.

3 Competition

In the plan economy, market structure naturally resulted from the decisions by central planners, who may have been maximizing a variety of objectives, but cost minimization was usually not the most important one.⁸ The resulting market structure was generally highly concentrated, shaped by planners' belief in economies of scale and specialization. This market structure may be one of the reasons why, in the transition countries, privatization *per se* does not need to lead to better performance. This is according to the standard hypothesis of a positive relationship between the extent of competition enterprises face and their performance. A first attempt at empirically investigating this, for Russia, is included in Earle and Estrin (1998), mentioned above, but so far only Brown and Brown (1998) have really concentrated on it (see table 1 in the appendix).

Earle and Estrin (1998) use the authoritative data on Russian market structure from Brown, Ickes and Ryterman (1994) and Joskow, Schmalensee and Tsukanova (1994). The former use 1989 data on Russian industrial enterprises to compare the market structure of Soviet Russia with that of the United States (US) in 1987. Unexpectedly, Russian industries are, for the most part, not found to be highly concentrated according to *national* concentration ratios. However, Brown, Ickes and Ryterman (1994) do find an almost complete absence of small manufacturing enterprises in Russia, in marked contrast to the US. Related to this, they also find that

many Russian industries have far fewer enterprises than US industries have. Finally, the correlation between concentration ratios across Russian and US industries is quite low, while it is known to be quite high for industrialized market economies. Joskow, Schmalensee and Tsukanova (1994) also present concentration ratios for Russia, but for 1991, and at a more disaggregated level and covering a more limited subset of industries. Their basic conclusions regarding concentration at the industry level are similar to those by Brown, Ickes and Tsukanova (1994), despite the different time periods and different data construction methods used.

Brown and Brown (1998), however, base themselves on their own (panel) data, for 1992-1995. Using different kinds of concentration measures, they find evidence that national concentration increases enterprise profitability in Russia, but only in geographically dispersed industries, suggesting that regional markets are an important source of market power. Interestingly, the evidence for positive effects of privatization, for which they control, is not robust, confirming the tendency from the previous section.

Regretfully from the perspective of the current paper, however, Brown and Brown (1998) totally stick with the classic industrial organization perspective, in that they test for the predicted positive relationship between concentration and *profitability*. Their main reason for focusing on a transition country, in this case Russia, lies in the fact that market structure can thus be assumed to be truly exogenous to profitability, because it is a legacy of central planning (at least in early transition). This allows to overcome the traditional simultaneity problems plaguing empirical studies of the relationship between concentration and profitability for market economies. However, as argued in the introduction, in transition countries (and certainly in Russia) profitability is obviously an inadequate measure of enterprise performance. Recall that Earle and Estrin (1998) find a consistently significantly negative relationship between regional concentration and *labor productivity*. Comparing this with the positive relationship between regional market power and profitability found by Brown and Brown (1998) indeed suggests that the most

⁸ And even if they were concentrating on minimizing costs, the underlying cost structure was highly distorted.

profitable enterprises in Russia are not the most productive ones, on the contrary.⁹ Nevertheless, both studies are consistent in indicating that, while national concentration does not seem to have robust effects, regional concentration seems to do.

In short, the above seems to indicate that it is regional, not national, concentration which is high in Russia, with consistently negative effects on enterprise performance.¹⁰ This may thus indeed explain why privatization per se does not seem to be related to better performance. Finally, note that the effects of competition on labor productivity found by Earle and Estrin (1998) may still be biased downward, because of their exclusion of DN. This is because DN are probably not only performing relatively well, but also situated in more competitive sectors, which have smaller entry barriers to overcome.

4 Subsidization

Another reason why, in the transition countries, privatization per se does not need to lead to better performance may lie in budget constraints remaining soft because enterprises effectively remain subsidized. Note that in the plan economy enterprises essentially could not go bankrupt because the state would always bail them out. So far, only the study by Earle and Estrin (1998), discussed above, has included an empirical investigation of the effects of subsidization on enterprise performance in Russia.

They base themselves on the authoritative World Bank survey data on Russia, which also includes data on the ‘distance’ of enterprises from the state, as described in Earle, Estrin and Leshchenko (1996). As proxies for state support for, and influence in, enterprises the latter look at procurement, price controls and subsidies. As expected, the distance from the state via these three channels turns out to be smallest in the remaining SO, and largest in DN. Unexpectedly, insider privatization does seem to break the links with the state, although more markedly in WO than in MO. The real

⁹ High (regional) concentration may e.g. proxy for more cozy relationships with the state, thus protecting higher profitability, but dulling incentives for higher productivity.

¹⁰ This may relate to Russia being the geographically largest country in the world, but surely also to policies in the regions which impede transactions between them, so that, from the perspective of

surprise is that the relationship between the state and OO remains very strong, comparable to that in SO. Thus, Earle, Estrin and Leshchenko (1996) still demonstrate considerable inertia in the relationship between the state and enterprises.

In their empirical analysis of the effects of subsidization on enterprise performance in Russia, Earle and Estrin (1998) include all channels of state support. These include all federal government subsidies and investments, tax benefits, preferential credits, extra-budgetary funds, tax exemptions and other benefits associated with foreign trade, and others (particularly including local government subsidies). They also take into account the value of tax arrears in their measure of state subsidization. Recall that while Earle and Estrin (1998) estimate its effects on performance to be negative, they are also not robust and usually small.

However, several problems with these results for the effects of subsidization remain. Firstly, as in the case of the relationship between privatization and enterprise performance, the relationship with subsidization seems liable to simultaneity problems (possible reverse causation). Admittedly, IV with a proper instrument for subsidization is hard to think of, but at least it seems advisable to use a subsidization measure covering an earlier period than the performance measure does. Secondly, as they note themselves, Earle and Estrin (1998) only look at *state* subsidization, but subsidies may effectively come from any source of finance (most notably banks, which have been used as channels of state funding). Thirdly, just like their exclusion of DN may bias their results for the effects of privatization upward, and of competition downward, it may bias their results for the effects of subsidization downward. The latter is likely since the data in Earle, Estrin and Leshchenko (1996) confirms that better performing DN have the largest distance from the state, and state subsidization of other enterprises may operate as an entry barrier to DN. Finally, note that the remaining very strong relationship between the state and OO, illustrated by Earle, Estrin and Leshchenko (1996), indicates that even the results by Earle (1998) and Earle and Estrin (1998) suggesting robust positive effects of (concentrated) OO may have nothing to do with privatization per se.

competition, the region is the relevant market. Empirical studies of the price structure within Russia

5 Institutions

The transition countries are going through a period of pervasive institutional transformation. Roughly, institutions can be defined here as the rules of the (economic) game (e.g. North, 1990). These can be both *formal* ('rule of law', enforced by the state) and *informal* ('civil society', enforced by convention). In transition countries the necessary new institutional (market) environment did not develop immediately, and in some cases has still not developed, while the old formal institutional (plan) environment has already been destroyed, leaving a vacuum, in which enterprises were privatized. Consequently there is much room for various kinds of informal institutions, of which many, to be sure, already figured prominently in the plan economy.¹¹ In the extremes, it has both been argued that enterprise performance in transition countries will remain poor, as long as contracting is hindered by a lack of formal institutions, and that it can improve without these, because informal institutions can operate as a substitute. However, so far there have been very few studies giving data on the use of different kinds of institutions in transition, and none empirically testing its relevance for enterprise performance concentrating on Russia.¹²

Frye and Shleifer (1996) show from a 1996 survey of 105 shops in Moscow and Warsaw that the reliance on private protection, as well as the burden of regulation and corruption, are much greater in Moscow. Frye and Shleifer (1996, p. 7) state that 'This conclusion suggests that to understand transition experiences, it is not enough to know how much of a standard menu of radical reforms a country adopts. The regulatory stance that national and local governments take toward business can perhaps explain as much as the package of reforms'. However, they do not pursue any further empirical analysis of their effects.

are consistent with this view (e.g. Berkowitz, DeJong and Husted, 1998).

¹¹ See e.g. the descriptive study on Russia by Greif and Kandel (1995).

¹² Studies of this sort are also very few *in general*. The seminal study by Macaulay (1963), for the United States, hardly got any follow-up. However, and under the influence of the transition experience, recently this seems to change. For e.g. Vietnam, McMillan and Woodruff (1998) give survey evidence showing that, under the current status of formal institutions, markets do not provide adequate information, which is why entrepreneurs rely on local suppliers and customers, and on personal connections to locate trading partners, that is: on informal institutions. In macroeconomics institutional issues have recently gained more attention too, e.g. in growth empirics, also applied to transition countries, as surveyed in e.g. Moers (1998).

The latter also goes for Hendley, Murrell and Ryterman (1999), but they discuss the most comprehensive data on the use of different kinds of institutions so far, coming from a 1997 survey of 328 Russian industrial enterprises.¹³ They cover the whole institutional spectrum from transactional strategies relying mainly on trust (informal institutions) towards strategies relying mainly on the law (formal institutions), analyzing the relative importance of relational contracting, self-enforcement, enterprise networks, private security firms (including the Mafia), administrative institutions, and courts. The data indicates a strong preference for enterprise-to-enterprise negotiations, working out problems informally, without resorting to outsiders, although courts are used when disputes resist resolution through negotiation. Hendley, Murrell and Ryterman (1999) find little evidence of enterprises resorting to private enforcement, suggesting the supposed connection between weakness in the law and the rise of the Mafia in Russia is overstated. However, they may be downplaying the role of the Mafia, because intimidation and/or violence connected with private enforcement by private armies of one of the transacting parties is classified as self-enforcement. This is particularly so, since half of the surveyed enterprises reports either having an internal security service that assists in collecting debts and delivering output or having hired an outside security firm to perform these services. Interestingly, enterprise networks from Soviet days turn out to remain resilient. Furthermore, the federal government is associated with transactional strategies that emphasize the vestiges of the Soviet system. Appeals to the local government are complementary with the use of institutions that are central to a market economy. This suggests that the development of market institutions has been adversely affected by the ongoing center-periphery political struggle.

Johnson, McMillan and Woodruff (1998) do empirically investigate effects of formal and informal institutions, on the behavior of small private manufacturers in Poland, Romania, Russia, Slovakia and Ukraine, based on a 1997 survey of 1471 enterprises. They view transition as an experiment in the courts (formal institutions) versus relational (reputational) contracting (informal institutions). Estimates indicate that contracting rests less on the law than on trust here, and Johnson, McMillan and Woodruff (1998) suggest that they are substitutes. However, in some instances their

¹³ Of which the pilot is treated in Hendley, Ickes, Murrell and Ryterman (1997).

estimates do also confirm the costs of relational contracting in the form of higher (economically ‘misplaced’) loyalty, being operationalized by the answer to the question: ‘If a firm you have never bought from offers you to supply this input for a price 10% less than your current supplier, would you buy from the new firm?’. It (the answer ‘no’) can be supposed to be negative for enterprise performance, since it leads to exclusion of more efficient enterprises. The estimates suggest that loyalty is higher if the produce is specific to the relationship, the costs of searching for an alternative supplier are higher, and the relationship is based on a social network (informal institutions). It is lower if the trading partner belongs to a trade association and the courts (formal institutions) can be used, allowing for (more efficient) impersonal contracting, as in a market economy. Interestingly, these results are largely driven by variation in the institutional data *within* a country, not cross-country.

Summarizing, the available data confirms that Russian enterprises mainly rely on informal institutions in their transactional strategies, sometimes embodying Soviet legacies, as opposed to formal institutions. However, the rather positive evaluation of the effects of this on enterprise performance effectively contained in the empirical study by Johnson, McMillan and Woodruff (1998) is not convincing. For one thing, they themselves sometimes find negative effects in the form of more loyalty, in essence also operating as an entry barrier to better performing DN. They admit that relational contracting can be only an imperfect substitute for the courts, because of this, and cannot on its own accommodate production processes that require large, infrequent orders (think of investment). Thus, they view informal institutions as at least alleviating contracting problems *during* transition, not mentioning they can get locked in, however. Besides, loyalty measures enterprise performance only in a very indirect way, and Johnson, McMillan and Woodruff (1998) do not concentrate on Russia.

6 Human capital

All the above factors are generally taken to concern the change of incentives connected with transition, but it may be that the change of human capital (people), especially through managers, is more important. Soviet managers were not particularly good at running enterprises in an *economically* efficient way, but more at running them in a

technically efficient way and at dealing with shortages. The latter involved getting along with politicians, addressing political concerns, and lobbying for assistance. Thus, incumbent managers from plan-economy times may simply not possess the right skills needed to guide enterprises as in a market economy, even under private ownership and other incentives aimed at hardening budget constraints. In this view privatization will not bring about better enterprise performance unless accompanied by new people, who do possess these skills. So far, only Barberis, Boycko, Shleifer and Tsukanova (1995) have explicitly investigated this issue for Russia (see table 1 in the appendix).

Recall that the data in Earle, Estrin and Leshchenko (1996) shows that privatized Russian industrial enterprises are dominated by inside owners (managers and, particularly, workers). Thus there is little sign of change of people here. There has been little change of managers, both because the incumbents are entrenched and a managerial labor market has not yet adequately developed.

Barberis, Boycko, Shleifer and Tsukanova (1995) explicitly investigate the relative importance of new incentives ((equity) ownership) versus new people (human capital), as alternative *channels* through which privatization can promote restructuring, using a survey of 452 Russian shops. They find some robust evidence that the presence of new human capital in a shop, measured as insiders having no ownership and having had management layoffs, raises the likelihood of restructuring. In contrast, there is no evidence that equity incentives of old managers promote restructuring. Note that there may be simultaneity problems here too, in the relationship between human capital and enterprise performance. However, Barberis, Boycko, Shleifer and Tsukanova (1995) confirm their results with IV, again with privatization method being the main instrument (as in Earle, 1998).

They thus suggest a critical role for new human capital in transition. This could also be a reason why it is mainly DN which are performing better (Richter and Schaffer, 1996). For the same reason this could also confirm the positive role of (concentrated) OO, discussed above. However, their measure of new people does not necessarily refer to whole new entrepreneurs, but may to a large extent simply mean reshuffling of old people over enterprises. This can even go for DN, which may have been started up by managers of old enterprises. It is hard to see why these would be bringing in more adequate (market) human capital, simply by being transferred to other enterprises. Besides, Barberis, Boycko, Shleifer and Tsukanova (1995) do not control

for other incentives than equity ownership, so their general claim that skills may matter more than incentives does not seem warranted on the basis of this study. Finally, it is not at all clear whether their results for Russian *shops* can be generalized to industrial enterprises. Running an industrial enterprise probably needs much more enterprise-specific skills than running a shop needs shop-specific skills. Thus, in the former context, changing people may much more likely imply destroying human capital, than bringing in more adequate human capital.

7 Conclusion

This survey of the so far limited empirical literature on potential determinants of enterprise performance in Russia shows that it is not yet possible to draw many firm conclusions. Certainly the discussion about the effects of subsidization, institutions and human capital is not settled. This is partly because there are still hardly any empirical studies looking at them, and partly because those few that do seem to have some flaws.

However, there seem to be two firm conclusions which *can* be made. Firstly, concerning competition, more regional competition *does* seem to be related with better performance. Although, unexpectedly, concentration ratios for Russia are generally not high nationally, indications are that they are regionally, which is associated with poor enterprise performance.

Secondly, concerning ownership, privatization per se does *not* bring the better performance that many thought it would. Positive effects seem to be coming from concentrated OO only, but even this may have nothing to do with privatization per se, since, surprisingly, OO remains comparably closely intertwined with the state as SO. Thus, it is probably not justified to implicitly assume all outsiders to be private. What is more, the positive effects of concentrated OO may even *originate* from this remaining very strong relationship with the state, since they may, through the state, get the benefits from e.g. larger lobbying power and/or smaller liquidity constraints. Some evidence for the latter may be indirectly distilled from Gelfer and Perotti (1997), who find that investment in the Russian industrial sector is more sensitive to internal liquidity in enterprises categorized by dispersed and/or insider ownership than in enterprises which are members of official Financial-Industrial Groups and/or owned by one of the large Russian banks (i.e. concentrated OO, which thus seem to have easier access to finance for investment). If there *is* one ownership category under which performance is better, it is DN. Both the dominance of insiders in the transitional private sector and the relatively very small size of the de novo sector in Russia are clearly not positive for enterprise performance.

For Russian policy aimed at improving enterprise performance, the above would suggest to put more effort into improving the conditions for (entry of) DN than for (restructuring of) old enterprises. The former would need to include the promotion of more regional competition. Of course, the two should not be seen totally separately,

since DN may put the adequate pressure on old enterprises to restructure (cf. China). However, actual policies so far seem to have focused too narrowly on privatization per se.

The above also indicates that there is ample room for further empirical investigations on potential determinants of enterprise performance in Russia. For one thing, it would be nice to work with more recent data, now that more time has passed to properly uncover effects. Furthermore, the limited relevant literature so far has mainly concentrated on one factor at the time, and thus does not offer an integral test of the *relative* importance of potential determinants of performance. Besides, there is room for empirically investigating the effects of additional variables, one obvious candidate being liquidity constraints.

Appendix

Table 1: Empirical studies on potential determinants of enterprise performance in Russia

STUDY	NUMBER OF OBSERVATIONS AND TIME AND SORT OF SURVEY	PERFORMANCE MEASURES AND ESTIMATION METHOD	VARIABLES OF INTEREST	CONTROL VARIABLES	RESULTS FOR VARIABLES OF INTEREST
Earle, Estrin and Leshchenko (1996)	193-337; 1994; cross-section of industrial enterprises	Sales, Employment, Exports, Pay; OLS	Ownership	1-year lagged endogenous, Sectors, Regions, Size	No robust relationships
Richter and Schaffer (1996)	Not given; 1994; cross-section of industrial enterprises	Output growth, Employment growth, Capacity utilization, Employment vacancy rate; OLS	Ownership	Sectors, Location, Size	Robust positive relationships for DN
Earle (1998)	150-157; 1994; cross-section of industrial enterprises	Labor productivity; OLS; IV	Ownership	4-year lagged endogenous, Sectors, Regions, Size	Robust positive relationship for concentrated OO
Earle and Estrin (1998)	102-149; 1994; cross-section of industrial enterprises	Labor productivity; OLS; IV	Ownership, Competition, Subsidization, Interactions	4-year lagged endogenous, Sectors, Regions, Size, Capacity utilization, Proportion equipment older than 15 years	Robust positive relationship for private ownership
Brown and Brown (1998)	152-745; 1992-1995; panel of industrial enterprises	Profitability; OLS; Random effects; Between effects	Competition	Sectors, Regions, Minimum efficient scale, Capital-output ratio, Ownership	No robust relationships
Barberis, Boycko, Shleifer and Tsukanova (1995)	143-353; 1992-1993; cross-section of shops	Capital renovation, Change in suppliers, Increase in hours open, Layoffs; OLS; IV	Change in human capital, Ownership	Sectors, Cities, Size	Robust positive relationships for change in human capital on change in suppliers and increase in

					hours open
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Source: Original studies

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