

# **State-Business Relations and Improvement of Corporate Governance in Russia<sup>\*</sup>**

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**Abstract:** In this paper, we analyze the influence of the state on the improvement of corporate governance in Russia of the early 2000s. Taking into account the low quality of market institutions in the 1990s (i.e., the market failure phenomenon), we assume that state intervention as the “second best” institution had a positive impact in this case. Using a dataset of 822 joint-stock companies, we tested this hypothesis in two types of corporate models – state-owned or mixed firms and “politically connected” firms. The first model confirmed a strong positive influence of state ownership on the corporate governance in Russia in 2001-2004. The estimation results of this model are statistically robust in different specifications. We connect this result with attempts of the Russian government to use standard mechanisms and procedures of corporate governance to defend its property rights in its relations with state-owned and mixed enterprises.

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## **1. Introduction**

The corporate behavior of Russian firms has changed drastically in the last decade. In the beginning of this period, many experts reported the failure of institutional reforms (Stiglitz, 1999), and many empirical studies confirmed this viewpoint. Therefore, a detailed study by Brown et al. (2006) based on data from 24,000 enterprises over the 1992-2002 period established that, while the Ukraine, Romania, and Hungary enjoyed increases in productivity, on the average, within a year of privatization, the effect of privatization in Russia was indeterminate even after five years. Russian companies systematically treated foreign investors with hostility and grossly violated shareholders' rights, and the Russian government could not protect abused investors and shareholders by law (Kraakman et al., 2000). In comparison with Central and Eastern Europe, the inhabitants of Russia were more critical of the outcome of privatization and were widely supportive of the revision of its results (Denisova et al., 2007). The negative experience in Russia led to new conclusions about the importance of the institutional environment and the inefficiency of privatization under a weak government exposed to group interests (Perotti, 2004).

Contrary to this very poor starting point, two parallel trends became apparent in Russia during the 2000s: corporate governance obviously improved, and the government gained strength and significantly increased its presence in the economy. The first trend was expressed in terms of a broad introduction of international accounting standards, in the initial public offering (IPO) of Russian companies on international stock exchanges, and in the more widespread practice of invitation of independent directors to the boards (Puffer & McCarthy, 2003; Yakovlev, 2004). This was followed by substantial growth in capitalization of the Russian stock market and, since 2006, by a strong inflow of foreign investment.

State-owned enterprises (SOEs) as well as mixed enterprises played important roles in this process. Since the beginning of the 2000s, the government streamlined the activities of SOEs as well as made general improvements in the institutions of corporate governance. In particular, a new version of the joint-stock company law was passed, the bankruptcy law was revised, a code of corporate behavior was designed, the dissemination of best practices of corporate governance was promoted, a reform of the judicial system was launched, and the system of law enforcement was upgraded. At the same time, the monitoring of SOE performance was introduced, the corporatization of federal state enterprises (FGUP) accelerated, standard instructions for state representatives in SOE boards with government stakes were developed, competitive procedures for the appointment of SOE managers were introduced, and contracts with them were formalized (HSE, 2003). In the course of upgrading corporate governance in the public sector, the government launched IPOs of large state-owned companies in order to increase

their capitalization and to obtain financial market appraisals of their performance. As a result, two leading Russian state-controlled banks, Sberbank and VTB-Bank, as well as the state-owned Rosneft Oil Company, acquired the main assets of Yukos Company had large IPOs in 2006-2007 and managed to raise more than \$27 billion in the market.

The second trend had different dimensions as well. On the one hand, macroeconomic and monetary policies significantly improved. The Russian government secured a budget surplus for a long time, which could reduce inflation by up to 10% per annum and accumulate a large amount of international currency reserves. As a consequence, Alexei Kudrin was recognized in March 2005 by the international business-magazine, *The Banker*, as the Finance Minister of The Year.

On the other hand, strengthening of the Russian state was expressed in the direct and indirect nationalization of a number of large companies either by filing tax claims against them or by the government or an SOE acquiring controlling stakes in private companies (see OECD (2006, Section 1) for the entire economy and Vernikov (2007) for the banking sector). At the same time, the government was keen on exerting informal pressure on business enterprises. In addition to the Yukos affair in 2003-2004, which is discussed in detail by Yakovlev (2006), the Russian government conducted a sort of corporate takeover in the cases of the Rosneft Oil Company in 2006-2007 and the conflict surrounding the TNK-BP in the spring of 2008.

The years 2006-2007 were also marked by the establishment of state corporations, which were endowed with several billion dollars from the federal budget and acquired a number of private and mixed companies (the first case is that of the former FGUP "Rosoboronexport," which was reorganized in November 2007 into the state corporation "Rostekhnologii"). In July 2008, Prime Minister Vladimir Putin charged one of Russia's leading mining and metals companies, Mechel, with tax evasion via transfer pricing. This led to a 40% decrease in company market capitalization on the NYSE and was considered by some observers as a reiteration of the Yukos affair (Shokhina & Shevtsova, 2008).

These contradictory trends raise the question of whether or not the connection to the state has a statistically significant impact on the quality of corporate governance in the firms concerned. In this paper, we are going to answer this question by relying on the results of a survey of 822 joint-stock companies, which was conducted by the SU-HSE and the Hitotsubashi University in 2005.

The rest of the paper is organized as follows. Section 2 contains a short description of relevant studies and a formulation of a testable hypothesis. Section 3 describes the data. Section 4 outlines the methodology. Section 5 contains empirical results and discussion. Section 6 presents the main findings and the conclusion.

## **2. Literature review and testable hypothesis**

Government intervention in the economy by the establishment of SOEs has been generally met with criticism in the mainstream economic literature. Based on a review of empirical studies, Megginson & Netter (2001) concluded that SOEs, as a rule, are inferior to private firms in terms of efficiency. As noted by Perotti (2004), this is related to a lack of sufficient accountability of SOEs or to “soft budget constraints,” as termed by Janos Kornai. In effect, SOE managers and employees lose incentives to upgrade their efficiency. SOEs are used for political objectives, and the responsible government agencies become more and more corrupt. In addition, even disregarding the corruption, the inefficiency of an SOE can arise from a conflict between public interests and the interests of state officials who, following the standard bureaucratic logic, try to maximize the budgets under their control rather than to improve efficiency. SOEs may also restrict the activities of private firms and, therefore, undermine competitive environment (Vining & Boardman, 1992).

Logically responding to such a skeptical view of SOEs by economists, governments focused on the improvement of enterprise efficiency and economic performance in general by means of privatization policy. According to the estimates cited by Megginson & Netter (2001), the SOE share of the “global GDP” declined from more than 10 percent in 1979 to six percent by 1996.

To a great extent, this was a result of mass privatization in former socialist countries. However, the experience of economies in transition in this context is far from unambiguous (Nellis, 1999). In Central and Eastern Europe, privatization has usually improved the performance of firms (Pohl et al., 1997). However, Poland in the early 1990s and especially China in the 1980s and early 1990s gave empirical evidence that SOEs can perform much better without any privatization. Pinto et al. (1993) and Li (1997) explained this effect by the results of such measures as toughening of budget constraints and bank lending policies, stronger competition of imports, and introduction of a system of incentives for SOE managers. Explaining similar results for Singapore public companies in 1990-2000, Ang & Ding (2006) noted that, when the venture capital industry is not yet developed and institutional investors have not reached the critical threshold of share ownership, the government can lead in providing risk capital and may serve as a large monitoring shareholder.

In another institutional context of the developed US economy, Kwoka (2005) shows that public enterprises may be superior when output has important non-specifiable attributes. Private providers in this case will have incentives to undersupply this hard specifiable quality. Public enterprises, by contrast, may have weaker overall incentives and, hence, higher costs, but those incentives do not favor price over quality. Summarizing the general discussion about comparative

efficiency of state-owned, mixed, and private firms, Kwoka (2005) concludes that even careful control for external factors has not eliminated divergent findings and there is a space for new empirical research.

Privatization in transition economies and the developing world clearly showed another problem, namely, that one firm could be private but, under conditions of a weak and corrupted state, it could extract rents from close relatives of the government at the expense of society and other private firms. (Note: The term “close relatives of the government” is not clear. Do you mean, “...companies connected to the government”? Please check and change as appropriate.) Hence, Hellman et al. (2000), using the World Bank and an EBRD firm-level survey on obstacles in the business environment, defined state capture as one of two key corrupt strategies of interaction between a firm and the state in transition countries.

Following this line of analysis, a number of researchers studied more broadly the phenomenon of “politically connected firms,” in which top officials or politicians act as shareholders or members of the board or good friends of main owners (Faccio, 2006). Analyzing a very large sample of 16,000 public companies in 47 countries for 1997, Mara Faccio concludes that, even though political connections provide significant benefits, connected firms under-perform their peers on an *ex-ante* basis. Recent relevant studies for France (Bertrand et al., 2006) and China (Choi & Thum, 2007) support these findings.

Thus, most of the previous theoretical research stresses the efficiency advantage of private enterprise, comparing it to public or “politically connected” firms. However, the results of empirical studies are not so unambiguous, especially in the case of privatization in transition countries. This effect is usually explained by the weakness of government institutions in a transition environment. Therefore, on the basis of detailed analysis of development in the former socialist countries in 1980-1990, Grzegorz Kolodko, a well-known Polish economist and a key government official in Poland in 1994-1997, concludes that the depth of the “transitional” crisis and further economic development was conditioned by the retention of capable institutions in some countries and the catastrophic incapability of the government in others (Kolodko, 2000). If such institutions are inherited from a preceding regime, such as in China, they can be supportive of economic development.

Therefore, we can assume that, under the conditions of the Russian economy of the early 2000s, the improvement of state capacities could have a positive influence on the quality of market institutions, including corporate governance. This hypothesis corresponds to the arguments of Ang & Ding (2006) on the higher efficiency of Singapore public companies in 1990-2000 and to the broader approach of “second best institutions” proposed by Rodrik (2008). The hypothesis about the positive influence of the state on formal indicators of corporate governance in state-owned and mixed enterprises was formulated in some policy advice and

analytical papers (Avdasheva et al., 2007; NCCG, 2008, pp.132-135). However, until 2008, this hypothesis was never tested by formal econometric methods.

### **3. Questionnaire and data.**

As stated in Dolgopyatova & Iwasaki (2006) the basic purpose of our enterprise survey was to understand the evolutionary processes of ownership relations and the governance mechanism of Russian corporations with an underdeveloped market economy and incomplete social and economic institutions. Our questionnaire included about 150 questions about the influence of shareholders and managers on decision-making process in companies, the scale, progress and effects of business integration processes, relations between the business sector and the state and other issues.

Our enterprise survey was conducted in the first half of 2005. Local branches of the Levada Center sent interviewers to a total of 859 companies, among which 822 firms gave valid answers. The focus of survey was on the industrial and communications (except for postal services) sectors. This is because, in these two sectors, joint-stock companies account for the largest share of sales and because most of the corporations that have issued stocks or bonds in the capital market belong to these two sectors. The surveyed firms were selected from among joint-stock companies with more than 100 employees. This criterion was set to exclude small businesses, for which the issue of corporate governance is largely a secondary matter.

The samples were selected by the method of stratified sampling. The surveyed firms were randomly selected from sampling books of industrial and communications companies by taking into account three attributes: the sector they belonged to; their scale (total number of employees); and their form of incorporation (open or closed joint-stock company). The proportion of surveyed firms in the various parts of Russia and the relative proportion of independent firms and member firms of business groups are a consequence of the random sampling. As there were only about 160 Russian companies in the surveyed sectors that had issued stocks or bonds in domestic or foreign securities markets, we asked the executives of all of these companies to answer our questionnaire and interviewed all who agreed to our request.

The questionnaires were answered by 277 CEO (33.7%), 85 first deputy CEO (10.3%), 417 deputy CEO (50.7%) in charge of economy, finance, sales, or corporate governance, 13 chairpersons of the board of directors (1.6%), and 30 heads of corporate governance departments (3.6%). The average length of service of the respondents was 13.5 years (median: 9), and that of service in their current position was 6.2 years (median: 4).

The 822 firms surveyed were situated in 64 regions of the 89 constituent entities of the Russian Federation. Classified into federal districts, 265 companies

(32.2%) were located in the Central Federal District, 97 firms (11.8%) in the Northwest Federal District, 71 (8.6%) in the South Federal District, 197 (24.0%) in the Privolzhsky (Volga) Federal District, 83 (10.1%) in the Ural Federal District, 85 (10.3%) in the Siberian Federal District, and 24 (2.9%) in the Far East Federal District. Regional proportion of the samples of this survey was very close to that of the actual proportional distribution of Russian companies, except for the fact that the number of surveyed firms based in the Privolzhsky (Volga) Federal District was relatively higher.

**Table 1** shows the proportional composition of the surveyed firms according to their sector and business category. Industrial companies accounted for 91.4% (751 firms) of all the samples, and communications businesses made up the rest, 8.6% (71 firms). Among the industrial companies, 255 machinery and metal working businesses made up the largest share (31%), followed by 169 food industry companies, which accounted for 20.6%. The proportional shares for the other six sectors ranged from 4.0% to 9.5%.

According to the responses to the questionnaires, the average number of workers of the surveyed firms was 1,884 (standard deviation: 5,570; median: 465). **Table 2** shows the proportional composition of the surveyed firms according to the number of workers for both the industrial and communications businesses. We have estimated that, according to official statistics, the average number of workers per company in the industrial and communications sectors was 31.4 and 49.6, respectively, as of 2004. This clearly shows that the average scale of the surveyed firms is much larger than that of most Russian companies in the two sectors. The 822 surveyed firms employed a total of 1,549,008 people. This represents 10.3% of a total of 15 Mio workers, which is the estimated total of those who were employed in the year 2004 by the industrial and communications sectors.

Respondents were also asked to provide a figure for the total sales for their companies in 2004. The results showed that the average total sales of 720 companies that gave valid answers were 3890 Mio rubles (standard deviation: 34092 Mio; median: 200 Mio). The figure for the total sales of all the 720 companies that gave valid answers amounted to 2,800 billion rubles. It represents 23.9% of the 2004 total sales for the industrial and communications sectors.

Classified into the types of organizations (forms of incorporation) 553 samples (67.3%) were open joint-stock companies (OAO), and 269 firms (32.7%) were closed joint-stock companies (ZAO), including workers' joint-stock companies (people's enterprises), which are a special type of closed joint-stock company.

The majority of firms surveyed (570 companies or 69.3%), were founded through the privatization process that started after the collapse of the Soviet Union, 124 firms (15.1%) were newly formed in and after 1992, 79 businesses (9.6%) were newly established by a division divested from another privatized or state-owned firm, and 24 enterprises (2.9%) were established by firms that had merged.

499 corporations (60.7%) were “independent firms” that had no ownership relationship with any business group, and the rest, 323 enterprises (39.3%), were “member firms of business groups.” Among the latter firms, 278 companies (33.8%) were so-called “affiliated enterprises,” and 44 (5.4%) were “core enterprises of their business groups.”

Other details on the composition of the samples as well as full version of our questionnaire in Russian and English can be found in Dolgopyatova & Iwasaki (2006).

#### **4. Methodology**

To test if our hypothesis regarding the connection of a firm to the government can be positive for the quality of corporate governance in the Russian situation of the early 2000s, we used a set of ordinary probit regressions. For the dependent variable, we took the CG\_INDEX, the integral indicator of the quality of corporate governance, which was built on the basis of a number of variables directly or indirectly describing relationships between joint-stock companies and their shareholders, first of all, minority ones.

In this aspect, our approach differs from that of most previous studies, which relied on various financial indicators of enterprise performance as dependent variables (Li, 1997; Tian & Estrin, 2008). The explanation for our choice is that Russia has developed a very high concentration of ownership and control under a narrow equity market and imperfect institutions of corporate governance. In this situation, if a company is showing strong financial performance, this by no means implies that minority shareholders of the company will actually be able to receive a share of the “corporate pie” that they are formally due.

In the case of Russia in the 2000s, the improvement of financial performance indicators can be explained in the short-term period by the influence of external factors, such as the devaluation of rubles for domestically oriented firms or an increase of world market prices for exporters of raw materials. Under such contextual changes, the quality of corporate governance (considered as a system of incentives) can be more important for investors and minority shareholders. Indeed, good corporate governance is quite costly for firms, and return on such types of “investment” can be expected only from a mid-term perspective. Therefore, CG improvement on the firm level can be a signal of real changes in a firm’s strategies.

There are also some differences between our approach and that in relevant studies of corporate governance. Traditionally, such studies used a variety of ratings for the assessment of the quality of corporate governance. For instance, Doidge et al. (2007) included in their analysis the data of S&P transparency and disclosure rating, based on the information disclosed by the companies, and the FTSE/ISS scorecard, based on evaluations of financial analysts.



However, such ratings and scorecards are generally applicable to public companies that are traded on stock exchanges and disclose considerable volumes of information about their business. For current Russia, this is a very restrictive approach because only a small number of joint-stock companies can meet such criteria of the stock market. For example, in 2007 Standard & Poors rated informational transparency in only 80 companies in Russia (S&P, 2007). However, there are about 170,000 joint-stock companies in Russia, and most of them have minority shareholders. Our sample consists of such joint-stock companies to a large degree, and we tried to detect how their relationships with shareholders are changing.

To this effect, using a number of questions about the corporate behavior of firms surveyed in our questionnaire, we constructed the CG\_Index for our sample, which covered listed and non-listed companies. The list of these 13 questions and the answers of our respondents are shown in **Table 3**. By interpreting the answers in terms of better / worse corporate behavior, we followed conventional principles of corporate governance (OECD, 2004). The distribution of companies depending on this new variable CG\_Index is shown in **Table 4**. To avoid overestimating the quality of corporate governance due to the interrelation between some variables, we divided the sample firms into 5 categories (i.e., 20, 40, 60, and 80 percentiles) depending on the total initial score of the CG\_Index and created a transformed CG\_Index that ranges from 1 (firms with the lowest CG quality) to 5 (firms with the highest CG quality).

To measure the influence that the government can possibly exert on the quality of corporate performance in the surveyed joint-stock companies, we used two variables. First, our questionnaire provided information about government shares in the capital of the surveyed firms. This enabled us to form the STATE\_OWNER variable, dividing our sample into 3 subcategories: state-controlled firms, firms with the minority stake held by the government, and private firms. There were about 20% of firms with a governmental stake in our sample (**Table 5**).

Secondly, we had data on different forms of support that enterprises obtained from the government as well as on other formal and informal relationships between the government and the enterprises in question. Relying on this questionnaire data, we built a variable expressing the proximity of enterprises to the government POLIT\_CONNECT (from this viewpoint, our approach is close to that of Faccio (2006) and other studies of “politically connected firms”). **Table 6** includes nine questions on relationships with the government and obtained state support, and **Table 7** presents the distribution of firms depending on their score on this new variable. To avoid the overestimation of political connection, we divided the sample in the 3 categories depending on the total score of the Polit\_Connect Index.

Both variables are highly correlated with our dependent variable CG\_Index (**Table 8**). There is also a high correlation between State\_Owner and

POLIT\_CONNECT (Pearson Chi-Square,  $p < 0,000$ ), but approximately 18% of private firms have a high level of political connection, and 12% of state controlled firms obtain only a low level of political connection.

In our regression analysis, we have included a number of control variables. To take the size factor into consideration, we used a logarithm of employment. Taking into account that the survey covered 64 regions, we used a REGION variable in order to test the possible influence of this factor. This variable was formed depending on the level of economic development of Russian regions according to the classification of the Ministry for Economic Development and Trade in 2004.

To monitor differentials by industry, we used a standard SECTOR variable. At the same time, the goals of our study required consideration of the scope of the possible influence of the government on corporate behavior. Therefore, in some modifications of our basic model, we also used a SECTOR\_reg dummy, which designated the affiliation of the surveyed enterprises to the regulated and non-regulated industrial sectors.

In addition, we also used a number of other independent variables that could affect the relationships of the surveyed joint-stock companies with their shareholders and our aggregate indicator of quality of corporate governance.

**Table 9** provides descriptive statistics of the variables used in our empirical analysis.

General assessment of the financial condition of a firm - FINANCE. We recognized that the issue of dividend payment, which was significant in the formation of the CG\_Index, depended, among other things, on the financial condition of a firm. Consequently, we could expect that the connection between these variables was positive.

Presence of a controlling stake in a company in the hands of a single shareholder or a united group of shareholders – DOMINANT OWNER. A number of previous studies (Dolgopyatova, 2003; Guriev et al., 2004; Yakovlev, 2004) allowed understanding that, under the Russian conditions, concentration of ownership rights could have a positive influence on the quality of corporate governance. In particular, in a case in which the shares were diffused among several owners, even relatively large shareholders that kept the enterprise under control at the given moment may have had no motivation to pursue its development in the long range because such a large shareholder had no guarantee that his position in the firm would remain unchanged in the future. This uncertainty about future ownership rights may give incentives for the withdrawal of assets and for other measures that violate the rights of other shareholders. This is still truer for the behavior of managers, and shareholders have no effective tools to stop this opportunistic behavior under the dispersion of ownership and weak judicial institutions. A tendency toward the concentration of ownership and control was a logical outcome of such problems. The Russian experience demonstrated that, after

acquiring a controlling stake, a dominant shareholder got incentives to restructure and develop the company business and found real means to be in command of its managerial team as well.

However, at the same time, dominant shareholders can obtain benefits from the direct control of cash flow and, therefore, are not likely to be very interested in the improvement of corporate governance. As a result, it is possible that there is a negative relationship between the presence of a controlling shareholder or a group of controlling shareholders and the quality of corporate governance.

Membership of a firm in a business group – BUSINESS GROUPS. The firms that are members of holding company groups, which are approximately 40% of our respondents, can expect to get financial support of their projects from their parent company. Therefore, they can be less dependent on outside financing and can have fewer incentives to consider the interests of small minority shareholders. At the same time, parent companies can more actively use the mechanisms of corporate governance for the supervision of their subsidiaries.

Presence of foreign shareholders – FOREIGN STOCK. Foreign investors are usually better informed about their rights and defend their ownership more actively. Therefore, their presence among shareholders can have a positive influence on the quality of corporate governance.

Presence of top managers experienced in foreign companies in Russia or abroad – FOREIGN EXP. To be proficient in using the mechanisms of corporate governance, the managers must have certain expertise and skills. Multinational corporations usually have a higher level of corporate governance. For this reason, we believed that the presence of top managers experienced in multinational corporations in the respondent firms could help disseminate the best practice of corporate governance.

## **5. Empirical results**

The results of a test of our hypothesis indicate that, under the current conditions in Russia, formal connections of firms to the state via participation of the government in the capital can have a positive influence on the quality of corporate governance in these firms. These results are described in **Table 10**.

Model 1.0 (with control for the effects of size and industrial and regional affiliation only) supports this hypothesis for firms with a minority stake held by government. For firms controlled by the state, the coefficient in regression is positive but not significant.

Models 1.1-1.3 were used to evaluate the robustness of our results. In model 1.1, we added to the regression a broader number of control variables, which, in our opinion, could affect the quality of corporate governance: the affiliation of a firm to a business group; a controlling stake being in the hands of a single shareholder;

the financial conditions of the firm; the presence of foreign shareholders; and the previous job experience of top-managers of surveyed firms in foreign companies in Russia and abroad.

The insertion of these variables improved the general parameters of our model (McFadden pseudo-R-square rose from 0.114 to 0.140). Both coefficients at the STATE\_OWNER variable are significant in this model, but, for a state-controlled firm, the level is limited to 10%. As in model 1.0, the size of the enterprise has significant positive impact on the quality of corporate governance. The manner in which the size affects the quality can be easily explained because the costs of good corporate governance, in general, are comparable for companies that vary in size, but large companies can have substantially higher gains, in terms of the lower cost of external financing, than smaller ones. Therefore, large companies will have many more incentives for the introduction of good corporate governance. The general financial conditions, affiliation of a firm with a business group, and presence of foreigners among shareholders also exerted a positive influence on corporate governance. These results are in correspondence with our initial assumptions for control variables. For the DOMINANT\_OWNER and FOREIGN\_EXP variables, the results are not significant.

In model 1.2, instead of the SECTOR variable, we introduced the SECTOR\_reg variable, which reflects the presence of governmental regulation of entry and tariffs in the industry. The coefficients at the STATE\_OWNER variable remain significant in this model as well, but, for firms with government minority shareholding, they are at a lower level ( $p < 0,05$ ). At the same time, this model provides additional evidence that the state can affect the quality of corporate governance not just in its capacity as a proprietor. In particular, firms in regulated industries show, to a great extent, better quality of corporate governance ( $p < 0.01$ ).

Finally, in model 1.3, we regress the sample without all firms listed at foreign stock exchanges. According to our interviews with practitioners in the Russian corporate sector, there were very strong differences between firms listed in New York or London and those on the Russian stock exchanges. The international standards for listing in New York and London are much higher than they are for listing in Russia. Therefore, we decided to test our hypothesis only for domestically traded and non-listed firms. However, as shown in **Table 10**, the results in general remain the same.

Model 2.0 tests our hypothesis that indirect (informal) links to the government measured by the POLIT\_CONNECT variable can be positive for the improvement of corporate governance. We used four specifications of this model:

- only with the standard control variables SIZE, SECTOR, and REGION (model 2.0);

- with broader number of control variables, including FINANCE, BUSINESS\_GROUPS, DOMIMANT\_OWNER, FOREIGN\_STOCK, and FOREIGN\_EXP (model 2.1);
- with the SECTOR\_reg variable instead of the SECTOR variable (model 2.2);
- with the elimination of all state-controlled and mixed firms from the sample (model 2.3).

As can be seen from **Table 11** in all cases, the coefficients at the POLIT\_CONNECT variable were not significant. All other results concerning control variables were the same as in model 1. The SIZE, SECTOR\_reg, FINANCE, BUSINESS\_GROUPS, and FOREIGN\_STOCK variables exerted a positive influence on corporate governance. The impact of the DOMINANT\_OWNER and FOREIGN\_EXP variables was not significant.

Therefore, our analysis gives us grounds to assert that, in Russia, in the period of 2001-2004, direct connections of a company with the state via participation of the government in the capital as well as affiliation of the company with regulated industrial sectors have a positive influence on the quality of corporate governance in these firms. Other “political connections” of firms with the government were not significant for the improvement of corporate governance.

## **6. Conclusions**

In this paper, we evaluated the influence of the state on changes in the quality of corporate governance in Russia of the early 2000s using a database of 822 joint-stock companies. Due to the quality of our questionnaire, which included a wide range of questions related to the interaction between enterprises and authorities, we were able to assess the influence of the state regarding the practice of corporate governance in different ways, from the most rigorous, when the government acted as a shareholder, to milder ones, when various types of support and stimulation were used with the firms.

Our regression analysis has showed that the formal indicators of the quality of corporate governance in Russia of the early 2000s were higher in companies under state control or with a stake held by the government and in companies from regulated industries. The quality of corporate governance differed significantly by enterprise size. In addition, a number of other factors were important for the improvement of corporate governance, including good financial conditions, the presence of foreign shareholders, and affiliation of a firm with a business group. The political connections of firms as well as the presence of a dominant owner and the previous job experience of top-managers of surveyed firms in foreign companies in Russia and abroad did not have any significant influence on the quality of corporate governance. This result proved to be robust in different specifications of our basic model.

This conclusion is inconsistent with the conventional attitude towards the role of the state, as described in economic literature, and particularly on the role of SOEs (Megginson & Netter, 2001; Perotti, 2004) and the role of political connections (Faccio, 2006). Even recent studies on China, which Russia is coming closer to in terms of models of interaction between firms and the state, show that government stakes in corporations and/or other ways of influence have negative effects on enterprise performance (Nee et al., 2007; Choi & Thum, 2007; Tian & Estrin, 2008).

However, in our opinion, what is to be considered here is the stage of development of a concrete economy in a concrete point of time. In the 1990s, not only private shareholders but also the Russian government as an owner suffered from management abuses. The early 2000s in Russia were a time when some sort of proper order was introduced after the disorganization and chaos of the preceding decade. This holds true, above all, for the relationship of the government with the SOEs, which were put back under control with a strong reliance on the procedures of corporate governance. In particular, the government introduced monitoring of the SOE performance, which required that top-managers be accountable to the shareholders and members of the board of directors; furthermore, joint-stock companies with stakes held by the government were required to pay dividends. In a sense, we can assert that the state as a proprietor used standard mechanisms and procedures of corporate governance for the defense of its interests. The government used the regulation of entry and tariffs as an additional channel of influence on the behavior of enterprises, including the improvement of corporate governance.

It is noteworthy that the positive impact of governmental interventions was more significant in the case of minority shareholding of government and less so in state-controlled firms. This difference can be well explained from the viewpoint of conventional theory. Minority shareholding allows the government to propose standard objectives, such as an increase in profitability or capitalization. The participation of the government, in this case, as a shareholder, results in an increase in the informational transparency and accountability of management. However, in state-controlled firms, the government as the dominant owner can accomplish very different tasks. Therefore, its activity will have a lower impact on the improvement of corporate governance.

The fact that these positive changes took place after a period of chaos and uncertainty in the 1990s allows us to draw a parallel between Russia and the China of the 1980s rather than contemporary China. It is noteworthy that empirical studies based on the data of that time provide evidence of improvement in the performance of SOEs (Li, 1997).

However, we emphasize that our conclusions about the positive influence of the state on the quality of corporate governance refer exclusively to the period of 2001-2004 and cannot be extrapolated further. In this context, another comparison

is interesting, namely, that with postwar Italy. The critical analysis of state ownership and the evolution of Italian corporate governance since World War II were presented in a paper by Barca & Trento (1997). They concluded that the full-scale or majority state ownership of corporations can be effective in separating ownership and control during stages of accelerated growth as well as when shifts in the sectoral balance are needed. However, this system is bound to degenerate over time in the absence of a functioning political market and when state-owned enterprises are burdened with “special social objectives.”

These judgments can be timely in contemporary Russia because consolidation of the state and economic success in the early 2000s gave leading politicians and top officials a sort of euphoria about the role and capabilities of the state. This resulted in a further extension of the state’s presence in the economy, bringing a growing number of large companies under direct or indirect control of the government and leading to the creation of giant, practically non-transparent state corporations. In our opinion, if these trends continue, they can change the character of the state’s influence on the behavior and performance of enterprises from the positive to the negative in the nearest future.

## References

- Ang, J. S., & Ding, D. K., Government ownership and the performance of government-linked companies: The case of Singapore, *Journal of Multinational Financial Management*, 16, 2006, pp. 64-88.
- Avdasheva, S., Dolgopyatova, T. G., & Pleines, H., Corporate governance in joint-stock companies with stake held by the government: Russian problems in the context of international experience, Working Paper No. WP1/2007/01, Higher School of Economics, 2007. (in Russian)
- Barca, F., & Trento, S., State ownership and the evolution of Italian corporate governance, *Industrial and Corporate Change*, 6, 1997, pp. 533-559.
- Bertrand, M., Kramarz, F., Schoar, A., & Thesmar, D., Politically connected CEOs and corporate outcomes: Evidence from France, Unpublished working paper, University of Chicago, 2006.
- Brown, J. D., Earle, J. S., & Telegdy, A., The productivity effects of privatization: Longitudinal estimates from Hungary, Romania, Russia, and Ukraine, *Journal of Political Economy*, 114, 2006, pp. 61-99.
- Choi, J. P., & Thum, M., The economics of politically connected firms, CESifo Working Paper No. 2025, Ifo Institute, Center for Economic Studies, 2007.
- Denisova, I., Eller, M., Frye, T., & Zhuravskaya, E., Who wants to revise privatization and why? Evidence from 28 post-communist countries, CEFIR/NES working paper No. 105, Center for Economic and Financial Research and New Economic School, 2007.
- Doidge, C., Karolyi, G. A., & Stulz, R. M., Why do countries matter so much for corporate governance? *Journal of Financial Economics*, 86, 2007, pp. 1-39.
- Dolgopyatova, T. G., Ownership and corporate control structures as viewed by statistics and surveys, *Russian Economic Barometer*, 12, 2003, pp. 12-20.
- Dolgopyatova, T. G., & Iwasaki, I., Exploring Russian corporations. Interim report on the Japan-Russia joint research project on corporate governance and integration processes in the Russian Economy, Discussion paper No. B35, Institute of

- Economic Research, Hitotsubashi University, 2006.
- Faccio, M., Politically connected firms, *American Economic Review*, 96, 2006, pp. 369-386.
- Guriev, S., Lazareva, O., Rachinsky, A., & Tsukhlo, S., Corporate governance in Russian industry, *Problems of Economic Transition*, 47, 2004, pp. 6-83.
- Hellman, J. S., Jones, G., & Kaufman, D., Seize the state, seize the day: An empirical analysis of state capture and corruption in transition, Paper prepared for the ABCDE 2000 conference, April 18-20, 2000.
- HSE, International and domestic practice of dividend payment policy as a part of assets management, Research report of SU-HSE for Minimushchestvo Rossii, 2003. (in Russian)
- Kolodko, G. W., *From Shock to Therapy: The Political Economy of Post-socialist Transformation* (Oxford, Oxford University Press, 2002).
- Kraakman, R. H., Black, B., & Tarassova, A., Russian privatization and corporate governance: What went wrong? *Stanford Law Review*, 52, 2000, pp. 1731-1808.
- Kwoka, J. E. Jr., The comparative advantage of public ownership: Evidence from U.S. electric utilities, *Canadian Journal of Economics*, 38, 2005, pp. 622-640.
- Li, W., The impact of economic reform on the performance of Chinese state enterprises: 1980-1989, *Journal of Political Economy*, 105, 1997, pp. 1080-1106.
- McKenzie, D., & Mookherjee, D., The distributive impact of privatization in Latin America: Evidence from four countries, *Economia (Journal of the Latin American and Caribbean Economic Association)*, 3, 2003, pp. 161-218.
- Meggison, W. L., Nash, R. C., & Van Randenborgh, M., The financial and operating performance of newly privatized firms: An international empirical analysis, *Journal of Finance*, 49, 1994, pp. 403-452.
- National Council on Corporate Governance (NCCG), *National Report on Corporate Governance 2007* (Moscow, National Council on Corporate Governance, 2008). (in Russian)
- Nellis, J., Time to rethink privatization in transition economies? IFC discussion papers No. 38, International Finance Corporation, 1999.
- Nee, V., Opper, S., & Wong, S., Developmental state and corporate governance in China, *Management and Organization Review*, 3, 2007, pp. 19-53.
- OECD, *Economic Survey of the Russian Federation* (Paris, OECD, 2006).
- Pinto, B., Belka, M., Krajewski, S., & Shleifer, A., Transforming state enterprises in Poland: Evidence on adjustment by manufacturing firms, *Brookings Papers on Economic Activity*, 1993, 1993, pp. 213-270.
- Perotti, E., State ownership: A residual role? World Bank policy research working paper No. 3407, World Bank, 2004.
- Pohl, G., Anderson, R. E., Claessens, S., & Djankov, S., Privatization and restructuring in Central and Eastern Europe: Evidence and policy options, World Bank technical paper No.368, World Bank, 2007.
- Puffer, S. M., & McCarthy, D. J., The emergence of corporate governance in Russia, *Journal of World Business*, 38, 2003, pp. 284-298.
- Rodrik, D., Second-best institutions, NBER working paper No.14050, National Bureau of Economic Research, 2008.
- Tian, L. G., Performance of mixed enterprises, agency cost and state shareholding, mimeo, London Business School, 2001.
- Tian, L., & Estrin, S., Retained state shareholding in Chinese PLCs: Does government ownership always reduce corporate value? *Journal of Comparative Economics*, 36, 2008, pp. 74-89.
- Shokhina, Y., & Shevtsova, O., Zyuzin under attack, Expert Online, (dated 25 July, 2008), 2008. (available at: <http://eng.expert.ru/articles/2008/07/25/pricel/>).



- S&P (Standard & Poor's), The study of informational transparency of Russian companies in 2007: Significant changes in ten leaders list, Corporate Governance Ratings Department of Standard & Poor's, November 14, 2007. (in Russian)
- Stiglitz, J., Whither reform? - Ten years of the transition, Keynote address at Annual World Bank Conference on Development Economics, 1999.
- Vernikov, A., Corporate governance and control in Russian banks, Working paper No. 78, Center for the Study of Economic and Social Change in Europe, 2007.
- Vining, A. R., & Boardman, A. E., Ownership versus competition: Efficiency in public enterprise, *Public Choice*, 73, 1992, pp. 205-239.
- Yakovlev, A., Evolution of corporate governance in Russia: Governmental policy vs. real incentives of economic agents, *Post-Communist Economies* 16, 2004, pp. 387-403.
- Yakovlev, A., The evolution of business-state interaction in Russia: From state capture to business capture? *Europe-Asia Studies*, 58, 2006, pp. 1033-1056.

## State-Business Relations and Improvement of Corporate Governance in Russia: Tables

**Table 1. Distribution of surveyed firms by sector**

	Number	Share (%)
Surveyed firms, total	822	100.0
Industry	751	91.4
Fuel and energy	66	8.0
Iron and steel and non-ferrous metals	36	4.4
Chemicals and petrochemicals	33	4.0
Machinery and metalworking	255	31.0
Timber, woodworking and pulp-and-paper industry	63	7.7
Construction materials	78	9.5
Light industry	51	6.2
Food industry	169	20.6
Telecommunications	71	8.6

**Table 2. Distribution of surveyed firms by number of workers**

	Industry		Communications	
	Number	Share (%)	Number	Share (%)
Surveyed firms, total	751	100.0	71	100.0
100-299 persons	221	29,4	27	38,0
300-499 persons	173	23,0	7	9,9
500-999 persons	147	19,6	9	12,7
1000-4999 persons	161	21,4	11	15,5
5000-9999 persons	26	3,5	7	9,9
More than 10000 persons	23	3,1	10	14,1

**Table 3. Construction of the CG\_Index**

Questions on corporate behavior	Firm received +1 point in the CG_Index if answer was	Share in the sample
Company's securities (shares, bonds) are listed on stock exchanges in Russia (q5)	yes	12.8%
Company's securities (shares, ADR, bonds, Eurobonds) are listed on stock exchanges abroad (q7)	yes	4.1%
Long planning horizon - 3 years or more (q21)	yes	27.9%
Bank credits for 1 year or more (q45)	yes	23.7%
Company paid annual common share dividends all three years in 2002-2004 (q45_50)	yes	25.6%
Corporate conflicts between shareholders / shareholders and managers in 2001-2004 (q66)	no	73.2%
Independent directors and/or representatives of minority outside shareholders not working at the company are members of the board of directors (q67_6+7)	yes	27.3%
Domination of outsiders in a corporate board (q67)	yes	45.9%
Presence of experts, layers, and professional auditors in an audit committee (q70)	yes	26.4%
Engagement of an international audit firm in company's internal control (q72)	yes	8.3%
Adoption of a collective executive organ in accordance with the law on JSCs (q75)	yes	34.1%
Influence of shareholders meeting on key corporate decisions (q82A)	high	48.0%
Influence of board of directors on key corporate decisions (q82B)	high	63.8%

**Table 4. Distribution of firms depending on the value of the CG\_Index**

Value of the CG_Index	0	1	2	3	4	5	6	7	8	9	10	11	Total
Frequency	4	60	129	158	171	141	60	41	23	15	12	4	818
Share in the sample (%)	0.5	7.3	15.8	19.3	20.9	17.2	7.3	5	2.8	1.8	1.5	0.5	100

**Table 5. State-controlled companies and firms with a minority stake held by the government**

Subcategories of the STATE_OWNER variable	Frequency	Share in the sample (%)
Firms under state control	42	58
Firms with a minority stake held by the government	99	13.7
Private firms	583	80.5
Total*	724	100.0

*Note:* \* There is a lack of data on the ownership structure for 98 firms

**Table 6. Construction of the Polit\_Connect variable**

Questions on “political connections” of surveyed firms	+1 point in Polit_Connect if answer was	Share in the sample (%)
Joint-stock company was established after 1992 without any connection to privatization (q4)	no	84.7
Representatives of the federal, regional, or municipal government are members of the board of directors (q67)	yes	16.1
Top managers of the firm are members of an advisory body or expert council acting under the federal, regional, or local government (q102)	yes	29.9
Firm is a member of a business association and, due to membership at this association, firm could establish contacts with authorities (q101.3)	yes	15.3
Just before coming to the company, CEO or chairman of the board of directors worked with federal, regional, or local administration or with the legislature (q90_85)	yes	8.2
Job experience of top management of the company in federal, regional, or municipal administration during the last 10 years (q93)	yes	27.7
Firm took part in the government program of procurement in 2001-2004 (q99)	yes	23.9
Firm received organizational support from the regional or local administration in 2001-2004 (q98)	yes	28.7
Firm received financial support from the regional or local administration in 2001-2004 (q97)	yes	23.1

**Table 7. Distribution of firms depending on the value of the Polit\_Connect variable**

Value of the POLIT_CONNECT Index	0	1	2	3	4	5	6	7	8	Total
Frequency	42	224	209	145	98	51	36	15	2	822
Share in the sample (%)	5.1%	27.3%	25.4%	17.6%	11.9%	6.2%	4.4%	1.8%	0.2%	100%

**Table 8. Correlation matrix of the variables used in the regression analysis**

	CG_INDEX_gr1	SECTOR	STATE_OWNER	SECTOR_reg	BUSINESS_GROUPS	DOMINANT_OWNER	FINANCE	FOREIGN_STOCK	FOREIGN_EXP	POLIT_CONNECT
CG_INDEX_gr1	1	0.000***	0.000***	0.000***	0.000***	0.824	0.000***	0.000***	0.378	0.000***
SECTOR	-	1	0.000***	0.000***	0.000***	0.348	0.000***	0.000***	0.222	0.059*
STATE_OWNER	-	-	1	0.000***	0.025**	0.377	0.787	0.001***	0.885	0.000***
SECTOR_reg	-	-	-	1	0.000***	0.021**	0.000***	0.000***	0.007***	0.148
BUSINESS_GROUPS	-	-	-	-	1	0.026**	0.000***	0.000***	0.001***	0.117
DOMINANT_OWNER	-	-	-	-	-	1	0.881	0.905	0.129	0.123
FINANCE	-	-	-	-	-	-	1	0.003***	0.002***	0.749
FOREIGN_STOCK	-	-	-	-	-	-	-	1	0.000***	0.012**
FOREIGN_EXP	-	-	-	-	-	-	-	-	1	0.400
POLIT_CONNECT	-	-	-	-	-	-	-	-	-	1

This table shows the significance of the Pearson Chi-square test among the variables included in the regression analysis.

Asterisks (\*\*\*, \*\*, and \*) denote statistical significance at the 1%, 5%, and 10% levels, respectively.

**Table 9. Control variables – descriptive statistics**

Name of variable	Description of variable	Values of variable	Frequencies	N
SECTOR	Industry	9 industries		822
SECTOR_reg	Regulated or non-regulated industrial sectors	1 - regulated industrial sector (energy and communications) 2 - non-regulated industrial sectors	1 - 137 2 - 685	822
REGION	Level of economic development of Russian regions according to the classification of the Ministry for Economic Development and Trade in 2004	1 - Moscow; 2 – high; 3 - upper middle 4 - middle; 5 - lower middle 6 - low; 7 - very low	1 - 33; 2 - 57 3 - 237; 4 - 227 5 - 202; 6 – 53; 7 - 13	822
BUSINESS_GROUP	Membership of a firm in a business group	1 - The enterprise is an independent entity 2 - The enterprise is a member of a holding company group	1 - 499 2 - 323	822
DOMINANT_OWNER	There is a definite owner or one definite consolidated group of owners who has the power to exercise control over the activities of the enterprise	1 - yes 2 - no	1 - 675 2 - 97	772
FINANCE	General assessment of financial condition of a firm	1 - good 2 - satisfactory 3 - bad	1 - 303 2 - 423 3 - 93	819
FOREIGN_STOCK	Presence of foreign shareholders	1 - yes 0 - no	1 - 99 0 – 604	703
FOREIGN_EXP	Presence of top managers experienced in foreign companies in Russia or abroad	1 - yes 0 - no	1 - 112 0 - 652	764
SIZE_log	Logarithm of total number of employees	Mean	Median	Std. deviation
		6.4	6.1	1.2

**Table 10. Regression analysis of the effect of state ownership on the quality of corporate governance**

Parameter Estimates		Model 1.0		Model 1.1		Model 1.2		Model 1.3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Threshold	[CG_INDEX = 1]	2.173***	0.274	1.029**	0.408	1.332***	0.388	1.223***	0.405
	[CG_INDEX = 2]	2.807***	0.277	1.693***	0.409	1.992***	0.390	1.885***	0.407
	[CG_INDEX = 3]	3.438***	0.283	2.351***	0.412	2.642***	0.393	2.543***	0.410
	[CG_INDEX = 4]	4.103***	0.291	3.092***	0.418	3.370***	0.400	3.263***	0.416
	SIZE_log	0.472***	0.040	0.391***	0.045	0.410***	0.044	0.394***	0.046
Location	[STATE_OWNER= state control]	0.257	0.192	0.410*	0.212	0.407*	0.209	0.375*	0.224
	[STATE_OWNER= state as minority]	0.261**	0.123	0.379***	0.139	0.349**	0.138	0.350**	0.140
	[STATE_OWNER= no governmental stake]	0	.	0	.	0	.	0	.
	[1= fuel and energy]	0.442***	0.169	0.224	0.194				
	[2= iron and steel and non-ferrous metals]	0.013	0.216	-0.243	0.229				
	[9= telecommunications]	0.798***	0.172	0.372*	0.204				
Sectors	[4= chemicals and petrochemicals]	0.136	0.204	0.277	0.219				
	[5= timber, woodworking, and pulp-and-paper industry]	-0.064	0.164	-0.127	0.175				
	[6= light industry]	-0.255	0.172	-0.268	0.178				
	[7= food industry]	-0.098	0.117	-0.301**	0.126				
	[8= construction materials]	-0.290*	0.154	-0.250	0.165				
	[3= machinery and metalworking]	0	.	0	.				
	[SECTOR_reg= yes]					0.434***	0.142	0.378**	0.150
	[SECTOR_reg= no]					0	.	0	.
	[BUSINESS_GROUPS= no]			-0.500***	0.099	-0.478***	0.097	-0.467***	0.099
	[BUSINESS_GROUPS= yes]			0	.	0	.	0	.
	[DOMINANT_OWNER= yes]			-0.063	0.135	-0.071	0.135	-0.112	0.137
	[DOMINANT_OWNER= no]			0	.	0	.	0	.
[FINANCE= good]			0.293***	0.099	0.305***	0.099	0.311***	0.100	
[FINANCE= bad]			-0.107	0.141	-0.093	0.140	-0.127	0.142	
[FINANCE= moderate]			0	.	0	.	0	.	
[FOREIGN_STOCK= no]			-0.377**	0.152	-0.361**	0.149	-0.327**	0.158	
[FOREIGN_STOCK= yes]			0	.	0	.	0	.	
[FOREIGN_EXP= no]			0.087	0.132	0.076	0.130	0.069	0.134	
[FOREIGN_EXP= yes]			0	.	0	.	0	.	
Number of observations		<b>722</b>		<b>632</b>		<b>632</b>		<b>601</b>	
-2 Log likelihood		1951.95		1731.66		1700.67		1658.72	
McFadden pseudo R-Square		0.114		0.140		0.134		0.108	

REGION fixed-effect variables were included in all models but are not reported in the table.

Asterisks (\*\*\*, \*\*, and \*) indicate statistical significance at 1%, 5%, and 10% levels, respectively.

**Table 11. Regression analysis of the effect of “political connections” on the quality of corporate governance**

Parameter Estimates	Model 2.0		Model 2.1		Model 2.2		Model 2.3		
	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error	
Threshold	[CG_INDEX = 1]	1.964***	0.282	1.018**	0.436	1.298***	0.418	1.139**	0.465
	[CG_INDEX = 2]	2.587***	0.284	1.674***	0.437	1.950***	0.420	1.812***	0.467
	[CG_INDEX = 3]	3.225***	0.289	2.337***	0.440	2.607***	0.423	2.442***	0.470
	[CG_INDEX = 4]	3.901***	0.296	3.071***	0.445	3.328***	0.429	3.154***	0.476
Location	SIZE_log	0.447***	0.038	0.395***	0.046	0.412***	0.045	0.385***	0.050
	[POLIT_CONNECT = low]	-0.107	0.108	-0.108	0.124	-0.096	0.122	0.042	0.144
	[POLIT_CONNECT = moderate]	-0.024	0.099	-0.020	0.114	-0.023	0.113	0.018	0.137
	[POLIT_CONNECT = high]	0	.	0	.	0	.	0	.
Sectors	[1= fuel and energy]	0.527***	0.157	0.318*	0.192				
	[2= iron and steel and non-ferrous metals]	-0.098	0.197	-0.275	0.224				
	[9= telecommunications]	0.931***	0.158	0.471**	0.199				
	[4= chemicals and petrochemicals]	0.108	0.200	0.302	0.218				
	[5= timber, woodworking, and pulp-and-paper industry]	-0.058	0.153	-0.122	0.176				
	[6= light industry]	-0.246	0.168	-0.283	0.178				
	[7= food industry]	-0.102	0.109	-0.264**	0.125				
	[8= construction materials]	-0.228	0.143	-0.240	0.165				
	[3= machinery and metalworking]	0	.	0	.				
	[SECTOR_reg= yes]					0.518***	0.139	0.360**	0.162
	[SECTOR_reg= no]					0	.	0	.
	[BUSINESS_GROUPS= no]			-0.473***	0.098	-0.453***	0.096	-0.446***	0.105
	[BUSINESS_GROUPS= yes]			0	.	0	.	0	.
	[DOMINANT_OWNER= yes]			-0.059	0.134	-0.067	0.133	-0.067	0.146
[DOMINANT_OWNER= no]			0	.	0	.	0	.	
[FINANCE= good]			0.274***	0.099	0.291***	0.098	0.290***	0.108	
[FINANCE= bad]			-0.092	0.141	-0.080	0.139	-0.102	0.154	
[FINANCE= moderate]			0	.	0	.	0	.	
[FOREIGN_STOCK= no]			-0.395***	0.150	-0.371**	0.148	-0.425**	0.168	
[FOREIGN_STOCK= yes]			0	.	0	.	0	.	
[FOREIGN_EXP= no]			0.131	0.131	0.114	0.130	0.047	0.142	
[FOREIGN_EXP= yes]			0	.	0	.	0	.	
Number of observations		<b>818</b>		<b>637</b>		<b>637</b>		<b>517</b>	
-2 Log likelihood		2276.47		1760.27		1752.64		1460.55	
McFadden pseudo R-Square		0.106		0.136		0.130		0.100	

REGION fixed-effect variables were included in all models but are not reported in the table.

Asterisks (\*\*\*, \*\*, and \*) indicate statistical significance at 1%, 5%, and 10% levels, respectively.