Government directors and business–state relations in Russia

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ABSTRACT

We propose three ideal types of business–state relations in a transition economy and explore the impact of government directors on corporate boards for firm behavior. Using a unique dataset of joint-stock companies in Russia, we find that the presence of government directors on corporate boards is more consistent with a "collusion" ideal type of relations between firms and the state than with a managerial discipline or rent-extraction ideal type. The state sends directors to firms that both extract resources from the state, but that also provide important benefits and services to the state.

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1. Introduction

Do governments send directors to the company boards of weak or strong firms? Is the presence of a government director on a corporate board associated with better or worse corporate governance? How can we best measure the influence of the state ownership on firm behavior? More generally, how can we understand relations between state appointed directors and firms in transition economies? We address these questions using an original data-set of more than 800 firms in Russia.

These questions have important implications for economic development, corporate governance, and state society relations in Russia. For studies of economic development, these questions probe the relation of state ownership to the quality of corporate governance. For some observers, state ownership can provide a useful "second best" where market failures are extensive, but for others state ownership is primarily a means for public officials to use state power for personal or political gain at the expense of economic efficiency (Shleifer and Vishny, 1994; Rodrik, 2008; Yakovlev, 2009). This issue has become increasingly important as the global financial crisis of 2008 has ushered in a reexamination of the role of the state in economic development.

For the corporate governance literature, these questions explore how best to conceptualize the role of the state in corporate governance in transition and developing economies. Existing studies often measure the impact of state ownership on firm

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behavior by the percentage of shares owned by the state, but this may be misleading where the state does not actively defend its ownership rights (Pistor and Turkewitz, 1996).

For Russia-watchers they provide insight into the long-standing debate on whether business and state relations are best characterized by business capturing the state, the state capturing business, or a relatively equal exchange between the two (Hellman et al., 2003; Yakovlev, 2006). Despite the presence of state directors on the company boards of some of Russia's most prominent companies and extensive discussions of the expanding role of the state in the economy, the role of state directors on company boards in Russia has received little scholarly attention.

We develop three simple ideal types of the relationship between state representatives on corporate boards and firms that represent different modes of business–state relations. The first assumes that the state uses government directors on corporate boards primarily to discipline managers.[1] The second posits that the state uses its representatives primarily to provide rents to influential groups within the state and society. The third rests on the idea that government directors and their firms are primarily engaged in collusion in which each side benefits, typically at the expense of social welfare.

Using an original survey of industrial and communications firms conducted in Russia in 2005, we find considerable support for the collusion ideal type. More specifically, government directors representing the federal state are sent to better performing firms which allows directors to benefit personally from their position, but the presence of government directors is associated with stronger corporate governance. In addition, firms with government directors on their corporate boards are more likely to receive benefits from the state and to provide services that benefit the state than are other firms. These findings suggest that the use of government directors on company boards in Russia is a double-edged sword for company management. Government directors are associated with better performing firms and stronger corporate governance, but these same firms also extract considerable benefits from the state.

More generally, this research adds to the growing literature on politically connected firms and rent extraction in developing countries (Fisman, 2001; Faccio, 2006). It also makes a contribution to the literature on rent-seeking, collusion, and corruption in post-communist transitional countries.[2] In addition, by focusing on the impact of government representatives on corporate boards, it offers a new means of capturing how the state influences firm behavior. Finally, it adds to the surprisingly scarce literature on the role of government directors on corporate boards not only in transition and developing economies, but also in developed economies (Whincop, 2003).

The reminder of this paper is organized as follows. Section 2 presents our testable hypothesis basing on the three ideal types of business-state relations. Section 3 provides background information of state directors and corporate boards in Russia. Section 4 describes the data employed for this study. Section 5 conducts empirical analysis. Section 6 concludes the paper.

2. Three ideal types of business–state relations

Borrowing from different threads of existing literature, we develop three ideal types of relations among rulers, state directors, and firms that generate hypotheses about firm and state behavior that can be assessed empirically.[3] We treat the state as headed by a ruler who maximizes revenue subject to the constraint of retaining office (North, 1981; Levi, 1988). This assumption allows us to abstract away from the complex decision-making processes within the state and focus on decisions made by the ruler as if they were a unitary actor.[4] We focus on a ruler who treats state representatives as his agents.

In the managerial discipline ideal type, the ruler uses state directors to constrain firm managers from looting the firm (c.f., Kaplan and Minton, 1994). In this view, because rulers are concerned about firm performance and the possible political repercussions of the condition of the economy, they have incentives to dispatch state representatives to poorly performing firms in hopes of increasing managerial discipline within the firm. Rulers use government directors to offset the privileged position that managers have within the firm. This ideal type has several observable implications that are subject to empirical testing: rulers will tend to send state representatives to weak performing firms and these representatives will work to improve corporate governance. Moreover, state representatives will extract few benefits in the form of rents from the state, and, instead will generally use the firm to provide benefits to the state, such as participating in government projects, providing public goods, and contributing to various social welfare funds.

In the rent-extraction ideal type, the ruler sends state directors to firms in order to reward powerful interest groups within the state or society that are essential to keeping the ruler in power (c.f., Shleifer and Vishny, 1994; Faccio et al., 2006). Here state directors can use their position for their personal gain at the expense of social welfare, and often, the firm itself. If this conception of business state relations is correct, then we should see rulers sending state representatives to strong firms so that the director can benefit from the favorable performance of the firm. In addition, we should find that government directors weaken corporate

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[1] A large literature suggests that the poor performance of a company may motivate its shareholders to appoint outsider directors to improve managerial discipline in their company (c.f., Hermalin and Weisbach, 1988; Peng, 2004). Here we extend the logic to include outsider board members nominated by the state.

[2] For recent works on this research topic in this journal and others, see Bjorvatn and Søreide (2005), Bukovansky (2006), Dalgic and Long (2006), Goel and Budak (2006), Stefes (2006), Gradstein (2007), Chen (2008), Becker et al. (2009), Smyth and Qian (2009), Coates et al. (2010) and Infante and Smirnova (2010). For a recent review of the extensive literature on rent-seeking see Congleton et al. (2008a, 2008b).

[3] The use of ideal types to generate hypotheses is similar to Frye and Shleifer (1997).

[4] This simplifying assumption is common in political economy literature and is akin to ignoring decision-making within the firm and assuming that the firm is a unitary actor as in many economic models. Given the importance of state ownership and the highly centralized process of economic decision-making in Russia, this assumption is more plausible in the case at hand than in other settings.

Table 1
Three ideal types of business–state relations focusing on the government directors on corporate boards.

	Business–state relations		
	Managerial discipline	Rent-extraction	Collusion
Representatives sent to	Weak firms	Strong firms	Strong firms
Promote corporate governance	Yes	No	Yes
Firm extracts benefits from the state	Low	High	High
State extracts benefits from the firm	High	Low	High

Notes: See Section 2 of the paper for details.

governance in order to increase the rents that they can extract from the firm, while also providing few public goods that serve larger state goals. On this view, government representatives on corporate boards are designed to benefit the directors and firm insiders at the expense of society. This is much closer to a pure rent-extraction model (Hillman, 2011).

Finally, in the collusion ideal type, the ruler uses state directors to promote mutually beneficial forms of cooperation between the state and the firm. The ruler grants particularistic benefits to firms to allow incumbents to earn rents, but in exchange, managers provide specific services to the government. If this conception is correct, then we should see rulers dispatching state representatives to strong firms that give representatives opportunities to benefit personally, but we would also see state representatives on corporate boards work to improve corporate governance and cooperate with the ruler. According to this view, state representatives on corporate boards both extract benefits from the firm for personal gains, but also use the firm to provide public goods and other valuable services for the ruler (c.f. Frye, 2002; Iwasaki and Suzuki, 2007).

Obviously these three ideal types are simplifications of a much more complex reality, but they generate coherent predictions about relations between state representatives on company boards and their firms that shed light on business state relations and corporate governance issues more generally. The empirical observations associated with these ideal types associated are depicted in Table 1.

3. Background information on state directors and corporate boards in Russia

The legal basis underpinning state representation on corporate boards is complicated. The Law on the Joint-Stock Company (JSC), the Law on Privatization, directives of the Federal Agency for State Property Management (FASM), and resolutions by the government all govern the acts of government directors on corporate boards.[5] For instance, the Law on JSCs provides that the government may become the promoter of a joint-stock company established on the basis of a state-owned or public enterprise (Art. 10, Para. 1). The same law also stipulates that the Privatization Law precedes the Law on JSCs for companies with a state ownership share of 25% or more and for companies issuing a "golden share" which provides the state with special management rights (Art. 1. Para. 5). This provision is especially important with respect to the dispatch of government directors because golden shares provide considerable power. More specifically, the Privatization Law states that golden shares guarantee permanent posts for state representatives in firms issuing special management rights regardless of ownership share by the state (Art. 38, Para. 1).[6] In addition, these government directors are given veto power on important decisions at shareholders' meetings (Art. 38, Para. 3). The federal government also actively participates in the management activity of enterprises categorized as "strategic JSCs" that are subject to state regulations for the purpose of "assuring the strategic interests, national defense and security of the state, and protecting the morality, health, and legal rights and interests of the citizens."[7] According to official documents, as of July 1, 2005, the federal government holds common shares in 3524 domestic enterprises. In addition, the federal state holds only special management rights in 259 firms. These enterprises include 545 strategic JSCs. Hence, a total of 3783 JSCs can accept directors willingly dispatched from the federal government.[8]

Fig. 1 illustrates the internal coordination mechanism that guides the federal government and its agencies regarding the selection of government director candidates and their post-appointment activity. Under the direction of the Ministry of Economic Development and Trade (MET), the FASM organizes and regulates the dispatch of board directors to state-owned JSCs. The function of the FASM is to select director candidates based on suggestions from other federal agencies and organizations and then send their representatives to shareholders' meetings in order to have those candidates appointed as the directors. In addition,

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[5] These include the Federal Law on JSCs of December 26, 1995 (Law on JSCs); the Federal Law on Privatization of State and Municipal Property of December 21, 2001 (Privatization Law); the Government Resolution of November 27, 2004 on the Federal Agency for State Property Management; the Government Resolution of December 3, 2004 on the Control of the Federally Owned Shares of Open JSCs and Drawing on Special Rights (Golden Shares) of the Russian Federation to Control Open JSCs; the Directive of the Federal Agency for State Property Management of July 26, 2005 on Organization of the Activity of the Federal Agency for State Property Management in the Field of Corporate Governance. The descriptions in this section reflect the laws and government documents that were effective at the time of the 2005 enterprise survey.

[6] However, enterprises are allowed to issue a golden share only after 75% or more of their shares are privatized (the Privatization Law, Art. 38, Para. 5).

[7] The federal government differentiates "strategic JSCs" from fully SOEs involving state interests termed "strategic enterprises." To avoid any confusion in this paper, we use these terms as well.

[8] See the Presidential Decree of August 4, 2004 on the Approval of the List of Strategic Enterprises and Strategic JSCs, the Presidential Decree of January 19, 2005 on the Amendment to the List of Strategic Enterprises and Strategic JSCs approved by Presidential Decree of August 4, 2004, and the FY2006 Federal Property Privatization Plan (Program) and the Basic Policy on Privatization of Federal Property for 2006–2008 attached to the Government Order No. 1306-r of August 25, 2005. According to this Government Order, these 3783 SOEs include 2078 industrial firms and 459 transportation/communications companies.
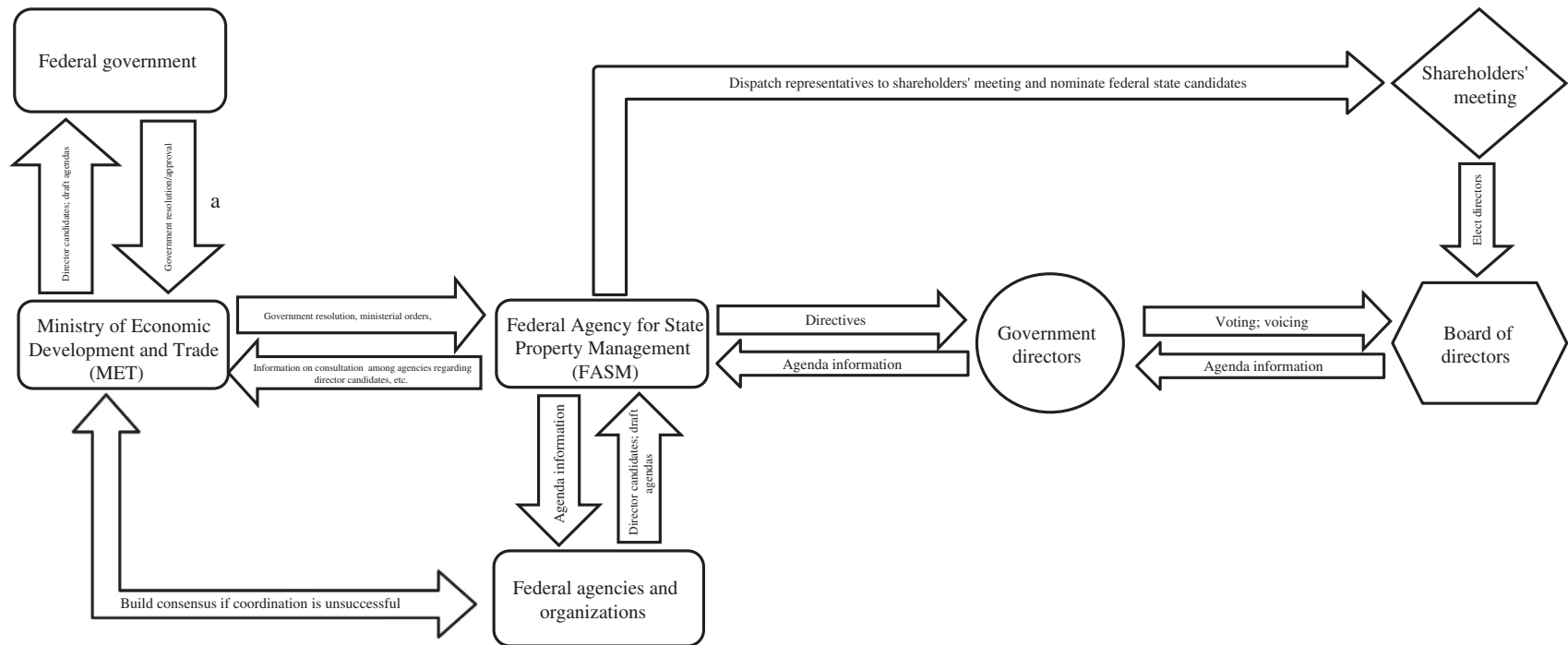
Fig. 1. Scheme of dispatch of board representatives of the federal government to joint-stock companies. *Note* : [a] The federal government approves government resolutions concerning director candidates and draft agendas for strategic JSCs and companies issuing special management rights (golden shares).

Source: Authors' illustration based on Government Resolution of November 27, 2004 on the Approval of Provisions of the Federal Agency for State Property Management and Government Resolution of December 3, 2004 on the Control of the Federally Owned Shares of Open JSCs and Drawing on Special Management Rights (golden shares) of the Russian Federation to Control Open JSCs.

through consultation with the related government organizations, the FASM collects information on agendas from state representatives and provides them with written directives about how they should vote and express their opinions towards each agenda.[9] State representatives dispatched to enterprises designated as strategic JSCs and enterprises issuing special management rights are nominated by the federal government based on recommendations prepared jointly by the MET and the FASM. If the FASM and other federal agencies fail to agree on a candidate or on strategy, the MET takes the initiative in order to form a consensus among the related parties.

As discussed above, the federal government and its agencies consider the dispatch of government directors as the most basic and important means of protecting their interests in the management of SOEs. This may be due to their intention to achieve fairness relative to private investors in terms of corporate management and to ensure political transparency. Aside from the strategic aspect of securing influence of the state over domestic companies, the act of dispatching state representatives may also have a negative aspect, reflecting a conflict of interests within the federal government.

According to the OECD (2005), state control systems over public enterprises are broadly classified into three types: (1) the sector (decentralized) model, in which SOEs are controlled by government agencies responsible for individual sectors; (2) the dual model, in which SOEs are controlled by both supervising agencies responsible for individual sectors and an administrative organization in charge of cross-sectoral adjustments and policy development; and (3) the centralized model, in which all SOEs are controlled by a single specific government agency. OECD reports that countries that adopt the dual model of corporate governance (like Russia) tend to have more government directors than those that adopt the sector model or the centralized model. This is often due to a failure to resolve conflicts among government agencies, which leads them to compete to dispatch as many directors as possible to SOEs. As is well known, there is a fierce battle for supremacy among Russian state agencies, involving oligarchs and defense/security organizations (Men'shikov, 2004; Yakovlev, 2006; Butova and Erkov, 2007).

4. The survey data

The data employed for our empirical analysis are based on the results of an enterprise survey sponsored by Hitotsubashi University and the Higher School of Economics. Between February and June 2005, professional interviewers from the Yuri Levada Analytical Center (the former All-USSR Public Opinion Poll Center) spoke with 859 industrial and communications enterprises from 64 federal districts. The survey team received 822 responses from high-ranking company managers.[10] The target companies were selected from among those with 100 or more employees by the method of stratified sampling in order to exclude small firms in which internal organization and corporate governance are only secondary issues. [11]

All firms are JSCs. The average number of workers per surveyed firm was 1884 (median: 465), and the total number of workers of the 822 firms was 1,549,008, which accounted for 10.3% of the total workforce in both the industrial and the communication sectors through 2004 according to official statistics (Rosstat, 2005). The sample is representative of the national population of medium and large firms in its regional and sectoral composition. Thus, the results of the enterprise survey presented an ideal dataset for the research subject of this paper, in which we are primarily interested in ex-socialist enterprises attracting significant political interest from the federal government.

The survey results include information on the size of the boards and the basic attributes of board directors of the surveyed firms, which made it possible to carry out a detailed investigation of 4818 directors, including state representatives. They also contain a variety of data regarding the structure of the company, its economic activity, and its relationship with Russia's state authorities.[12]

Of the 822 surveyed firms, company executives and managers of 730 firms responded to our questions about board size and the basic attributes of board members in detail. According to their responses, 58 (7.9%) of those 730 firms have board directors from the federal government (Fig. 2). The total number of state representatives on corporate boards is 135, and the average number per firm is 2.3 (median: 2). Looking at the sectoral composition of those 135 government directors, 26 machine-building and metal-work enterprises had a total of 54 representatives (accounting for 40.0% of total state representatives), followed by 27 (20.0%) from 10 communications firms, 25 (18.5%) from 8 fuel and energy companies, and 13 (9.6%) from 5 food industry firms. As shown in Fig. 2, the number of government directors in a firm was generally small. This reflects the relatively smaller board size of Russian companies, with 6.6 directors (median: 7), than that of companies listed in the US, Europe, and Japan (Iwasaki, 2008).

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[9] Article 14 of the Appendix to the Government Resolution of December 3, 2004 specifies the scope of agendas regarding which FASM may give directives to state representatives in terms of their voting behavior as federal government. Those agendas cover almost every aspect of the authorities vested in boards of directors regarding important matters on corporate management, including the decision of strategic priorities, approval of dates of shareholders' meetings, boosting of equity capital, allocation of dividends, and appointment/dismissal of executive officers. Moreover, according to the model form approved by FASM Directive of July 26, 2005, state representatives are required to vote either for or against each of the agendas reported above, and, as for other agendas, they must "vote in the interests of the state and the joint-stock company under laws." The model form also stipulates that government directors should vote against every additional agenda that has not yet officially been received by FASM.

[10] Of those interviewed in this survey, 94.8% were company presidents (or CEOs or general directors) or vice presidents. The remaining respondents were board chairmen (1.6%) and senior managers responsible for corporate governance affairs (3.6%).

[11] As with all survey research, the results here depend on the recall and veracity of the respondents. The responses here are generally low cost and may give rise to expressive behavior (Hillman, 2010). Our main variables of interest – the presence of state directors on corporate boards and the presence of dividend payments – are matters of public record and therefore may be less likely to lead to misrepresentation than more opaque, sensitive, or abstract questions. Respondents may have had incentives to exaggerate their degree of compliance with the corporate governance code and to understate the extent to which they received benefits from the state, but these incentives are likely to operate equally in firms with and without state directors.

[12] For more details of the survey method and the survey results, see Dolgopyatova and Iwasaki (2006) and the appendix in Dolgopyatova et al. (2009).
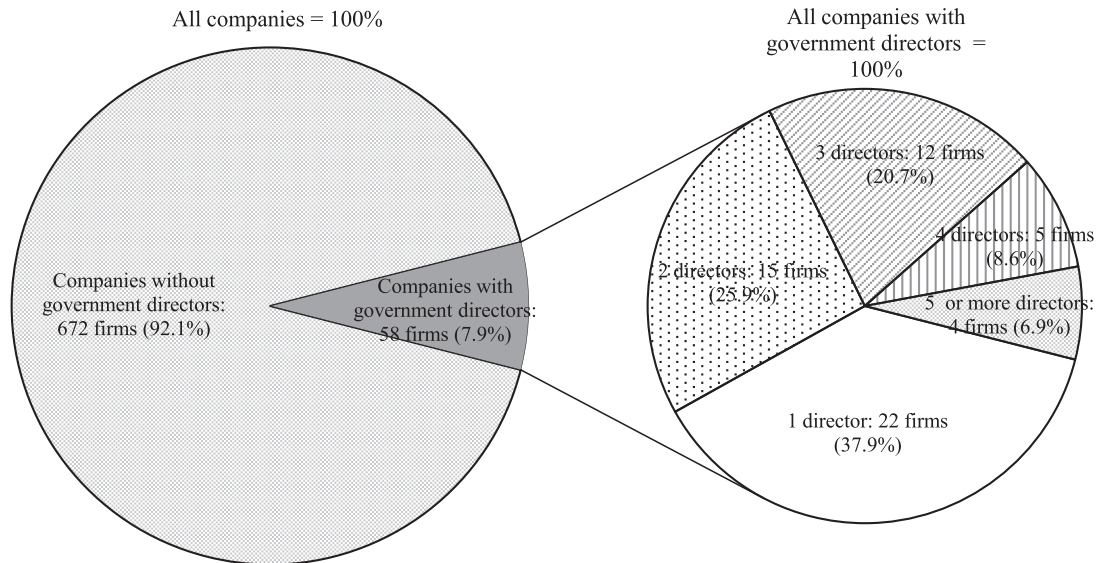
Fig. 2. Breakdown of 730 JSCs by number of government directors on the corporate board.
Source : Authors' illustration based on the survey results.

The 730 enterprises surveyed include 21 strategic JSCs, 12 of which have a total of 40 (29.6%) state representatives on their boards. The average number of government directors for these 12 strategic JSCs is 3.3, approximately one person more than 2.1 for the 46 enterprises designated as non-strategic JSCs with directors from the federal state. The difference between the two company groups is statistically significant at the .05 level ($t = 2.61$, $p = 0.01$). On the other hand, the sample included 19 enterprises issuing special management rights (golden shares), 7 of which have a total of 8 (5.9%) state representatives. The average number of government directors for these 7 enterprises is 1.1, far lower than 2.5 for the remaining 51 enterprises. The difference between the two groups is also significant at the .05 level ($t = 2.20$, $p = 0.03$). This means that the federal government does not dispatch directors to all strategic JSCs and companies with a golden share. One possible explanation for why enterprises issuing special management rights have relatively fewer state representatives dispatched than other JSCs is that the federal government can use their directorships and their veto power against resolutions at shareholders' meetings vested through the holding of a golden share on an as-needed basis. Using golden shares is likely more efficient for the government than monitoring via full-time board directors.[13]

As stated in the previous section, the federal government has a strong incentive to dispatch representatives to firms with state ownership, either because of political concerns for the national economy or because of internal battles for supremacy within the government. Therefore, we presume that the federal government and its agencies attempt to take up as many directorships as possible in proportion to its ownership share.[14] This trend is clearly observed in Table 2, which examines the relationship between shareholding by the federal government and the number of state representatives in a given firm. The table indicates that the higher the ownership share of the federal government in total outstanding shares rated on a 6-point scale, *OWNFED*, the higher the total number of government directors dispatched to a company, *NUMFED*. There are certain gaps between *OWNFED* and the percentage of state representatives of the total number of board directors, *SHAFED*, whereas there is substantially no difference between *OWNFED* and the percentage of government directors of the total number of outsider directors, *SHAFED2*. This result suggests that the federal government and its agencies allow for the appointment of a certain number of insider directors to corporate boards where they can exchange opinions about company management and negotiate administrative matters with executive officers and representatives from workers and labor unions, while, at the same time, the federal government is strongly motivated to take up the posts of company directors by fully leveraging its ownership.

5. Empirical analysis

In this section, we test hypotheses generated by the three ideal types of relations between state directors and their firms. First, we examine the relationship between government directorship and firm performance (Section 5.1). We then look at the role of government directors in corporate governance and the nature of exchange between firms and the state (Section 5.2). And finally we assess the robustness of our estimation results and discuss caveats of our findings (Section 5.3).[15]

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[13] Thus, it is highly likely that state representatives are dispatched to JSCs with a golden share based on completely different principles from those for other SOEs. Therefore, we exclude all enterprises issuing special management rights from the scope of empirical analysis conducted in this paper.

[14] In fact, Article 9 of Appendix to the Government Resolution of December 3, 2004 stipulates that the number of names included in a list of director candidates submitted to each state-owned JSC from FASM must be three more than the number calculated in proportion to the ownership share of the Russian Federation in authorized share capital.

[15] Definitions and descriptive statistics of variables used in the empirical analysis are provided in the Appendix.

Table 2
Correlations between the ownership share of the federal government and the number of government directors.

Ownership share of the federal government (OWNFED) (%)	No. of firms	Number of government directors (NUMFED) [a]	Percentage of government directors	
			Percentage of the total number of directors (SHAFED) [a]	Percentaage of the total number of outsider directors (SHAFED2) [a]
0.0%	558	0.03 (0.00)	0.00 (0.00)	0.01 (0.00)
10.0% and lower	13	0.23 (0.00)	0.03 (0.00)	0.03 (0.00)
10.1–25.0%	21	0.76 (0.00)	0.08 (0.00)	0.21 (0.13)
25.1–50.0%	18	1.67 (1.50)	0.18 (0.20)	0.25 (0.33)
50.1–75.0%	23	2.13 (2.00)	0.23 (0.15)	0.48 (0.50)
75.1–100%	4	2.00 (2.00)	0.37 (0.34)	0.53 (0.80)
Multiple comparison [b]				
ANOVA (F)		79.14***	75.52***	33.97***
Bartlett test (χ^2)		933.80***	640.32***	177.04***
Kruskal–Wallis test (χ^2)		48.94***	48.46***	47.28***

Notes: [a] Mean values. Figures in parentheses are medians.
[b] ***: Significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.
Source: Authors' estimation. For details of the definitions and descriptive statistics of variables, see the Appendix.

5.1. Government directorship and firm performance

We begin by examining whether the government sends directors to weak or strong firms. Here the performance of the firms is based on the frequency of their dividend payments. Most importantly, Table 3 reports a simple comparison of the frequency of dividend payments by firms with and without government directors. It reveals that the frequency of dividend payments by firms with government directors is higher than that by firms without them. In addition, the number of dividend payments is positively correlated with the total number of state representatives on a board. This result is inconsistent with the managerial discipline ideal type which suggests that state directors are sent to poorly performing firms, but is consistent with the rent-extraction and collusion ideal types.

Table 3 also shows how companies with and without government directors differ in terms of their 1) designation as a strategic JSC expressed by the variable *STRJSC*, 2) ownership structure expressed by *OWNFED*, *OWNREG*, *OWNPRI*, and *MANSHA* variables, 3) board size measured by total number of board directors expressed by *BOASIZ*, 4) the total number of employees labeled as *COMSIZ*, and 5) the use of bank credit represented by *BANCRE* variable. Based on previous studies and our argument in Section 4, we expect that a designation as a strategic JSC, the extent of state ownership including that of regional and local governments, board size, company size and use of bank credit are positively correlated with representation of government directors on a corporate board, and, in contrast, managerial shareholding and private ownership are negatively associated or have no relationship with

Table 3
Univariate comparison between companies with and without government directors in terms of explanatory variables and correlation between explanatory variables and the number of government directors.

Explanatory variable (variable name)	Companies without government directors		Companies with government directors		Correlation coefficients with the number of federal government directors dispatched (NUMFED) [c]	N
	Mean/share	Median	Mean/share [a]	Median [b]		
Frequency of dividend payments in 2001–2003 (DIVPAY)	0.86	0.00	1.74***	2.00***	0.16***	697
Dummy for firms designated as strategic JSCs (STRJSC)	0.01	0.00	0.24†††	0.00***	0.39***	710
Ownership share of the federal government (OWNFED)	0.18	0.00	2.40***	3.00***	0.60***	637
Ownership share of regional and local governments (OWNREG)	0.14	0.00	0.42***	0.00***	0.08*	637
Ownership share of private shareholder (OWNPRI)	1.46	0.00	2.04**	2.00**	0.04	597
Dummy for firms with a large managerial shareholder (MANSHA)	0.50	1.00	0.34	0.00	−0.11***	686
Total number of board directors (BOASIZ)	6.43	6.00	9.00***	9.00***	0.27***	710
Total number of employees (COMSIZ)	1762.68	425.00	4388.45***	1450.00***	0.08**	710
Firms which used bank credits and their average lending period (BANCRE)	0.83	1.00	0.94**	1.00**	0.05	688

Notes: [a] ***: The difference in the means in comparison with firms without government directors is significant at the 1% level by the one-sided *t*-test (when the null hypothesis that the two samples have the same population variance was rejected by the *F*-test for homoskedasticity, the Welch test was performed instead of the *t*-test); **: Significant at the 5% level; *: Significant at the 10% level. †††: The difference in the percentages in comparison with firms without government directors is significant at the 1% level by the one-sided χ^2 test; ††: Significant at the 5% level; †: Significant at the 10% level.
[b] ***: The difference in comparison with firms without government directors is significant at the 1% level by the one-sided Wilcoxon rank sum test; **: Significant at the 5% level; *: Significant at the 10% level.
[c] ***: The correlation coefficient is significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.
Source: Authors' estimation based on the survey results. For details of the definitions and descriptive statistics of variables, see the Appendix.

government directorship.[16] These relations all hold in the simple bivariate analysis presented in Table 3 save for the somewhat surprising finding that the ownership share of private shareholders in companies with government directors is higher than that in firms without them.

To assess whether these results hold in a multivariate setting, we estimate the following equation:

$$y = f(\text{firm performance}, \text{ strategic JSC status}, \text{ ownership structure}, \text{board size}, \text{company size}, \text{ use of bank credits}).$$

Our primary dependent variable is *FEDDIR*, a discrete variable with a value of 1 for companies with government directors and 0 otherwise. Because *FEDDIR* is a dummy variable, we use a Probit model and regress *FEDDIR* on the explanatory variables of interest. This allows us to examine how ownership structure and other variables influence the probability that a firm has a government director. For computing standard errors, we utilize the White heteroskedasticity-consistent estimator.

Table 4 presents the estimation results. The coefficients on variables for firms making divided payments, *DIVPAY*, and for being a strategic joint stock company, *STRJSC*, are positive and significant in both sets of models, which means that the federal government tends to send its directors to enterprises of national strategic significance and those that have a good record of dividend payments in the recent past. The marginal effects (dF/dx) reported in Table 4 indicate that each dividend payment in the last three year increases the likelihood of having a government director by 1 percentage point. While the effect is precisely estimated, the substantive impact of making a dividend payment on the presence of government directors is rather modest. Being a strategic firm increases the likelihood of a having a government director by 18 percentage points. Thus, the substantive effect is quite large for strategically important firms, although only about 3% of firms in the sample fall into this category.

The extent of ownership by either the federal or regional government has a positive impact on the probability of board representation of the federal government. Indeed, each one-unit increase in the scale of ownership by the federal government increases the likelihood of having a government director by about 3 percentage points. Thus, as government ownership increases so does the likelihood that a firm will receive a government director.

In addition, we estimate a Heckman model which takes the log of the number of federal directors sent to a firm *LNUMFED* as the dependent variable in the second stage with the presence of a federal director in a firm *FEDDIR* used as a dependent variable in the first stage. Doing so helps control for possible sample selection bias of companies with directors from the federal government. Our main variable of interest in this section, *DIVPAY*, is significantly associated with the number of federal directors sent to a firm. To sum up, the regression models reported in Table 4 suggest that past financial performance has a marginal impact on where the federal government sends state representatives to corporate boards, but it is a strong determinant of the size of delegation of state representatives.[17]

Other variables related to ownership perform as expected in both sets of models. Shareholding by private shareholders and company managers, *OWNPRI*, has no significant impact on either of the dependent variables. As predicted, the regression coefficients for board size, *BOASIZ*, and bank credit, *BANCRE*, are positive in all models. Nevertheless, they are very sensitive to the type of each ownership variable included in the model. In sum, our empirical results strongly suggest that the Russian government tends to send state representatives to financially stronger and strategically more important firms. These results are consistent with the rent-extraction and collusion hypotheses, but not with the managerial discipline hypothesis.

5.2. Corporate governance, state benefits, and firm benefits

In this subsection, we test hypotheses regarding the influence of the presence of government directors on three different aspects of firm behavior. We begin by measuring the degree of compliance with the Corporate Governance Code (CG Code), before examining the extent to which the state extracts benefits from firms and the extent to which firms extract benefits from the state.

Adopted by the Federal Commission for the Securities Market in April 2002, the CG Code is a kind of government decree compiled on the basis of the OECD's *Corporate Governance Principles* that sets forth various standards of good corporate governance. This official document stipulates rules for all joint-stock companies operating in Russia on matters of corporate management, basic principles of corporate governance (Chapter 1) and the settlement of internal disputes (Chapter 10). The CG Code is not legally binding, but the federal government strongly encourages that all domestic companies comply with its principles. We compiled a

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[16] In 2005, when our enterprise survey was carried out, the Putin administration greatly increased its influence within federal districts and local authorities. In December 2004, the direct election system for regional governors was abolished and replaced by a federal law, which virtually granted the president the authority to directly appoint regional governors. Amid the political landscape, where the balance of power between the federal and local governments is increasingly shifting in favor of the former, it is no wonder that local authorities attempt to receive support and benefits from the central state on behalf of local firms by appeasing and colluding with representatives of the federal government. It is also quite possible for the federal government to utilize the voting rights of local authorities in order to ensure the dispatch of state representatives. Based on the above discussions, we expect that the probability of a director(s) being dispatched from the federal government and the actual number of state representatives are both positively correlated with the ownership share of regional and local governments. With regard to the relationship between board size and government directorship, we predict that the larger the board size, the greater the probability that candidates nominated by the federal government are actually appointed as directors. Furthermore, supervising agencies hold great political concerns for large-scale enterprises due to the significant impacts of their activity on the national economy. Hence, we assume that the federal government dispatches its representatives to large-scale enterprises more actively than to other firms. Moreover, as Denis and Sarin (1999) and Linck et al. (2008) suggest, dependence on outside capital for fundraising is positively related to the supervisory function of a corporate board, i.e., the percentage of outsider directors. They argue that an increase in monitoring pressure from creditors and outside shareholders has a significant impact on board structure. In Russia, a large number of SOEs raise funds not only from state-owned financial institutions but also from the government itself. Therefore, whether SOEs are capable of performing their obligations is of major concern to the federal government and supervisory agencies as well as private investors. Consequently, we predict that dependence on outside capital is positively correlated with both the probability and scale of board representation of the federal government.

[17] Using a Poisson rather than a Heckman selection model produces similar results.

Table 4
Probit and Heckman two-step regression analysis of government directorship.

Estimator	Probit								Heckman two-step			
Dependent variable	Presence of a government director(s) (FEDDIR)								Log of number of government directors (LNUMFED)			
Model	[1]		[2]		[3]		[4]		[5]	[6]	[7]	[8]
	Coef.	dF/dx	Coef.	dF/dx	Coef.	dF/dx	Coef.	dF/dx	Coef.	Coef.	Coef.	Coef.
DIVPAY	0.1498**	0.0096**	0.1379*	0.0072*	0.1657**	0.0108**	0.1436**	0.0085*	0.1277***	0.1393***	0.1269***	0.1264**
	(0.072)	(0.005)	(0.076)	(0.004)	(0.074)	(0.005)	(0.073)	(0.004)	(0.049)	(0.046)	(0.048)	(0.052)
STRJSC	1.1446***	0.1856*	1.2397***	0.1887*	1.0274**	0.1553*	1.1670***	0.1821*	0.2463	0.3211**	0.1970	0.2494
	(0.399)	(0.104)	(0.409)	(0.106)	(0.412)	(0.086)	(0.389)	(0.110)	(0.181)	(0.161)	(0.175)	(0.179)
OWNFED	0.4975***	0.0318***	0.5289***	0.0277***	0.5258***	0.0341***	0.5364***	0.0316***	0.3068***	0.3282***	0.3030***	0.2721***
	(0.069)	(0.008)	(0.073)	(0.008)	(0.073)	(0.009)	(0.073)	(0.008)	(0.062)	(0.066)	(0.063)	(0.064)
OWNREG			0.3525***	0.0185***						0.1740***		
			(0.088)	(0.007)						(0.057)		
OWNPRI					0.0152	0.0010					−0.0077	
					(0.051)	(0.003)					(0.041)	
MANSHA							0.2983	0.0178				−0.1307
							(0.209)	(0.013)				(0.182)
BOASIZ	0.4087	0.0261	0.2913	0.0153	0.5002	0.0325	0.3973	0.0234	0.5031*	0.2616	0.4751*	0.5306*
	(0.366)	(0.021)	(0.372)	(0.018)	(0.382)	(0.022)	(0.378)	(0.021)	(0.276)	(0.222)	(0.266)	(0.274)
COMSIZ	0.0987	0.0063	0.1274	0.0067	0.0875	0.0057	0.0985	0.0058	−0.0786	−0.0298	−0.0632	−0.0888
	(0.082)	(0.006)	(0.085)	(0.005)	(0.090)	(0.006)	(0.086)	(0.005)	(0.068)	(0.071)	(0.073)	(0.069)
BANCRE	0.1127	0.0072	0.1266	0.0066	0.1008	0.0065	0.1365	0.0080*	−0.0384	−0.0046	−0.0308	−0.0675
	(0.089)	(0.005)	(0.098)	(0.004)	(0.092)	(0.005)	(0.095)	(0.005)	(0.053)	(0.040)	(0.055)	(0.061)
Const.	−3.9231***		−4.0736***		−4.0226***		−4.1610***		−0.9166	−1.0004	−0.9035	−6.589
	(0.774)		(0.807)		(0.834)		(0.806)		(0.803)	(0.733)	(0.803)	(0.806)
N	608		602		571		599		608	602	571	599
Pseudo R^2	0.43		0.47		0.45		0.45		–	–	–	–
Log Likelihood	−90.77		−83.25		−85.39		−87.08		−113.26	−102.58	−107.28	−108.13
Wald test (χ^2) that all coefficients are zero.	93.14***		104.59***		86.77***		96.34***		57.98***	73.31***	59.48***	60.45***

Notes: The figures in parentheses report the White's heteroskedasticity-consistent standard errors. The dF/dx columns report marginal effects. ***: Significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.
Source: Authors' estimation based on the survey results. For details of the definitions and descriptive statistics of variables, see the Appendix.

"Corporate Governance Code Compliance Index" based on 14 items in the survey that correspond to the provisions of the CG Code. These items include information about the content of a corporate charter regarding shareholders' ownership and their voting rights, the organizations of boards of directors, corrective executive organs,[18] audit committees (auditors) and external auditors, and the frequency of board meetings. We then converted these items into qualitative variables (categorical data).

We used a similar methodology to create indices of state benefits and firm benefits. For the State Benefits Index, we examined 7 items related to benefits provided by the firm to the state, such as maintaining social facilities and public housing, delivering consulting services, and repairing public infrastructure, such as roads, schools, or hospital facilities. For the Firm Benefits Index, we selected responses from 8 questions related to the interaction of the state and enterprises. These include questions about whether the firm extracted benefits from the state such as, receiving below market loans from the state, direct financial grants from the state or preferential tax treatment.

To produce the above three indices, we apply Hayashi's quantification method III to the indices to reduce the possibility of aggregation bias.[19] Simply aggregating categorical data is a common method to measure the qualitative level of corporate governance, but this method involves the risk of overrating or underrating the corporate governance quality of a company when there is a close relationship between survey items (i.e., the presence of institutional complementarity).[20] The same problem may affect the state benefits and firm benefits indices as well. The purpose of employing the sample scores based on Hayashi's quantification method III is to test the existence of a statistical bias that may affect the results of empirical analysis using the simple sum scores.

We present the specific survey items used to compute the three indices in Table 5 to show how the indices are compiled. This table also includes a comparison of companies with and without government directors and the correlation coefficients of individual survey items and percentage of state representatives of the total number of board members, *SHAFED*. Panel (a) of Table 5 shows that companies with state directors report greater compliance with the CG Code than companies without state directors in 10 of the 14 survey items than companies without such directors. Seven of the survey items have significant and positive correlation coefficients with *SHAFED*. Moving to Panel (b) of Table 5, we find that companies with government directors report providing benefits to the state more frequently than firms without government directors in 4 of the 8 survey items. We also find that companies with government directors report receiving benefits from the state at higher rates than companies without government directors in 2 of the 7 survey items.

The differences in firms with and without government directors become even more obvious using the Corporate Governance Code Compliance Index, the State Benefits Index, and the Firm Benefits Index produced using the Hayashi's quantification method III. Table 6 shows that, for all three indices, the means and medians for companies with state representatives are greater than those for firms without them at the .01 significance level. In addition, all of the indices have positive correlation coefficients with *SHAFED* with statistical significance at the .01 level. Companies with government directors tend to be ranked higher than firms without them. In fact, in all cases, the null hypothesis, in which the distribution functions of the two sample groups are identical, is rejected by the Kolmogorov–Smirnov test. Thus, the results of the univariate analysis are consistent with the collusion ideal type.

As these bivariate relationships can only be suggestive, next we turn to multivariate analysis and an ordinary least squares (OLS) regression to estimate the impact of board representation – measured as the percentage of state directors of all directors – on the degree of compliance with the Corporate Governance Code, the size of state benefits from the firm, and the size of firm benefits from the state, respectively. Doing so allows us to discriminate among the hypotheses generated above.

The regression equation is

$$y = g\big(\text{board composition, affiliation with a business group, succession of state property, company size,}$$
$$\text{financing from capital markets, business internationalization}\big),$$

where *y* takes the Corporate Governance Code Compliance Index or the State Benefits Index or the Firm Benefits Index depending on the subject of analysis.

Of course, other board composition variables may also affect firm behavior and should be included as controls. To compare the impact of other differences in the basic attributes of board directors, we estimate coefficients of the percentage of the representatives of regional and local governments, *SHAREG*, the percentage of the representatives of non-employee private shareholders, *SHAPRI*, and the percentage of company managers, *SHAMAN*, of the total number of board directors of a company.

As the regression equation shows, we also include a number of more general control variables commonly cited in the literature. We add a group firm dummy with a value of 1 assigned to the firms participating in a business group through share ownership, *GROFIR*, a dummy variable capturing former SOEs or ex-municipal privatized companies, *PRICOM*, a dummy variable for firms spun off from SOEs and privatized enterprises, *SPIOFF*, company size, *COMSIZ*, a dummy variable with a value of 1 assigned to firms issuing

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[18] In accordance with the Law on JSCs, a collective executive organ headed by the company president (the general director), which is an internal executive organization voluntarily set up by a company, "takes leadership in daily corporate management except for exclusive competence of the general shareholders' meeting and the board of directors" (Art. 69, Para. 2). The Law on JSCs prohibits members of a collective executive organ from making up more than one-quarter of the board of directors (Art. 66, Para. 2). In view of these provisions, the presence of a collective executive organ is assumed to function to clarify management responsibilities and to enhance the independence of the board of directors from management (Iwasaki, 2007a).

[19] Quantification method III uses structural description models, as do the principal component analysis and factor analysis methods. It analyzes the categorical data expressed as {0, 1} rather than the continuous (quantitative) variable.

[20] See Gompers et al. (2003) and Zheka (2005), for instance. In contrast, Klapper and Love (2004) used the mean of the positive responses in each of six categories on CG activity, and Larcker et al. (2005) used principal component scores in 39 survey items for their empirical analyses.

Table 5
Comparison between companies with and without government directors in terms of compliance with the Corporate Governance Code and benefit exchange between firms and the state.

(a) Compliance with the Corporate Governance Code

Upper categories	Lower categories	Response rate		Correlation coefficients with the proportion of government directors (SHAFED) [b]
		Companies without government directors ($N=477$)	Companies with government directors ($N=45$) [a]	
Corporate charter stipulating ownership and voting rights	Ownership limits are not set by the corporate charter at all.	0.83	0.89	0.04
	Voting rights limits are not set by the corporate charter at all.	0.80	0.89[†]	0.06
Board of directors	Outsider directors constitute the majority of the board of directors.	0.48	0.71[†††]	0.14[***]
	The board chairman is an outsider.	0.30	0.31	0.08[*]
	The board of directors includes a director(s) who represents nonemployee minor shareholders.	0.17	0.11	−0.05
	The board of directors includes an independent director(s).	0.20	0.24	−0.03
	A board of directors' meeting is convened at least once a month.	0.44	0.56[†]	0.01
Collective executive organ	A collective executive organ is in place.	0.32	0.60[†††]	0.15[***]
	A meeting of the collective executive organ is convened at least once a month.	0.26	0.51[†††]	0.15[***]
Audit committee (auditors)	Outside auditors constitute the majority of the audit committee.	0.44	0.58[††]	0.07
	The audit committee members include an outside professional expert(s).	0.19	0.31[††]	0.02
	A meeting of the audit committee is convened at least once a quarter.	0.43	0.62[†††]	0.08
External auditor	The external auditor is a foreign incorporated audit firm.	0.06	0.24[†††]	0.17[***]
	A meeting between management and the certified auditor is held at least once a quarter.	0.71	0.82[†]	0.09[**]

(b) Benefit exchange between firms and the state

Upper categories	Lower categories	Response rate		Correlation coefficients with the proportion of government directors (SHAFED) [b]
		Companies without government directors ($N=607$)	Companies with government directors ($N=57$) [a]	
Benefit provision from firms to the state	The firm's CEO formerly worked for the federal state.	0.01	0.02	0.07[*]
	The firm's board chairman formerly worked for the federal state.	0.02	0.18[†††]	0.35[***]
	The firm performs management and maintenance of social facilities and public housing units.	0.28	0.49[†††]	0.08[**]
	The firm performs management and maintenance of public housing infrastructure.	0.20	0.37[†††]	0.10[**]
	The firm performs repair of road, school, and hospital facilities.	0.37	0.39	−0.02
	The firm is involved in local and city planning projects.	0.64	0.68	−0.01
	The firm is involved in public benefit projects.	0.13	0.21[††]	0.05
	The firm provides consultation services to the federal government.	0.07	0.09	0.07[*]
Benefit provision from the state to firms	The firm participates in a special federal state program.	0.04	0.07	0.04
	The firm participates in a state order of the federal government.	0.10	0.35[†††]	0.14[***]
	The firm receives investment subsidies from the state budget.	0.11	0.11	−0.01
	The firm receives a financial grant from the state.	0.05	0.05	0.04
	The firm receives preferential tax treatment.	0.12	0.25[†††]	0.09[**]
	The firm receives preferential interest rates or a repayment guarantee for bank finance.	0.05	0.07	0.04
	The firm receives preferential treatment on electricity, public services, and building/land use fees.	0.07	0.05	0.00

Notes: [a] †††: The difference in the proportions in comparison with companies without government directors is significant at the 1% level by the one-sided χ^2 test; ††: Significant at the 5% level; †: Significant at the 10% level.
[b] ***: The correlation coefficient is significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.
Source: Authors' estimation based on the survey results.

Table 6
Univariate comparison between companies with and without government directors in terms of the Corporate Governance Code Compliance Index, the State Benefits Index, and the Firm Benefits Index and their respective correlation with the proportion of government directors.

	Descriptive statistics					Companies without government directors		Companies with government directors		Correlation coefficients with the proportion of government directors (*SHAFED*) [c]	Kolmogorov–Smirnov test [d]	N
	Mean	S.D.	Median	Min.	Max.	Mean	Median	Mean [a]	Median [b]			
Corporate Goverance Code Compliance Index	4.50	2.29	4	0	10	4.38	4.00	5.84[***]	6.00[***]	0.15[***]	0.28[***]	522
State Benefits Index (benefits from firms to the state)	1.77	1.31	2	0	6	1.72	2.00	2.42[***]	2.00[***]	0.13[***]	0.18[*]	664
Firm Benefits Index (benefits from the state to firms)	0.56	0.83	0	0	5	0.53	0.00	0.95[***]	1.00[***]	0.12[***]	0.23[***]	664

Notes: [a] ***: The difference of the means in comparison with firms without government directors is significant at the 1% level by the one-sided *t*-test (when the null hypothesis that the two samples have the same population variance was rejected by the *F*-test for homoskedasticity, the Welch test was performed instead of the *t*-test).
[b] ***: The difference in comparison with firms without government directors is significant at the 1% level by the one-sided Wilcoxon rank sum test.
[c] ***: The correlation coefficient is significant at the 1% level.
[d] Null hypothesis: The distribution functions of firms without government directors are identical with those of firms with government directors. The reported values are integrated *D*-values. ***: Significant at the 1% level. *: Significant at the 10% level.
Source: Authors' estimation.

stocks or company bonds on capital markets, *MARFIN*, and a variable ranging from 1 to 6 for the share of exports in total sales, *EXPSHA*, as well as board composition variables.[21]

To capture sectoral effects, we introduce fixed-effect dummy variables to the regression equation, with the default category being the communications sector. Using fixed effect dummy variables is important because there are statistically significant differences across all 9 sectors in all three indices as reported in Table 7.

Table 8 reports the estimation results from OLS regression using the Corporate Governance Code Compliance Index, the State Benefits Index, and the Firm Benefits Index, respectively, as dependent variables. We estimate the share of directors appointed by the state, *SHAFED*, in each model adding other ownership variables in succession. We find that the regression coefficients on *SHAFED* are positive and statistically significant in all 12 models. Taking into account the impact of other board composition variables included in the model, there is a positive relationship between the presence of government directors representing the federal state and the quality of corporate governance, the extent of benefits provided by firms to the state, and the extent of benefits by the state to the firm. These results suggest robust support for the collusion hypothesis.[22] Each one unit increase in the percentage of directors appointed by the state is associated with about a 1.3 point increase in the Corporate Governance Code index, a 1.2 point increase in the State Benefits Index, and about a 1.3 point increase in the Firm Benefits Index. These increases are rather substantial as the mean and standard deviation for the Corporate Governance Index, the State Benefits Index, and the Firms Benefits Index are 4.5 (2.3), 1.8 (1.3), and .6 (.8), respectively.

Other board composition variables provide less consistent results. The percentage of directorships held by regional and local governments, *SHAREG*, is also positively associated with the Firm Benefits Index as reported in Model [10], whereas it is not significantly associated with the degree of compliance with the CG Code as indicated in Model [2]. The latter result indicates the differences in the political stance between the federal government presenting policies to improve corporate governance in domestic firms and local authorities, who are mostly indifferent to this issue.

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[21] Previous studies from Russia find that members of a holding company or a business group tend to have better corporate governance (Perotti and Gelfer, 2001; Guriev and Rachinsky, 2005). In contrast, business groups aggressively lobby politicians by leveraging their financial resources and organizational powers (Hoffman, 2002; Fortescue, 2006). Therefore, we presume that a company's affiliation with a business group improves the degree of its compliance with the CG Code, while at the same time it enhances the firm's ability to both provide benefits to the state and to receive benefits from the state. Former SOEs as well as newly established corporations that spun off from SOEs and privatized enterprises, draw much more attention from both the state and the public. Therefore, enterprises that inherited state property are expected to have better corporate governance in order to be properly accountable to the state and local communities (Iwasaki, 2008). On the other hand, such enterprises are characterized by close connections with politicians and policy makers in view of the historical background of their establishment (Boubakri et al., 2008). We predict that the inheritance of state property by a company at the time of its establishment is positively correlated both with the degree of its compliance with the CG Code and its scores on the firms benefits and state benefits indices. Gompers et al. (2003) and Klapper and Love (2004) confirmed that company size and business scale are important explanatory variables to measure the level of corporate governance. On the other hand, many empirical studies suggest that the larger the company, the more easily it can be converted into a politically connected firm. Financing from capital markets and business internationalization are also assumed to affect the CG quality and the intensity of the benefit exchange activity of Russian firms because of their need to garner confidence from investors, foreign customers, and business partners. Meanwhile, these Russian firms need to build a close relationship with supervisory agencies and bureaucrats to effectively issue securities and to obtain and maintain various permits, licenses, and authorizations for foreign trade transactions and customs arrangements. Therefore, these two factors of business activity are considered to be positively correlated with the degree of compliance with the CG Code and the state benefits and firm benefits indices.

[22] These results are only suggestive as the dependent variables are composite indices.

Table 7
Industry-to-industry comparison in terms of Corporate Governance Code Compliance Index, State Benefits Index, and Firms Benefits Index.

	Corporate Governance Code Compliance Index ($N=522$)	State Benefits Index (benefits from firms to the state) ($N=664$)	Firm Benefits Index (benefits from the state to firms) ($N=664$)
Industrial sector	4.38	1.80	0.58
Fuel and energy	6.38	2.04	0.49
Metallurgy	4.52	2.23	0.43
Machine-building and metal working	4.40	1.90	0.76
Chemical and petrochemical	4.24	1.54	0.58
Wood, paper, and wood products	4.21	1.87	0.40
Light industry	3.85	1.69	0.64
Food industry	3.97	1.60	0.54
Construction materials	3.79	1.57	0.30
Communications sector	6.29	1.61	0.43
Comparison between the industrial and communications sectors			
t-test on the equity of the means [a]	−4.841[***]	0.986	1.302
Wilcoxon rank sum test	−4.017[***]	0.780	1.043
Multiple comparison of the 9 industries			
ANOVA (*F*)	9.590[***]	1.710[*]	2.880[***]
Bartlett test (χ^2)	14.146[*]	20.248[***]	26.876[***]
Kruskal–Wallis test (χ^2)	52.799[***]	9.891	25.937[***]

Notes: [a] When the null hypothesis that two samples have the same population variance was rejected by *F* tests for homoskedasticity, the Welch test was performed.
[b] ***: Significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.
Source: Authors' estimation based on the survey results.

The share of outside private directors among total directors, *SHAPRI*, is not significantly related to the State Benefits Index or the Firm Benefits Index as reported in Models [7] and [11], although it helps account for the enhancement of the degree of compliance with the CG Code as indicated in Model [3].

The percentage of directors appointed by managers, *SHAMAN*, is significantly and negatively associated with the Corporate Governance Code Compliance Index as in Model [4], but it is not correlated with the State Benefits or Firm Benefits Indices as reported in Models [8] and [12]. These results suggest that outsider directors representing the interests of non-employee private shareholders are committed to compliance with the CG Code, whereas executive officers within the firm strongly resist such external pressure in an attempt to prevent restrictions on their managerial discretionary power and to avoid increased monitoring from outside.

The null hypothesis, in which the regression coefficients of *SHAFED* are identical with those of *SHAPRI*, is rejected at a .10 significance level by statistical tests using the estimation results of Model [3], thereby verifying that directors representing the federal state are more forceful in encouraging enterprises to which they are dispatched to comply with the CG Code than are private outsider directors. In this sense, as asserted by Yakovlev (2009), the federal government plays a supplementary role in the national economy by functioning as a "second-best institution" complementing the weak market mechanism in contemporary Russia.

Of the control variables, the estimation results of membership in a business group, *GROFIR*, and company size, *COMSIZ*, support our predictions regarding their impacts on the quality of corporate governance and extent of collusion between the state and firms. Coefficients on variables indicating whether firms had issued shares on the capital market, *MARFIN*, had been privatized, *PRICOM* and more export-oriented firms, *EXPSHA*, are positively correlated with the Corporate Governance Code Compliance Index, the State Benefits Index and the Firm Benefits Index, respectively. In all models, *SPIOFF*, a dummy variable indicating whether or not a firm had been spun off from a state or privatized firms failed to achieve significance.

5.3. Robustness checks and caveats

As reported in the introduction of the paper, one point in our argument is that the percentage of state representatives of the total number of board directors can be used as an appropriate proxy variable for capturing the economic and political influence of the federal government on firms in Russia. Studies often use the percentage of state ownership share to measure the influence of the state on decision-making within the firm, but this may be a poor proxy if the state is too weak to compel compliance with its wishes. Similarly, if a small ownership share effectively gives the state veto power over major firm decisions, then, the relationship between state ownership and influence may be weak. As an alternative, we suggest using the percentage of state representatives on the total number of board directors as a more direct measure of state influence on firms' decision-making.

To verify this point, we estimated Models [1], [5], and [9] reported in Table 8 using *OWNFED*, the total ownership share of the federal government, instead of *SHAFED*. As a result, in Model [1], taking the degree of compliance with the CG Code as the dependent variable, *SHAFED* is estimated at the 0.8% significance level $t=2.65$, while the coefficient on the variable *OWNFED* remains significant, but is somewhat less precisely estimated $t=1.98$. We also re-estimated models [5] and [9] by replacing *SHAFED* with *OWNFED*. In model [5] that takes the State Benefits Index as the dependent variable, the coefficient on *OWNFED* is now insignificant $t=0.92$. In model [9] that takes the Firm Benefits Index as the dependent variable *OWNFED* falls just short of

Table 8
OLS regression analysis of Scores on the Indices of Corporate Governance Code, State Benefits and Firm Benefits.

Dependent variable	Corporate Governance Code Compliance Index				State Benefits Index				Firm Benefits Index			
Model	[1]	[2]	[3] [a]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
SHAFED	1.3551***	1.3451***	2.1833***	0.8712*	1.2574**	1.2294**	1.1898**	1.2953**	1.3511**	1.2405**	1.2411**	1.3930**
	(0.499)	(0.499)	(0.517)	(0.504)	(0.536)	(0.543)	(0.548)	(0.536)	(0.560)	(0.576)	(0.571)	(0.567)
SHAREG		0.1392				0.4709				1.8638***		
		(0.437)				(0.383)				(0.658)		
SHAPRI			1.2944***				−0.1116				−0.1816	
			(0.163)				(0.148)				(0.149)	
SHAMAN				−1.2181***				0.0862				0.0951
				(0.163)				(0.152)				(0.147)
GROFIR	0.5828***	0.5859***	0.3512***	0.4036***	0.2947***	0.3055***	0.3179***	0.3095***	0.1685	0.2112*	0.2063*	0.1848
	(0.134)	(0.136)	(0.132)	(0.132)	(0.111)	(0.111)	(0.116)	(0.115)	(0.116)	(0.113)	(0.119)	(0.119)
PRICOM	0.2201	0.2174	0.2537*	0.2411	0.1736	0.1645	0.1697	0.1724	0.2972***	0.2609**	0.2908***	0.2958***
	(0.149)	(0.149)	(0.152)	(0.151)	(0.129)	(0.129)	(0.129)	(0.129)	(0.108)	(0.107)	(0.108)	(0.108)
SPIOFF	0.0790	0.0740	0.1521	0.1195	−0.2052	−0.2180	−0.2111	−0.2073	0.0961	0.0454	0.0864	0.0937
	(0.233)	(0.235)	(0.231)	(0.232)	(0.187)	(0.189)	(0.188)	(0.188)	(0.169)	(0.169)	(0.169)	(0.169)
COMSIZ	0.2504***	0.2489***	0.2360***	0.2429***	0.2554***	0.2516***	0.2581***	0.2570***	0.1086**	0.0935**	0.1130**	0.1104**
	(0.064)	(0.064)	(0.061)	(0.062)	(0.051)	(0.051)	(0.051)	(0.051)	(0.045)	(0.044)	(0.045)	(0.045)
MARFIN	0.8441***	0.8471***	0.6791**	0.6876**	−0.0648	−0.0626	−0.0555	−0.0568	−0.0707	−0.0620	−0.0554	−0.0618
	(0.275)	(0.275)	(0.268)	(0.269)	(0.202)	(0.201)	(0.202)	(0.202)	(0.194)	(0.197)	(0.194)	(0.195)
EXPSHA	−0.0724	−0.0730	−0.0826	−0.0793	0.1078**	0.1060**	0.1082**	0.1080**	0.1570***	0.1497***	0.1577***	0.1572***
	(0.056)	(0.056)	(0.053)	(0.053)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.044)	(0.045)	(0.046)
Const.	−1.0015**	−0.9960**	−1.4841***	−0.3307	−2.4465***	−2.4345***	−2.4131***	−2.5005***	−1.3039***	−1.2563***	−1.2497***	−1.3636***
	(0.445)	(0.447)	(0.442)	(0.435)	(0.338)	(0.338)	(0.344)	(0.350)	(0.290)	(0.288)	(0.292)	(0.307)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	522	522	522	522	664	664	664	664	664	664	664	664
Adjusted R²	0.37	0.37	0.44	0.43	0.14	0.14	0.14	0.14	0.09	0.12	0.10	0.10
Root MSE	1.24	1.24	1.17	1.18	1.21	1.21	1.21	1.21	1.19	1.17	1.19	1.19
F test that all coefficients are zero.	22.00***	20.54***	27.05***	25.26***	6.89***	6.62***	6.49***	6.46***	4.31***	4.36***	4.04***	4.04***

Notes: [a] F-test of the null hypothesis that the regression coefficients of SHAFED and SHAPRI are the same: $F = 3.04$, $p = 0.082$.
[b] The figures in parentheses report the White's heteroskedasticity-consistent standard errors. ***: Significant at the 1% level; **: Significant at the 5% level; *: Significant at the 10% level.
Source: Authors' estimation based on the survey results. For details of the definitions and descriptive statistics of variables, see the Appendix.

statistical significance ($t = 1.58$). This suggests that *SHAFED* is a better predictor than *OWNFED* for both the State Benefit Index and the Firm Benefit Index.[23] Thus, the percentage of government directors appears to be a good proxy for state influence on firms, especially for examining the terms of exchange between firms and the states.

To test the overall robustness of the regression analyses reported in Tables 5 and 8, we conducted supplementary analyses of the individual regression models under various sample restrictions and confirmed that these restrictions do not dramatically change the estimation results. Specifically, we performed supplementary regression analyses under five different settings: (1) when the samples are limited to industrial firms; (2) when enterprises involved in fuel and energy, metallurgy, and communication sectors which are subject to unique state restrictions concerning firm organization and business activities are excluded from the samples; (3) when the samples are limited to those with a company size within the mean of employees ± 1 standard deviation of all surveyed firms, in order to exclude very large enterprises from the observations; (4) when the samples are limited to those yet to issue their securities; and (5) when the samples are limited to non-group-affiliated firms. Moreover, we estimated the individual regression models in Table 8 by replacing the frequency of dividend payments (*DIVPAY*) with the industry-adjusted rate of return on assets (ROA) and the industry-adjusted rate of gross profit on sales as an alternative proxy for past firm performance and found that, in almost all the models, these two performance indices are also positively estimated with statistical significance at the .10 level or less.

We repeated our estimations reported in Table 8 using a dummy variable for the presence of a state director rather than for the share of directors appointed by the federal government and the results are essentially unchanged.[24] We also estimated these models using indices based on simple aggregations of responses to the survey items as the dependent variables. Even though these regression models were estimated using an ordered Probit estimator, the results were wholly consistent with results from estimations using the Hayashi-corrected indices reported in Table 8.

Thus, the results of the multivariate regression analyses appear to be quite robust. Of course, divining causation in a cross-sectional analysis is very difficult. For example, one might be concerned that the presence of state directors might have increased the performance of firms rather than vice versa. It is, however, important to show that there is a positive relationship between these two variables as this would cast doubt on the managerial discipline hypothesis even if the direction of causation is not immediately apparent. We believe that dividend payments typically precede decisions to send state representatives but cannot rule out the possibility of reverse causation. Nonetheless, the pattern of results is more consistent with the collusion hypothesis than with either the managerial discipline or rent-extraction argument.

Assessing the generality of these finding also raises challenges in part due to the dearth of cross-national studies of corporate governance using data gathered at the level of the firm. Absent such data it is difficult to test the argument outside the sample. As a minimum however, we expect that the findings are more relevant for understanding corporate governance and business state relations in other transition and developing economies where legal institutions are not well developed than for more mature market economies.

Whether these results continue to hold in post-financial crash Russia is difficult to determine, but the increasing ownership role of the state in the economy after 2008 suggests the continuing importance of understanding the role of state directors on company boards. Moreover, recent attempts by President Medvedev to remove high ranking government officials from the posts on corporate suggests the ongoing importance of the topic.

6. Conclusion

Recent years have seen increased attention to corporate governance and to relations between business and the state in transition and developing economies, but we have relatively few studies of how the state exercises its influence on decision-making within firms (Megginson and Netter, 2001; Iwasaki, 2007b). This is an important oversight because in many countries the state continues to retain considerable influence on managerial discretion in some of the most important firms in the economy. In addition, the theoretical literature on corporate governance tends to focus more heavily on mature market economies than on transition or developing economies.

We seek to contribute to these literatures by developing three simple ideal types of business-state relations in a transition economy and, more importantly, by providing original survey evidence on business-state relations in Russia. Three main points emerge from our analysis. First, our analysis emphasizes the importance of examining the role of the state on firm behavior by focusing on government directors on corporate boards rather than solely by examining the percentage of ownership help by the state. This helps to identify more precisely the mechanism by which the state exercises influence on firm-level decision-making.

Second, our empirical results are more consistent with the hypotheses generated by the collusion ideal type of relations between firms and the state rather than ideal types emphasizing managerial discipline or pure rent-extraction. The Russian government tends to send its representatives to better performing firms that allow directors to benefit from their position, but at the same time, these firms are also more likely to provide important benefits for the state in exchange.

Third, our results suggest that the presence of government directors on corporate boards is a double-edged sword. They improve corporate governance, but also heighten collusion between state directors and government officials, typically at the

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[23] *SHAFED* is estimated at the 0.7% significance level ($t = 2.72$), whereas *OWNFED* is significant at the 0.1% level ($t = 3.11$).

[24] Indeed, the estimation results of Models [1], [5] and [9] in Table 8 that replace *SHAFED* with a dummy variable with a value of 1 for companies with government directors, *FEDDIR*, show that the coefficients of *FEDDIR* are 0.4117, 0.4563 and 0.4093, respectively, and all these estimates are significant at the 5% level.

expense of the general population. Future research may explore the larger economic consequences of this pattern of corporate governance.

Acknowledgments

Appendix A. Definitions and descriptive statistics of variables used in the empirical analysis

Variable name	Definition	Descriptive statistics				
		Mean	S.D.	Median	Min.	Max.
BANCRE	Firms which used bank credits and their average lending period (rated on a 6-point scale)[a]	2.53	1.45	3	0	5
BOASIZ	Total number of board directors[b]	6.64	2.40	7	3	23
COMSIZ	Total number of employees[b]	1884.44	5570.00	465	106	74000
DIVPAY	Frequency of dividend payments in 2001-2003	0.93	1.31	0	0	3
EXPSHA	Share of exports in total sales (rated on a 6-point scale)[c]	0.91	1.20	0.50	0	5
FEDDIR	Dummy for firms with government directors	0.08	0.27	0	0	1
GROFIR	Business group member dummy	0.37	0.48	0	0	1
MANSHA	Large managerial shareholder dummy	0.49	0.50	0	0	1
MARFIN	Dummy for firms which issued shares or bonds on capital markets	0.13	0.33	0	0	1
NUMFED	Number of government directors	0.18	0.77	0	0	8
OWNFED	Ownership share of the federal government (rated on a 6-point scale)[d]	0.36	1.02	0	0	5
OWNPRI	Ownership share of private shareholders (rated on a 6-point scale)[d][e]	1.53	2.01	0	0	5
OWNREG	Ownership share of regional and local governments (rated on a 6-point scale)[d]	0.17	0.67	0	0	5
PRICOM	Dummy for former state-owned or ex-municipal privatized companies	0.69	0.46	1	0	1
SHAFED	Percentage of the representatives of the federal government of the total number of board directors	0.02	0.10	0.00	0.00	0.80
SHAFED2	Percentage of the representatives of the federal government of the total number of outsider directors	0.05	0.16	0.00	0.00	1.00
SHAMAN	Percentage of managerial directors of the total number of board directors	0.46	0.34	0.40	0.00	1.00
SHAPRI	Percentage of the representatives of private outside shareholders of the total number of board directors	0.43	0.35	0.40	0.00	1.00
SHAREG	Percentage of the representatives of regional and local governments of the total number of board directors	0.03	0.11	0.00	0.00	0.86
SPIOFF	Dummy for firms separated from state-owned or privatized enterprises	0.10	0.29	0	0	1
STRJSC	Dummy for firms designated as strategic JSCs	0.03	0.16	0	0	1

Note: [a]"Firms which used bank credits and their average lending period" falls under one of the following 6 categories: 0: Did not use any bank credits during the period from 2001 to 2004; 1: Used bank credits, and their average lending period was less than 3 months; 2: Used bank credits, and their average lending period ranged from 3 months to less than 6 months; 3: Used bank credits, and their average lending period ranged from 6 months to less than one year; 4: Used bank credits, and their average lending period ranged from one year to less than 3 years; 5: Used bank credits, and their average lending period was more than 3 years.
[b]The natural logarithm is used in the regression analysis.
[c]"Share of exports in total sales" falls under one of the following 6 categories: 0: 0%; 1: 10% or less; 2: 10.1 to 25.0%; 3: 25.1 to 50.0%; 4: 50.1 to 75.0%; 5: More than 75%.
[d]"Ownership share" means an ownership share rated on the following 6-point scale: 0: 0%; 1: 10.0% or less; 2: 10.1 to 25.0%; 3: 25.1 to 50.0%; 4: 50.1 to 75.0%; 5: 75.1 to 100.0%.
[e]"Ownership share of private shareholders" is the the combined ownership share of domestic corporate shareholders and foreign investors.
Source: Results of the joint enterprise survey conducted in 2005.

Appendix B. Supplementary data

Supplementary data to this article can be found online at doi:10.1016/j.ejpoleco.2011.06.003.

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