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Abstract

Using a unique dataset of 730 joint-stock companies, we studied the determinants of corporate board composition in Russia. Despite the widespread image of insider control in the 1990s, a large number of Russian companies now actively appoint outsider directors to monitor top management. The findings reported in this paper strongly suggest that the theories and empirical methods of financial and organizational economics help to pinpoint the factors affecting the extent of outsider directorship. We also found that, among potential determinants, bargaining variables have considerable explanatory power. Furthermore, our empirical evidence demonstrated that Russia's legal system and its peculiarities as a transition economy also exert a certain degree of influence on board composition.

JEL classification numbers: D21, D23, G34, K22, L22, P31

Key words: outsider directorship, board composition, corporate governance, Russia

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1. Introduction

Despite the fact that the general shareholder meeting is the supreme decision-making organ within a corporation, few challenge the argument by Jensen (1993) that it is the board of directors that plays the most important role in the internal control system. In a modern corporate system, where management is separated from ownership, the primary mission of the board of directors is to supervise corporate management on behalf of the shareholders. In other words, if the responsibility of senior managers is to make decisions at their own discretion regarding business operations, that of the board of directors should be to exercise effective control over such management decisions. This also holds true for the post-communist transitional countries including Russia, where establishing effective corporate governance mechanisms has become an important political issue. It is especially pertinent in former socialist enterprises.

In Russia, a country undergoing great transformation to a market economy, competition in product markets is weak in many industries (Broadman, 2000). Capital markets and the market for corporate control also remain underdeveloped (Sugiura, 2007). Under such circumstances, Russian firms are expected to establish internal controls that are as strong and functional as those of developed countries in order to effectively promote discipline in corporate management. As will be discussed later, to ensure that the interests of a firm's shareholders are represented, Russian corporate law stipulates that the board of directors in a joint-stock company is responsible for the personnel management of executive officers, the supervision and the provision of advice on business affairs, and the decision making on management strategies (Iwasaki, 2007a).

Russian investors, however, have a propensity to underestimate the role of the corporate board due to the much stronger ownership concentration and much higher proportion of managerial ownership in their companies than in their Western counterparts. However, each governance mechanism plays a complementary role that is specifically effective in certain aspects or stages of agency problem solving. The same logic can be applied to boards of directors relative to such issues such as the protection of minority shareholders. This means that corporate boards are being required to protect minority shareholders, which has presented a significant challenge in Russian corporate governance (Lazareva et al., 2007). As such, the

importance of management supervision by the board members in Russian companies cannot be overemphasized.

In addition, insider control itself does not represent the general characteristics of firms' organization in present-day Russia. Although shareholding by a handful of private investors is regarded as one of the peculiarities of Russian firms against the backdrop of significant decline in state ownership and weak institutional investors, ownership structure of the large and middle-scale enterprises tends to grow more diffuse year by year (Dolgopyatova, 2007; Chernykh, 2008). Moreover, many Russian firms have now hired professional managers. Growing interest in monitoring top management through corporate boards reflects these irreversible movements in the Russian business sector. Therefore, it is understandable that currently in Russia the prevalence of outsider directorship is regarded as a key policy issue for the further development of enterprise reform and corporate governance (Kostikova, 2003). Nevertheless, to the best of our knowledge, there has never been any thorough study of board structure in Russia or in other transitional countries.¹

To deepen our understanding of transition economies, this study attempts to identify the determinants of board composition in Russian companies through a comprehensive reexamination of the theoretical and empirical implications in developed countries. This is the primary objective of this paper, and it raises the question of which dimension of a firm's organization and which of its business activities are essential for the empirical analysis of Russian corporations. To address this issue, the potential determinants of board composition are classified into two categories. The first is *governance variables* in a narrow sense, and include those relating to a firm's organization, such as ownership structure and company size. The second is *business-activity variables*, consisting of those relating to business type,

¹ Several studies have dealt with corporate boards in the former Russian state-owned enterprises and newly established corporations. They include the pioneering works of Dolgopyatova (1995), Blasi and Shleifer (1996), Afanasiev et al. (1997), and Filatotchev et al. (1999). Most previous studies, however, simply imply the existence of a close association between ownership structure and board composition in Russian corporations (Iwasaki, 2007b). In addition, there are virtually no empirical works that examine the determinants of board structure in other transition economies.

R&D/innovation activities, corporate financing, and financial performance. The governance variables are further divided into *bargaining variables*, which reflect the bargaining power of managers and that of interested parties who are in conflict with the managers, and other governance variables. In this paper, the impact of each of the three variable groups on board composition is empirically compared.

As a second objective, we propose and validate several theoretical hypotheses concerning the interrelation of board composition with the special features of corporate law and the transition economy in Russia. While, in general, Russian corporate law adopts the Anglo-American type of corporate model, it introduces several unique regulations regarding the governance mechanism in joint-stock companies, including placing a lower limit on board size, prohibiting the vesting of the two titles of company top manager and board chairman on one person, and not allowing other executive directors to concurrently assume one-fourth or more of the board membership (Black and Kraakman, 1996). An investigation of the impact of these legal arrangements on board composition would definitely be worthwhile. Moreover, Russian law requires an investor to choose a legal form of incorporation for a joint-stock company. The choice is between an open and a closed arrangement, in which the degree of share transferability to third parties differs considerably (Iwasaki, 2007c). The impact of privatization and spin off from a state-owned enterprise or a privatized firm on board composition is also of great interest. In addition, the potential influence of integration with so-called business groups on corporate governance in their affiliate companies cannot be overlooked. In Russia, holding companies and other types of business alliances have mushroomed across the country as a result of the enterprise privatization of the 1990s, and these business groups play a crucial role in the management of a country's big businesses (Guriev and Rachinsky, 2005). An empirical study of the afore-mentioned specific features of the Russian economy in terms of their effects on board composition will contribute valuable findings and theoretical viewpoints to the study of transition economies as well as to the field of financial and organizational economics.

To investigate the two objectives stated above, we conduct an empirical analysis of the determinants of board composition dealing with possible endogeneity of board size and leadership structure. Recent works have focused considerable attention on this structural aspect

in corporate boards (Lehn et al., 2005; Boone et al., 2007; Coles et al., 2008; Linck et al., 2008). We concur with these findings and follow their empirical strategy.

We found that the theories and empirical methods of financial and organizational economics help to pinpoint the factors affecting board composition in Russian firms. We also found that, among potential determinants, the bargaining variables have great explanatory power and statistical significance. Furthermore, our empirical evidence demonstrated that Russia's legal system and its peculiarities as a transition economy also exert a certain degree of influence on the proportion of outsider directors in the board (i.e., their percentage over all directors). Finally, we confirmed a strong positive interrelation between the appointment of an outsider chairman and the extent of outsider directorship in Russian firms by estimating multivariate regression models that explicitly endogenize board composition and leadership structure.

The remainder of this paper is organized as follows. Section 2 contains a description of the data employed for this study. Section 3 examines the legal framework of board structure in Russian joint-stock companies. Section 4 presents the testable hypotheses. Section 5 conducts empirical analysis, and Section 6 summarizes the major findings and concludes the paper.

2. Data

As the basis for the empirical analysis in this paper, we utilize the results of a large-scale enterprise survey conducted in 2005 across Russia by a Japan-Russia joint research team from Hitotsubashi University and the Higher School of Economics. The enterprise survey was designed to understand the evolutionary process of firm organization and business environments in transforming Russia, shedding light on corporate governance in the former socialist enterprises.

The survey was performed from February to June 2005, and 859 members of top management from industrial and communications enterprises in 64 federal districts were interviewed by professional staff members dispatched from the Levada Center, the former USSR Public Opinion Poll Center of the Ministry of Labor, or its local branches. The target companies were selected by the method of stratified sampling among firms with more than 100 workers. Of the 859 companies surveyed, valid responses were received from 822 firms. Of these 822 respondents, 94.8% were company presidents (or CEOs or general directors) or vice

presidents. The remaining respondents were board chairmen (1.6%) or senior managers responsible for corporate governance affairs (3.6%).²

All sample firms were joint-stock companies, and the average number of workers per company was 1,884 (median: 465). The total number of workers of these surveyed 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). Furthermore, regarding the regional and sectoral composition of the surveyed firms, they formed a representative sample of Russian medium- and large-scale corporations, reflecting our research focus on the former state-owned enterprises transformed into joint-stock companies as a result of the mass-privatization policy in the early 1990s and their *de novo* private counterparts established in the transition period.

The survey results include information on the size of the boards, the basic attributes of the board directors, and the methods used for the appointment of board chairmen, which made it possible to carry out a detailed investigation of 741 board chairmen and 4,818 directors.³ In addition, the databases of SKRIN and SPARK Co., both of which are major company information agencies in Russia, were utilized in this study to obtain data on the financial performance, the industrial classification, and the percentage of ownership shares held by the managers of our sample firms.

3. Legal framework of the board structure in Russia

In Russia, the legal basis for joint-stock companies is covered by the provisions of the Civil Code and the Federal Law on Joint-Stock Companies (Law on JSCs), and is supplemented by the Corporate Governance (CG) Code.⁴

² The questionnaire used for the joint survey was carefully designed by the project members and experts of the Levada Center based on similar surveys conducted in the past, although it is impossible to completely avoid bias and moral hazard problems with respect to self-reporting.

³ For more details of our enterprise survey, see Dolgopyatova and Iwasaki (2006).

⁴ These provisions refer to Part I, Chapter 4 (Art. 96 to 104) of the Civil Code of November 30, 1994 (effective January 1, 1995), the Federal Law on Joint-Stock Companies of December 26, 1995 (effective January 1, 1996), and the resolution of the Federal Commission for the Securities Market dated April 4, 2002, regarding the recommendation of the adoption of the Corporate

According to Russian corporate law, all joint-stock companies whose voting shares are held by more than 50 persons are required to establish a board of directors. The number and appointment of board members are determined exclusively by an ordinary resolution of a shareholder meeting (Law on JSCs, Art. 48(1), Para. 4). Nevertheless, there are strict legal requirements as to the minimum number of directors: Companies with fewer than 1,000 voting shareholders must have no fewer than 5 directors; those with 1,000 or more but fewer than 10,000 voting shareholders must have no fewer than 7 directors; and those with 10,000 or more voting shareholders must have no fewer than 9 directors (Art. 66(3)). There is no statutory upper limit.

Regarding the selection of board members and chairpersons, the Russian legislation and ordinance contain several unique regulations. We summarize them into the following four points:

First, the term of office for directors is one year (defined as the date of appointment to the date of the next annual shareholder meeting), and all director seats must be contested at a regular shareholder meeting to be held no earlier than two months and no later than six months from the commencement of the fiscal year (Art. 47(1)). In other words, a staggered board is not permitted, in contrast to the cases of the U.S. and France. Moreover, all directors must be elected through cumulative voting, a system that aims to protect the interests of minority shareholders (Art. 66(4)). A board chairman is elected among the directors approved at a shareholder meeting by a simple majority.

Second, the management and supervisory bodies of Russian joint-stock companies strictly prohibit their managers from assuming board membership. The Law on JSCs prohibits the top manager (single executive organ) from serving as his/her company board chairman. In addition, it also prevents members of the collective executive organ (the management/administration division), which consists of senior managers, from accounting for one-fourth or more of the board membership (Law on JSCs, Art. 66(2)). A collective executive organ headed by a company president is an internal executive organization, and its function is, as with that of a single executive organ, to supervise daily management matters except for those that fall within

Governance Code. This section was written by taking into account the laws and regulations that were in effect in Russia during the period of the 2005 enterprise survey.

the authority of the shareholder meetings and the board of directors (Law on JSCs, Art. 69(2)). It is assumed that the role of a collective executive organ is to clarify managerial responsibilities and to make the board of directors more independent from the management of the company (Iwasaki, 2007a). In addition, members of the audit committee established as a subordinate organ to the general shareholder meeting for the purpose of investigating financial and management activities may not become board members (Art. 85(6)).

Third, the Law on JSCs, however, includes no provision preventing the board chairman from being elected from among insiders; moreover, it allows joint-stock companies to determine at their own discretion whether to establish a collective executive organ (Art. 69(1)). As discussed in Iwasaki (2007a), the adoption of a collective executive organ requires an amendment of the articles of incorporation and is determined by a supermajority resolution at a general shareholder meeting (passed by a majority of not less than three-quarters of the votes of present shareholders owning a majority of voting shares); this makes it highly possible for managers to attempt to reject requests from outside shareholders to increase the level of managerial monitoring in collusion with affiliated companies and employees. It is also likely that a top manager with significant ownership could appoint an individual under his influence to the board chairmanship.

Fourth, the CG Code is a kind of government decree issued by the Federal Commission for Securities Market (FCSM) in April 2002. This document was compiled by government officials and experts on the basis of the OECD's *Corporate Governance Principles* and stipulates the rules to be followed by all joint-stock companies operating in Russia with regard to corporate management, the basic principles of corporate governance, and the settlement of internal disputes. The CG Code devotes much space to matters regarding the board of directors, setting forth detailed rules on board structure as well as the appointment of board members with the aim that Russian firms converge to international governance standards (Chapter 3, Section 2). However, the CG Code contains very few concrete targets of board composition; one of the mandates that joint-stock companies include in their articles of incorporation is the provision that they have at least three independent directors⁵ who account for no less than

⁵ The CG Code defines an "independent director" as one who meets seven criteria for independence, which include (a) that the director has not been a manager or an employee of the

one-fourth of the board membership (Section 2.2.3).

With regard to the competence of the board of directors, the Law on JSCs empowers board members to make many important managerial decisions, which can be classified roughly into five fields: (a) overseeing acquisitions, divestitures, establishment, reorganization and liquidation of company, branches and affiliates; (b) overseeing major capital financing, expenditures and transactions; (c) preparing and organizing the general shareholders' meeting; (d) nominating, compensating, monitoring and replacing corporate executives; (e) reviewing and guiding corporate strategy, major plans of action, business plans, annual reports, and other financial and internal documents.⁶ Furthermore, their decision-making rights may not be delegated to the executive organs (Art. 65(2)). These provisions ensure that the corporate boards in Russia fulfill the same role and functions as those in the U.S. and other developed countries.

4. The logic of board composition in the context of a Russian transition economy

As stated in the Introduction, the factors affecting board composition can be divided into governance variables and business-activity variables. The former contain the “bargaining variables” (Arthur, 2001) which reflect the bargaining power of company managers and that of their countervailing parties. In the following three subsections, we consider in detail the specific factors included in each of these three variable groups and their possible impacts on board composition. In Subsection 4.4, we also discuss the possible interrelations within a board structure.

4.1. Bargaining variables

Hermalin and Weisbach (1998) propose a negotiation model in which board structure endogenously arises from the CEO bargaining power over outsider directors. In their model CEOs use their influence to limit board independence by nominating non-independent directors to open positions. Boone et al. (2007) extend this argument and state that outsider

company over which he assumes the directorship or its parent company for three years prior to the date of appointment; (b) that the director is not an affiliate of the company; and (c) that the director is not a representative of the government.

⁶ For more details, see the **Appendix**.

representation on the board is negatively related to the CEO's bargaining power and is positively related to constraints on the CEO's influence. By taking into account the more collective manner in which Russian enterprises are managed compared to Anglo-American corporations and the significant influence of a handful of large shareholders, it would be more appropriate to regard the influence of a management group as well as that of major outside shareholders. In other words, the negotiation model "CEO versus outsider directors" presented by Hermalin and Weisbach needs to be expanded to read "management group versus countervailing parties" in order to thoroughly understand the actual state of a Russian firm.

In our empirical tests we use three proxies of the bargaining power of the top manager and management group: the new appointment of top manager, the ownership share of top manager, and the ownership share of management group. The CEO's bargaining power derives from his/her perceived ability, for which CEO tenure becomes a good proxy (Linck et al., 2008). It is presumed that a top manager with long tenure will be more likely to influence the monitoring function of the corporate board. In contrast, a newly appointed top manager is more likely in the short term to have a company board with a high proportion of outsider directors, given his weak influence on the director appointment process and/or his strategy to ask for managerial advice and counseling from outsiders until the company management is on track under his leadership (Weisbach, 1988). In the case of Russia, attention is now centered on the new generations of top managers replacing the "red executives," or former communist company managers, who had dominated the business sector during the socialist era. Therefore, we test the possible positive correlation between the appointment of new top managers and the independence of the corporate board in their companies. On the other hand, since shareholding by a top manager and management group improves their bargaining positions, we expect board independence to be negatively related to their ownership stake.

In our empirical analysis, the new appointment of a top manager is represented by a dummy variable, which takes 1 for those firms with a top manager appointed in or after 2001 (*NEWCEO*). As for ownership of corporate officers, we utilize a large management shareholder dummy with a value of 1 if the company has a specific manager or a specific managerial group

as its large shareholder⁷ (*MANSHA*), the share ownership by the top manager (*OWNCEO*), and the management group ownership in the total number of outstanding shares (*OWNMAN*). The latter two ownership variables originate in the SKRIN open resources.

To proxy for the influence of countervailing parties, we use the ownership share of large outsider shareholders and affiliation with a business group. The agency theory hypothesizes that the existence of major outsider shareholders renders supervision by outsider directors less necessary because these large shareholders have a sufficient incentive and capability to actively perform monitoring functions by exercising their influence when necessary or because they can discipline managers effectively by increasing the possibility of takeover by third parties (Rediker and Seth, 1995). However, shareholders can use their bargaining power to reinforce the monitoring function of the board in order to increase their ability to collect managerial information or to strengthen their authority to dismiss managers who fail to increase corporate values. This is particularly true if shareholders live in countries where the corporate control market is still underdeveloped or where selling all of their shares would be too costly (Whitebee, 1997). In fact, a significant amount of empirical evidence from the studies on listed companies in Japan supports such a hypothesis. In Japan the capital market is less effective for the development of corporate governance than it is in Europe and the U.S. Other supporting evidence comes from research dealing with unlisted firms and emerging markets (Kaplan and Minton, 1994; Mak and Li, 2001; Roosenboom, 2005). The current state of the Russian economy is clearly closer to that of Japan and emerging markets. Furthermore, in the case of Russia, where social distrust of corporate managers is relatively high, it is quite likely that large shareholders would maximize their presence in their invested companies by using any channel open to them. Accordingly, we predict that the ownership share of major outsider shareholders is positively related to board independence. For the empirical analysis, we utilize a 6-point scale of the combined ownership share of corporate ownership and foreign investors (*OWNOUT*).

In Russia, business alliances are now burgeoning both at the federal level, as represented by financial-industrial groups led by commercial banks, major industrial enterprises, and newly

⁷ It denotes a shareholder or a shareholder group that has greater than 25% ownership or retains ownership that enables him/her to block strategic decisions by his/her company.

emerged financial cliques called “oligarchs,” and at the regional level. In fact, our survey indicates that 323 (39.3%) of the 822 surveyed firms are affiliated with a certain business group through shareholding. The most important and, probably, the most dominant owners of these business groups are holding companies and core group firms. While the individuals or organizations leading these business groups are responsible for monitoring their group companies, it is also a fact that they share the same destiny with affiliates. In other words, although holding companies or core group firms can provide an effective monitoring role over their subordinates, collusion among them with their affiliated firms is always possible, leading to a reduction in their shareholder wealth. In theory, it is difficult to determine which is greater, the monitoring or the collusion effect. In this regard, however, previous studies have empirically confirmed that affiliation with a business group helped a company improve its managerial discipline and promote its restructuring activity (Kuznetsov and Muravyev, 2000; Perotti and Gelfer, 2001; Guriev and Rachinsky, 2005).⁸ Similarly, it is now commonly accepted among researchers that membership of a business group promotes more sensible corporate governance than that observed in independent enterprises. Hence, we expect that participation in a business group will enhance the monitoring role of a corporate board in member firms. In our empirical tests, the presence of a business group as a major owner is represented by a group firm dummy (*GROFIR*) for participation in a business group through share ownership. We also use a core group firm dummy (*GROCOR*) and an affiliate firm dummy (*GROAFF*) to identify the possible asymmetrical effects of business integration on board composition due to differences among member firms in their position within the group.

4.2. Other governance variables

Beside bargaining variables, we give attention to the following six organizational features of Russian corporations as additional governance variables: soon-to-retire top managers; legal form of incorporation; upper limits on shareholding and voting rights set by the articles of incorporation; adoption of the collective executive organ; political background behind a company’s foundation; and company size.

⁸ Using the results of the joint survey, our research team also found empirical evidence that group firms are characterized by more effective corporate governance and greater intensity in firm restructuring than independent companies (Dolgopyatova et al., 2009).

Over the past dozen years or so, a large number of Russian corporate managers of the socialist generation have been approaching retirement age. Therefore, the manner in which power is transferred to their successors is significant, since the managers of the socialist generation could have considerable impact on the process of appointing new directors. As in the case of U.S. companies (Hermalin and Weisbach, 1988; Baker and Gompers, 2003), a soon-to-retire Russian top manager is more likely to accept as his/her successor a member of the corporate board, resulting in a significant increase in the proportion of insider directors.

Mayers et al. (1997) in a comparative analysis of joint-stock and mutual companies in the U.S. insurance sector confirmed that the boards of directors of mutual companies perform a stronger monitoring function than those of joint-stock companies in order to achieve an adequate level of managerial discipline. In their view, this is because mutual companies, on account of their limited share transferability, have weaker alternative governance mechanisms to replace the role of corporate boards than joint-stock companies. In the case of Russia, an individual who intends to set up a joint-stock company must choose as a legal form of incorporation either an open company, whose shares can be freely traded, or a closed company, whose shares can be traded only among the promoters and other designated investors, in accordance with the provisions of the Civil Code (Article 97) and the Law on JSCs (Article 7). This difference in corporate form may affect board composition in a similar way to the aforementioned distinction between mutual companies and joint-stock companies. It implies that the choice of an open joint-stock company is negatively related to board independence.

Russian law allows a joint-stock company, regardless of its corporate form, to set an upper limit on the number or face value of shares or voting rights held by one shareholder in its articles of incorporation (Law on JSCs, Art. 11(3)). In fact, the joint survey revealed that 104 (14.4%) of the 723 responding firms had an upper limit on ownership per shareholder and that 125 (17.2%) of the 726 responding firms had an upper limit on the voting rights by one shareholder. These restrictions, probably set for the purpose of allowing managers to monopolize their discretionary authority, are likely to significantly undermine the voice of shareholders and, as such, limit outsider representation on the board.

As explained in Section 3, the Law on JSCs prohibits 25% or more board membership from being represented by collective executive organ members. If managers are strictly compliant

with the purpose of this provision, the establishment of a collective executive organ may restrict the selection of insider directors. However, as already noted, there is a serious loophole in this provision. Hence, we predict that the adoption of a corrective executive organ is positively related to board independence, but that the statistical significance of its association is relatively low.

It is common knowledge that the vast majority of middle- and large-scale enterprises in Russia are privatized enterprises, many of which still have state shares.⁹ These former socialist enterprises still draw much more public attention than do *de novo* private firms. This means that compared with 100% privately owned companies established during the transition period, traditional former state-run enterprises are likely to have more outsider directors in order to be properly accountable to the state and the public as well as to receive various kinds of support from the government (Li, 2004; Beiner et al., 2004). Consequently, we expect that former state-owned corporations and newly established enterprises spun off from state-owned or privatized companies that are using their assets are expected to have corporate boards with a higher level of independence than newly-born private enterprises.

The expansion of the organizational size of a company is accompanied by issues related to the complexity of the firm's organization and the expansion of its relationships with the state and society. The existing literature shows that firm size is one of the most important explanatory variables for board composition with unambiguous signs. Larger firms need directors to provide wider expertise and, hence, require more outsiders on the board (Denis and Sarin, 1999; Booth et al., 2002; Lehn et al., 2005; Linck et al., 2008). Moreover, because their large size creates more crucial agency problems, larger companies demand more outsider directors (Boone et al., 2007).¹⁰ Thus, we presume that company size is positively related to board independence.

⁹ Of our randomly selected sample of 822 firms, 570 (69.3%) are previously state-owned enterprises, and 79 (9.6%) are newly established companies spun off from state-run enterprises or privatized enterprises. In addition, of the 563 surveyed firms with inherited assets from the state, 105 (18.7%) have state ownership, although the degree of state ownership varies from company to company.

¹⁰ The author thanks Dr. Tina Yang for sharpening the discussion on this point.

The variables used to investigate the impacts of other governance variables are *CEOAGE*, indicating that the enterprise has a top manager of retirement age (61 or older), *OPECOM*, which captures open joint-stock companies, *LIMOWN*, which assigns a value of 1 to companies that have an upper limit on ownership per shareholder in its articles of incorporation, *COLEXE*, which is equal to 1 if a company adopts a collective executive organ, and *PRICOM* or *SPIOFF*, which denotes that the company is a former state-owned (or ex-municipal) privatized enterprise or is a newly established firm spun off from a state-owned enterprise or a privatized firm, respectively. *COMSIZ*, the total number of employees, is used as a proxy for company size. In regression analysis, we utilize the log of *COMSIZ* as an independent variable.

4.3. Business-activity variables

As business-activity variables, we test the impact of business diversification, R&D/innovation strategy, financial performance, debts, and business internationalization on board composition.

Business diversification increases the chances that an expert familiar with the new market will become a board member. Mayers et al. (1997), Anderson et al. (2000), and Prevost et al. (2002) suggest that entering a new market requires more outside expertise. We also expect that the number of business lines in a Russian company is positively related to the proportion of outside members on the company's corporate board.

Performing an intensive R&D/innovation strategy encourages companies to evaluate the performance of their managers on the basis of the quality of their decisions rather than on the basis of financial results specific to the business they manage because of its technical uncertainty and risky nature (Hill and Snell, 1988). Insider directors are the most appropriate for conducting such evaluations. On the other hand, outside board members are ineffective in supervising firms with deep firm-specific knowledge and high growth opportunities because higher information asymmetry results in higher monitoring costs (Lehn et al., 2005; Linck et al., 2008). Hence, enterprises actively engaged in product development and innovation are expected to have a significantly smaller proportion of outsider directors.

Many researchers have confirmed that the poor performance of a company comparative to that of its rivals and industry competitors has an impact on its dismissal of insider directors and its appointment of their successors from the outside regardless of differences in period and

country (Harmalin and Weisbach, 1988; Kaplan and Minton, 1994; Peng, 2004; Yeh and Woitke, 2005). In recent years, Russian investors have been paying more attention to company performance and investment efficiency against a background of rapid economic development and the related stock-trading boom in their country. Therefore, we expect that poor financial performance in the past is positively correlated with the proportion of outsider directors in Russian firms.

Many earlier studies, including those of Kaplan and Minton (1994) and Linck et al. (2008), have acknowledged that the higher the debt ratio of a company, the stronger the managerial monitoring function of its corporate board. This is because increased monitoring pressure on a company from creditors trying to recover their credit and from outsider owners afraid of bankruptcy has a strong effect on board structure. Non-performing accounts payable and bank loans are still of serious economic concern in Russia. It is often the case in Russia that creditors become unable to recover their loans; therefore, it is quite reasonable to assume that creditors are subject to all possible kinds of monitoring pressure from their business partners and financing institutions. For these reasons, we predict that bank loans have a positive impact on the extent of outsider representation on the board.

Increased overseas operations and international transactions may result in the company having more expert directors and foreign directors in order to gather information and know-how to deal with the foreign market and foreign business customs, as well as to secure useful contacts for expanding overseas operations. In the case of Russia, where there are strict government regulations on major export commodities, enterprises actively involved in overseas business may be more inclined to employ those who are skillful in dealing with high-ranking officials and bureaucrats in the fields of trade and tariffs. According to Li's (1994) empirical analysis of enterprises in 10 industrialized states, however, the share of overseas sales in total sales affects the appointment of an outsider director in a nonlinear fashion. Hence, we expect that a high level of business internationalization is positively related to the proportion of outsider directors.

In the empirical analysis, we use the level of business diversification (*BUSLIN*) measured by the number of business lines in accordance with the 2-digit industrial classifications in the Russian All-Union Classifier of the National Economy Branches ("OKONKh" in Russian

abbreviation) available in the SKRIN database. The intensity of R&D/innovation activities is expressed using *NEWPRO*, a dummy variable that has a value of 1 if a company successfully developed new products or started innovation businesses in the period from 2001 to 2004. To proxy for past financial performance, we utilize the average rate of gross profit on sales from 2001 to 2004 (*PROAVE*) derived from the SPARK database. *PROAVE* is a predetermined variable reflecting the business results of our samples for a period of several years prior to the 2005 joint survey, which makes it possible to avoid any possible simultaneous bias between board structure and firm performance, and takes industry-adjusted values representing the distances from the median performance in each industry based on a method proposed by Eisenberg et al. (1998). The impact of debts on board composition is tested using *BANCRE*, a variable for the length of the lending period of bank credits borrowed by surveyed firms during the period from 2001 to 2004. To proxy for the degree of business internationalization, we employ the share of total exports in total sales (*EXPSHA*).

4.4. Interrelations within a board structure

Possible interactions occur between board composition and other board components, namely, board size and leadership structure. Past research suggests that companies with a larger corporate board tend to have more outsider directors, and *vice versa*. A board chairman appointed from the outside tends to encourage the presence of outsider directors. The same logic can be applied to outsider directors when they elect their chairman.¹¹ On the basis of these findings, we assume that both board size and the appointment of an outsider chairman may be positively interrelated with the extent of outsider representation on the board. To perform the empirical tests, we measure the proportion of outsider directors (*OUTDIR*) by dividing the number of outsider directors by the total number of board members. Board size (*BOASIZ*) covers the total number of directors on the board. In the regression analyses, we use the natural logarithm of *BOASIZ*. The variable of board leadership structure (*OUTCHA*) takes a value of 1 for firms with an outsider chairman. The correlation matrix shown in **Table 1** indicates the possibility of the above relationship among these board components.

¹¹ In particular, see Li (1994), Rediker and Seth (1995), Yermack (1996), Whidbee (1997), Shivdasani and Yermack (1999), Arthur (2001), Mak and Li (2001), Prevost et al. (2002), Lehn et al. (2005), Boone et al. (2007), and Linck et al. (2008).

Table 2 summarizes the theoretical discussions presented in this section. In the following section, we conduct empirical analyses to verify these testable hypotheses.

5. Empirical analysis

Based on the results of the 2005 joint enterprise survey, we first examine the actual board structure of Russian firms, and then the factors thought to be important to predict the board composition by univariate analysis. Lastly, we estimate multivariate regressions and conduct robustness checks.

5.1. Actual structure of corporate boards in Russian joint-stock companies

As explained in Section 3, Russian companies with less than 50 shareholders with voting rights are not required to have a board of directors. Our survey results show that of the 298 sample firms whose total number of shareholders was known to us, 46 (15.4%) had fewer than 50 shareholders, including 3 (1.0%) without a board of directors. The average (median) number of shareholders for these three firms was only 1.3 (1), much smaller than 18.1 (14) for the other 43 enterprises, suggesting that the corporate board is widely adopted as a governance institution even for firms owned by a very small number of shareholders.

The legal regulation on the minimum number of board directors significantly influences the actual board size. Of the 822 firms surveyed, 730 (88.8%) responded to our questions regarding their board size and the basic attributes of their board members (**Table 3**). According to these responses, joint-stock companies in Russia had an average number of 6.6 board members (median: 7).¹² Compared with approximately 19,000 enterprises in 19 countries throughout the world surveyed in 22 prior studies, the average board size of Russian companies is smaller than that of large listed firms in the U.S. and other major developed countries but almost the same as that of initial public offering (IPO) firms in those large nations and that of listed companies in small countries (**Table 4**). Moreover, **Figure 1** shows that of the 730 surveyed firms in this study, only 76 companies (10.4%) had 10 or more board members and, most importantly, an overwhelming majority of our sample firms (520; 71.2%) concentrate in categories of companies with a total of 5, 7, or 9 board members. These findings strongly suggest that

¹² These figures have been stable throughout the transition period and are consistent with the results of past surveys by Blasi and Shleifer (1996), Dolgopyatova (2003), and Yasin (2004).

Russian firms on many occasions may simply follow the corporate legal requirements for making a choice regarding their board size.

In this paper, a director appointed from among company managers, rank-and-file employees, and representatives of a labor union is defined as an “insider director,” and a director identified by other circumstances is referred to as an “outsider director.”¹³ As Table 3 shows, the board of directors in a typical joint-stock company consists of 3.2 insider directors and 3.4 outsider directors, on average. A significant percentage (90.0%) of insider directors is appointed from among senior managers. In fact, insider directors of this type account for 43.9% of all directors, and they hold positions on the board in 640 (87.7%) of the 730 surveyed enterprises. Of the outsider directors, 75.6% represent private outsider owners. And 481 of the 730 surveyed firms (65.9%) have 3.9 (median: 4) directors, on average, representing private outside shareholders. As for independent directors,¹⁴ they account for 6.5% of all directors and 12.7% of all outsider directors. However, only 138 (18.9%), or nearly one-fifth, of the 730 surveyed enterprises have one or more independent directors. This indicates that it was still not common to find independent directors in Russia in 2005. One of reasons for this is that the CG Code, as a new government decree with no legal binding force, had not yet had a significant effect.

Among the 730 responding enterprises, the average proportion of outsider directors was 48.9% (median: 55.6%). As shown in Table 4, this level is much lower than that for companies in Europe, is nearly the same as that for listed firms in the U.K., U.S., China, and the Asia-Pacific region, and is much higher than that for Japanese companies. Since most of the surveyed firms are unlisted, it appears that the typical Russian company has the same level of openness as its counterpart in industrialized countries. Nevertheless, **Figure 2** shows that most of our sample firms do not have a typical board structure. Rather, the majority of Russian companies are either governed by a board of directors with an extremely high proportion of outsider representation on the board or completely dominated by insiders. In this regard, it is noteworthy that the combined ownership share of corporate ownership and foreign investors

¹³ Here, due to constraints of the methodology used in the joint survey, no distinction was made between affiliated and non-affiliated individuals with regard to outsider directors (except for independent directors), as in many earlier studies involving developed countries.

¹⁴ They fit the afore-mentioned definition in the CG Code.

(*OWNOUT*) also has bi-modal distribution, suggesting that ownership structure and board composition are closely linked.¹⁵ As reported by Peasnell et al. (2005) and Roosenboom (2005), the extent of outsider representation of listed and unlisted companies in developed countries has a bell-shaped distribution in general. In addition, the standard deviation of the outsider directorship ratio in our samples (35.3%) is much higher than those in US and European companies (less than 20%), so it would be quite appropriate to perceive the reality of Russian enterprises from the viewpoint of polarization in terms of the proportion of outsider directors.

The answers from 741 enterprises that responded to the question regarding the manner in which they appointed their board chairmen show that 340 (45.9%) of all chairmen were promoted from within the company, defined as “insider chairmen” here, and the remaining 401 (54.1%) were “outsider chairmen.” A total of 355 (88.5%) of all outsider chairmen were nominated from among those working in the business sector, and 46 (11.5%) were appointed from an administrative or legislative body of the Russian state.

5.2. Univariate analysis

In the following two subsections, we will test the impact of the potential factors affecting board composition. The definitions, the descriptive statistics, and the sources of the variables used in the empirical analysis are listed in **Table 5**.

The right column in the table shows the correlation coefficients between the proportion of outsider directors and other variables. All bargaining variables except for *GROCOR* are significantly correlated with *OUTDIR*, which is consistent with the theoretical hypothesis.

Regarding the other governance variables, a corporate charter’s maximum ownership restriction (*LIMOWN*) is negatively related to *OUTDIR*. The correlation coefficient between *COLEXE* and *OUTDIR* has a positive sign with statistical significance at the 5% level, suggesting that establishing a collective executive organ encourages the appointment of outsider directors. Both results also support our predictions. The total number of employees (*COMSIZ*) is positively related to *OUTDIR*, suggesting that the larger a company is, the more outsiders will join the board.

Many business-activity variables are also significantly associated with the proportion of

¹⁵ In fact, of 671 surveyed firms, 337 (50.2%) lack domestic legal entities or foreign investors as their own shareholders. In contrast, the majority share of 208 (31.0%) firms belongs to them.

outsider directors. Business diversification (*BUSLIN*) may provide Russian enterprises with the incentive to increase outsider directors. The positive correlations between *OUTDIR* and the variables representing the past financial performance (*PROAVE*) and the use of bank credits (*BANCRE*) also support our testable hypotheses. The share of exports in total sales (*EXPSHA*) has a positive albeit weak relationship with *OUTDIR*.

To examine in more detail the relationship between the relative position of outsider directors on a corporate board and ownership stake by company managers and outside investors, analyses of variance were performed using the four ownership variables classified according to the proportion of outsider directors. The results are shown in **Table 6**. The findings suggest close associations between the proportion of outsider directors and stock ownership held by company managers and outside large shareholders, which support our theoretical predictions. However, the results of the Scheffe multiple comparison test using 10 sample groups divided according to the percentage of outsider directors indicate that the differences in the means between these individual sub-groups are not statistically significant in most cases. There may be a considerably higher level of variance within each sub-group due to the influence of other factors. Therefore, this point needs to be tested by multivariate analysis, with due consideration given to the impact of the ownership variables on the outsider director appointment.

The board structure is also susceptible to influence by various factors differentiating one sector from another (Boone et al., 2007). The level of such influence can be assessed by comparing various industries in terms of the extent of outsider representation on the board. **Table 7** shows the results. Our sample firms belong either to one of eight industrial sectors or the communications sector. Both a comparative analysis of industrial and communications firms and an analysis of variance of the 9 sectors identified statistically significant differences, suggesting that attention should be paid to industry fixed effects¹⁶ in a regression analysis of board composition.

5.3. Multivariate analysis

¹⁶ They are related to the production technologies, the intensity of state regulations, the industry protection measures, the level of market concentration, and the degree of public interest in the industry (i.e., mass media and local citizens), among others.

Our regression analysis is designed to estimate a model expressed as $OUTDIR = f(x\beta)$, where x and β are vectors of independent variables and parameters of interest, respectively. As shown in **Figure 2**, the dependent variable $OUTDIR$ is far from the normal distribution (Shapiro-Wilk $W=0.974$, $z=6.111$, $p=0.000$). In addition, 245 (33.6%) of the 730 sample firms have either a lower threshold of 0.0 or an upper threshold of 1.0. The OLS estimator of a regression model with such an independent variable may become inconsistent. To mitigate this problem, we use the Tobit estimator with both upper and lower thresholds.

The estimation results are summarized in **Table 8**. As discussed in Subsection 4.4, it is likely that board composition is interrelated with board size and leadership structure. However, in Model [1], which does not explicitly deal with the endogeneity within a board structure, we found that $BOASIZ$ has no statistically significant impact on $OUTDIR$, which is in stark contrast with the highly significant impact of $OUTCHA$. We conjecture that it is concerned with the fact that the majority of Russian firms retain boards at the lower limit of membership stipulated by the corporate law, given the short history of company management under the market environment in Russia. Accordingly, in this paper, we report regression models that control solely for the endogeneity of board composition and leadership structure (Models [2] to [5]) using the Murphy-Topel variance-covariance estimator for the two-step model (Murphy and Topel, 1985). $OUTCHA$ is instrumented by all other right-hand side variables plus the age level of the board chairman as an additional instrument ($CHAAGE$).¹⁷ Moreover, we include fixed effects in each industry using 8 dummy variables in all regression models. As Boone et al. (2007) argue, the inclusion of industry fixed effects has the potential to control the unobserved industrial heterogeneity.

Table 8 also shows that the dummy variable that captures companies with a newly appointed top manager ($NEWCEO$) is positively related, albeit insignificantly so, to the extent of outsider representation on the board in all models, which is in accordance with our hypothesis. In contrast, all the ownership variables take signs that are consistent with our predictions and

¹⁷ $CHAAGE$ derives from our survey results. It rates the age of board chairmen on the following 6-point scale: 0: 30 years or less; 1: 31 to 40; 2: 41 to 50; 3: 51 to 60; 4: 61 to 70; 5: 71 or more. The mean \pm standard deviation is 2.38 ± 0.95 . The correlation coefficient between $CHAAGE$ and $OUTCHA$ is 0.648.

reject the null hypothesis that the coefficient is equal to zero at the 1% significance level. Moreover, the dummy variable for group companies (*GROFIR*) has a positive sign with statistical significance at the level of 5% or less.

The remarkable differences in statistical significance between *GROCOR* and *GROAFF* show a stark gap between the core firms of the business groups and their affiliates in terms of the organizational philosophy of the groups. It is reasonable to infer that, in Russia, director exchanges within a business group are usually one-way, from its core company to its affiliated member firms, and therefore, not much emphasis is placed on the opinions of the managers of such controlled firms in the strategic decision-making process of the business group. Even though this working hypothesis requires empirical verification, it provides an important clue to understanding the ongoing dynamic trend of business integration in the Russian economy.

In contrast to the bargaining variables, none of the other governance variables except for *LIMOWN* has a robust impact on the proportion of outsider directors on a corporate board. In other words, *CEOAGE*, *OPECOM*, and *COMSIZ* lose their effects when the managerial ownership dummy *MANSHA* is replaced by *OWNCEO* or *OWNMAN*. Contrary to the theoretical hypothesis, the dummy variable for firms with a collective executive organ (*COLEXE*) is negatively associated, albeit at a low level of significance, with the proportion of outsider directors but at a low level of significance. Political paths affecting company start-ups also do not reveal a robust impact on board composition.

Among the business-activity variables, the estimates of the variables for past financial performance (*ROAAVE*) and the use of bank credits (*BANCRE*) are statistically robust and consistent with our theoretical predictions. The intensity of R&D/innovation activity (*NEWPRO*) is negative and is significant at the 5% level in Models [2] and [3], but its impact disappears when managerial ownership is controlled by *OWNCEO* or *OWNMAN*. *BUSLIN* and *EXPSHA* are insignificant. These findings suggest that it is almost statistically random whether there is an insider or an outsider in charge of business diversification and internationalization in Russia against the backdrop of an underdeveloped outsourcing market for human resources.

Regarding the impact of board size and the appointment of an outsider chairman on board composition, *BOASIZ* falls short of the 10% significance level in all specifications. On the other hand, *OUTCHA* is always positive and significant at the 1% level even when we

explicitly endogenize board composition and leadership structure.

5.4. Robustness checks

To examine the robustness of the estimation results from the multivariate analysis reported in the previous subsection, we conducted supplementary analyses of the individual regression models placed under various sample restrictions and confirmed that these restrictions had no major impact on the findings presented in Table 8. Specifically, supplementary regression analyses were performed in the following five different settings: (a) when the samples are limited to industrial firms; (b) when the enterprises involved in fuel/energy, metallurgy, and communication sectors and subject to unique state restrictions concerning firm organization and business activities are excluded from the observations; (c) when the samples are limited to those with a company size within the mean ± 1 standard deviation of all surveyed firms to exclude very large enterprises from the observations; (d) when the samples are limited to those yet to issue their securities; and (e) when the samples are limited to non group-affiliated firms.

Moreover, no distinctive differences are observed in the estimation results even after replacing *PROAVE* with the simple difference between the actual value and the mean value for each industry. Furthermore, we used the rate of return on assets, the frequency of dividend payments to replace *PROAVE*, and the proportion of overdue accounts payable in total debts to replace *BANCRE* as alternative variables for the past firm performance and debts, and found that these three variables also have significant impacts on board composition, consistent with our testable hypotheses.

Furthermore, we re-estimated the models using alternative estimation methods, including the two-stage least squares (2SLS) method,¹⁸ a semi-parametric quantile regression model, a truncated regression model, and Heckman's two-step estimation method.¹⁹ The results showed

¹⁸ Using the 2SLS method, we estimated a simultaneous-equation model that takes three board components as endogenous dependent variables. We found that board size has no significant impact on either board leadership or composition, and *vice versa*. In contrast, appointments of an outside board chairman and outsider representation on the board are positively associated with each other. See Iwasaki (2007d) for more details.

¹⁹ Heckman's two-step estimation method deals with the possible bias that may arise in the Tobit model when the coefficients for the independent variables for the existence of an outsider director are different from the coefficients for the independent variables for the proportion of

no obvious differences from those of the original analyses reported in this paper. On the basis of these findings, we can safely say that the results of the multivariate analyses reported in Subsection 5.3 are statistically robust in the above sense.

6. Conclusion

In this paper, we conducted a comprehensive analysis of the determinants of board composition in Russian joint-stock companies using the results of a Japan-Russia joint enterprise survey conducted in 2005. The findings strongly suggest that the theories and empirical methods of financial and organizational economics help to pinpoint the proportion of outsider directors in Russian firms. In other words, corporate managers and investors in contemporary Russia organize their monitoring and supervisory systems in accordance with the economic and organizational logics applied to mature capitalist economies. The long-standing and difficult attempt to shift to a market economy in Russia is now starting to bear fruit.

However, the results of the empirical analysis do not support all the testable hypotheses proposed in Section 4. Rather, our empirical evidence demonstrates the greater explanatory power and statistical significance of the bargaining variables in comparison with other potential determinants of board composition. We suppose that this empirical evidence indicates that, in Russia, corporate boards are possibly the site for a struggle for hegemony over corporate management between company managers and their countervailing parties represented by large shareholders, who seek to maximize their power and benefits. This image is intuitively consistent with our understanding of the modern Russian economy. Even today, the country is still unable to cast off its negative image as an unreliable society. The awareness of Russian people of the importance of contracts and property rights and the business ethics of Russian managers are improving but there is still much work to be done. In this social environment, it is no wonder that investors do not expect much from other owners and creditors concerning their managerial discipline and choose to directly monitor corporate managers using all the channels available in attempts to maximize their interests. In response, corporate managers always behave opportunistically by being on the alert against such hostile investors.

outsider directors.

It is true that this deep-seated mutual distrust serves as a mechanism to make business enterprises functional. However, engaging in a heated battle for hegemony over the corporate board tends to be excessively time and energy consuming, contrary to the case of a society that is capable of achieving effective managerial discipline by properly utilizing different governance mechanisms.

Furthermore, this study demonstrated that Russia's legal system and its peculiarities as a transition economy have a certain influence on board composition. In particular, the intense management alliance with business groups that took place across Russia as a byproduct of the enterprise privatization in the 1990s considerably affects the governance system in their affiliated companies. The rules set by the corporate law and the CG Code may also have an impact on the decision-making process of Russian firms regarding board composition, although the multivariate regression analysis did not present statistically robust evidence of this point. In this regard, we found that the federal administrative directives that have been issued to encourage domestic companies to add more independent directors have not yet produced the desired outcome, partly because they are not sufficiently enforced. Until a certain level of mutual trust is established among Russian citizens, increased state regulations on the structure and functions of corporate boards and other statutory corporate organs may be effective for alleviating the aforementioned problems.

References

- Abe N. Keieisha turnover to keieisha insentibu mekanizumu (IER discussion paper series No. A435), Institute of Economic Research of Hitotsubashi University, Tokyo; 2003. (in Japanese)
- Afanasiev M, Kuznetsov P, Fominykh A. Korporativnoe upravlenie glazami direktorata: Po materialam obsledovaniia 1994-1996 gg. *Voprosy Ekonomiki* 1997; 5; 84-101. (in Russian)
- Anderson RC, Bates TW, Bizjak JM, Lemmon ML. Corporate governance and firm diversification, *Financial Management* 2000; 29; 5-22.
- Arthur N. Board composition as the outcome of an internal bargaining process: Empirical evidence, *Journal of Corporate Finance* 2001; 7; 307-340.
- Baker M, Gompers PA. The determinants of board structure at the initial public offering, *Journal of Law and Economics* 2003; 46; 569-598.
- Beiner S, Drobetz W, Schmid F, Zimmermann H. Is board size an independent corporate governance mechanism? *Kyklos* 2004; 57; 327-356.
- Blasi J, Shleifer, A. Corporate governance in Russia: An initial look, In: Frydman R, Gray CW, Rapaczynski A. (eds.), *Corporate governance in Central Europe and Russia. Volume 2: Insiders and the state*, Central European University Press: Budapest; 1996; p. 78-108.
- Black B, Kraakman R. A self-enforcing model of corporate law, *Harvard Law Review* 1996; 109;

1911-1982.

- Boone AL, Field LC, Karpoff JM, Raheja CG. The determinants of corporate board size and composition: An empirical analysis, *Journal of Financial Economics* 2007; 85; 66-101.
- Booth JR, Cornett MM, Tehranian H. Boards of directors, ownership, and regulation, *Journal of Banking and Finance* 2002; 26; 1973-1996.
- Broadman HG. Reducing structural dominance and entry barriers in Russian industry, *Review of Industrial Organization* 2000; 17; 155-176.
- Chernykh L. Ultimate ownership and control in Russia, *Journal of Financial Economics* 2008; 88; 169-192.
- Coles JL, Daniel ND, Naveen L. Boards: Does one size fit all? *Journal of Financial Economics* 2008; 87; 329-356.
- de Andres P, Azofra V, Lopez F. Corporate boards in OECD countries: Size, composition, functioning and effectiveness, *Corporate Governance* 2005; 13; 197-210.
- Denis DJ, Sarin A. Ownership and board structures in publicly traded corporations, *Journal of Financial Economics* 1999; 52; 187-223.
- Dolgopyatova T. Restrukturizatsiya sobstvennosti i kontrolya v promyshlennosti. Predprinimatel'stvo v Rossii 1995; 3-4; 18-25. (in Russian)
- Dolgopyatova T. Ownership and corporate control structures as viewed by statistics and surveys, *Russian Economic Barometer* 2003; 12; 12-20.
- Dolgopyatova TG. Corporate ownership and control in Russian companies: Trends and patterns, In: Dallago B, Iwasaki I. (eds.), *Corporate restructuring and governance in transition economies*, Palgrave Macmillan: Basingstoke; 2007; p. 250-274.
- Dolgopyatova TG, Iwasaki I. Exploring Russian corporations: Interim report on the Japan-Russia joint research project on corporate governance and integration processes in the Russian economy (IER discussion paper series No. B35), Institute of Economic Research of Hitotsubashi University: Tokyo; 2006.
- Dolgopyatova TG, Iwasaki I, Yakovlev AA. (eds.), *Organization and development of Russian business: A firm-level analysis*. Palgrave Macmillan: Basingstoke; 2009. (forthcoming)
- Eisenberg T, Sundgren S, Wells MT. Larger board size and decreasing firm value in small firms, *Journal of Financial Economics* 1998; 48; 35-54.
- Filatovchev I, Wright M, Bleaney M. Privatization, insider control, and managerial entrenchment in Russia, *Economics of Transition* 1999; 7; 481-504.
- Guriev S, Rachinsky A. The role of oligarchs in Russian capitalism, *Journal of Economic Perspectives* 2005; 19; 131-150.
- Hermalin BE, Weisbach MS. The determinants of board composition, *RAND Journal of Economics* 1988; 19; 589-606.
- Hermalin BE, Weisbach MS. Endogenously chosen board of directors and their monitoring of the CEO, *American Economic Review* 1998; 88; 96-118.
- Hill CW, Snell SA. External control, corporate strategy, and firm performance in research-intensive industries, *Strategic Management Journal* 1988; 9; 577-590.
- Iwasaki I. Corporate law and governance mechanism in Russia, In: Dallago B, Iwasaki I. (eds.), *Corporate restructuring and governance in transition economies*, Palgrave Macmillan: Basingstoke; 2007a; p. 213-249.
- Iwasaki I. Enterprise reform and corporate governance in Russia: A quantitative survey, *Journal of Economic Surveys* 2007b; 21; 849-902.
- Iwasaki I. Legal forms of joint stock companies and corporate behavior in Russia, *Problems of Economic Transition* 2007c; 50; 73-86.
- Iwasaki, I. Endogeneous board formation and its determinants in a transition economy: Evidence from Russia (CEI working paper series No. 2007-1), Center for Economic Institutions of the Institute of Economic Research, Hitotsubashi University: Tokyo; 2007d.

- Jensen MC. The modern industrial revolution, exit, and the failure of internal control systems, *Journal of Finance* 1993; 48; 831-880.
- Kaplan SN, Minton BA. Appointments of outsiders to Japanese boards: Determinants and implications for managers, *Journal of Financial Economics* 1994; 36; 225-258.
- Kim Y. Board network characteristics and firm performance in Korea, *Corporate Governance* 2005; 13; 800-808.
- Kostikova, Iu. (eds.), *Kodeks korporativnogo povedeniya – korporativnoe povedenie v Rossii*, *Ekonomika*: Moscow; 2003. (in Russian)
- Kuznetsov P, Muravyev, A. Gosudarstvennye kholdingi kak mekhanizm upravleniya predpriyatiyami gosudarstvennogo sektora, *Voprosy Ekonomiki* 2000; 9; 34-47. (in Russian)
- Lazareva O, Rachinsky A, Stepanov S. A survey of corporate governance in Russia, working paper no. 103, Centre for Economic and Financial Research, New Economic School, Moscow; 2007.
- Lehn K, Patro S, Zhao M. Determinants of the size and structure of corporate boards: 1935-2000, unpublished working paper, University of Pittsburgh, 2005.
- Li J. Ownership structure and board composition: A multi-country test of agency theory predictions, *Managerial and Decision Economics* 1994; 15; 359-368.
- Linck JS, Netter JM, Yang T. The determinants of board structure, *Journal of Financial Economics* 2008; 87; 308-328.
- Mayers D, Shivdasani A, Smith CW. Board composition and corporate control: Evidence from the insurance industry, *Journal of Business* 1997; 70; 33-62.
- Mak YT, Li Y. Determinants of corporate ownership and board structure: Evidence from Singapore, *Journal of Corporate Finance* 2001; 7; 235-256.
- Murphy KM, Topel RH. Estimation and inference in two-step econometric models, *Journal of Business and Economic Statistics* 1985; 3; 370-379.
- Peasnell KV, Pope PF, Young S. Board monitoring and earnings management: Do outsider directors influence abnormal accruals? *Journal of Business Finance and Accounting* 2005; 32; 1311-1346.
- Peng MW. Outsider directors and firm performance during institutional transitions, *Strategic Management Journal* 2004; 25; 453-471.
- Perotti EC, Gelfer S. Red barons or robber barons? Governance and investment in Russian financial-industrial groups, *European Economic Review* 2001; 45; 1601-1617.
- Prevost AK, Rao RP, Hossain M. Determinants of board composition in New Zealand: A simultaneous equations approach, *Journal of Empirical Finance* 2002; 9; 373-397.
- Randøy T, Jenssen JI. Board independence and product market competition in Swedish firms, *Corporate Governance* 2004; 12; 281-289.
- Rediker KJ, Seth A. Boards of directors and substitution effects of alternative governance mechanisms, *Strategic Management Journal* 1995; 16; 85-99.
- Roosenboom P. Bargaining on board structure at the initial public offering, *Journal of Management and Governance* 2005; 9; 171-198.
- Rosstat (the Federal Statistical Service), *Rossiya v tsifrakh 2005: Kratkii statisticheskii sbornik*, *Rosstat*: Moscow; 2005. (in Russian)
- Shivdasani A, Yermack D. CEO involvement in the selection of new board members: An empirical analysis, *Journal of Finance* 1999; 54; 1829-1853.
- Sugiura F. Economic transformation and corporate finance in the post-communist world, In: Dallago B, Iwasaki, I. (eds.), *Corporate restructuring and governance in transition economies*, *Palgrave Macmillan*: Basingstoke; 2007, p. 40-62.
- Tian JJ, Lau CM. Board composition, leadership structure and performance in Chinese shareholding companies, *Asia Pacific Journal of Management* 2001; 18; 245-263.
- van Ees H, Postma T, Sterken E. Board characteristics and corporate performance in the Netherlands, *Eastern Economic Journal* 2003; 29; 41-58.

- Vefas N, Theodorou E. The relationship between board structure and firm performance in the UK, *British Accounting Review* 1998; 30; 383-407.
- Weisbach MS. Outsider directors and CEO turnover, *Journal of Financial Economics* 1988; 20; 431-460.
- Whidbee DA. Board composition and control of shareholder voting rights in the banking sector, *Financial Management* 1997; 26; 27-41.
- Yasin E. (ed.), *Strukturnye Izmeneniya v Rossiiskoi Promyshlennosti*. Moscow: Izdatel'skii dom GU VSHE; 2004. (in Russian)
- Yeh YH, Woidtke T. Commitment or entrenchment? Controlling shareholders and board composition, *Journal of Banking and Finance* 2005; 29; 1857-1885.
- Yermack D. Higher market valuation of companies with a small board of directors, *Journal of Financial Economics* 1996; 40; 185-211.

Table 1. Correlation matrix of board components in 730 Russian joint-stock companies

	Proportion of outsider directors	Board size	Board leadership structure
Proportion of outsider directors (<i>OUTDIR</i>)	1.0000		
Board size (<i>BOASIZ</i>)	0.2058 *** (0.000)	1.0000	
Board leadership structure (<i>OUTCHA</i>)	0.4335 *** (0.000)	0.0679 * (0.076)	1.0000

This table presents a correlation matrix of board components in 730 joint-stock companies that participated in the Japan-Russia joint enterprise survey conducted in 2005. Sample companies were randomly selected among firms with more than 100 workers in the industrial and communications sectors. For more details, see Section 2 of the paper. The proportion of outsider directors (*OUTDIR*) is measured by dividing the number of outsider directors by the total number of board members. Board size (*BOASIZ*) covers the total number of directors on the board. Board leadership structure (*OUTCHA*) is a dichotomous variable with a value of 1 for firms with an outsider chairman. Figures in parentheses are *p*-values. *** and * denote statistical significance at the 1% and 10% level, respectively.

Table 2. Theoretical predictions of the impacts of firm organization and business activities on the proportion of outsider directors on the board in the context of a Russian transition economy

Variable group and its elements	Predicted sign and statistical significance
Bargaining variables	
New appointment of top manager	+
Ownership share of top manager	-
Ownership share of management group	-
Ownership share of large outsider shareholders	+
Affiliation with a business group	+
Other governance variables	
Soon-to-retire top manager	-
Establishment of an open joint-stock company as the corporate form	-
Restrictions on ownership shares and voting rights by the articles of incorporation	-
Adoption of a collective executive organ	(+)
Inherited state assets	+
Company size	+
Business-activity variables	
Business diversification	+
Intensity of R&D/innovation activities	-
Poor financial performance	+
Debt	+
Business internationalization/squared term	-/+
Board size and leadership structure	
Board size	+
Outsider chairman appointment	+

This table summarizes the theoretical predictions of the impact of potential factors on board composition in Russian firms on the basis of the discussion in Section 4 of the paper. The sign '+' denotes a positive correlation between a given factor and the proportion of outsider directors, '-' for a negative correlation, and '(+)' for a positive but statistically weak correlation.

Table 3. Descriptive statistics on board size and number of directors by their attributes of 730 surveyed firm

	Mean	S. D.	Median	Min.	Max.	25 percentile	75 percentile	Total	Percent (%)
Board size (total number of directors)	6.64	2.40	7	3	23	5	7	4,818	100.0
Insider directors	3.22	2.43	3	0	21	1	5	2,352	48.8
Managers	2.90	2.21	3	0	15	1	5	2,117	43.9
Representatives of employees and labor unions	0.32	1.15	0	0	21	0	0	235	4.9
Outsider directors	3.42	2.94	3	0	17	1	5	2,466	51.2
Representatives of non-employee private shareholders	2.55	2.59	2	0	17	0	4	1,865	38.7
Independent directors	0.43	1.13	0	0	10	0	0	314	6.5
Representatives of federal government agencies	0.18	0.77	0	0	8	0	0	135	2.8
Representatives of local governments	0.21	0.75	0	0	6	0	0	152	3.2

This table provides descriptive statistics on board size and number of board directors by their attributes of 730 Russian joint-stock companies. The samples are the same as those in Table 1.

Table 4. International comparison of board size and proportion of outsider director

	Analysis period	Sample size	Board size (total number of directors)			Proportion of outsider directors (%)		
			Mean	S. D.	Median	Mean	S. D.	Median
North America								
U.S. IPO firms ¹	1978-87	1,116	6.07	1.87	6			
U.S. IPO firms ²	1988-92	1,019	6.21			62		
U.S. listed firms ³	1989-95	508	11.88	2.95	12	55.3	17.1	56.2
U.S. large industrial firms ⁴	1999	100	11.79	2.94	12	71.8	12.1	73.0
U.S. large commercial banks ⁴	1999	100	16.37	5.01	16	81.3	6.9	83.1
U.S. large public firms ⁴	1999	100	11.46	2.74	11	80.5	11.7	83.3
U.S. listed firms ^{5a}	1990-2003	9,436	8		7	65.2		70.0
Canadian listed firms ⁶	1996	79	12.34		12	74		79
Canadian public firms ⁷	2000	38	10.81	3.07	11	89.4	10.6	90.0
Europe								
U.K. listed firms ⁸	1993-96	1,271	8.01	2.64	8	42.7	14.4	42.9
U.K. listed firms ⁹	1994	250	8.07	2.84	8	39		
U.K. listed firms ⁶	1996	66	12.03		12	48		50
French IPO firms ¹⁰	1993-99	299	5.30	2.32	5	53.1		
French listed firms ⁶	1996	42	12.93		13	81		82
German listed firms ⁶	1996	33	15.06		16	60		58
Italian listed firms ⁶	1996	56	9.23		9	74		81
Spanish listed firms ⁶	1996	28	12.29		11	75		80
Swiss listed firms ⁶	1996	17	9.12		9	90		90
Swiss listed firms ^{11b}	2001	165	6.59	2.33	6	87	15	89
Dutch listed firms ⁶	1996	37	6.84		7			
Dutch listed firms ¹²	1996	94	4.95	1.83	5	84.3	19.9	100
Belgian listed firms ⁶	1996	12	13.17		11.5	76		81
Swedish listed firms ¹³	1996-98	98	8.18	2.01		84	13	
Finish small and medium-scale firms ¹	1992-94	879	3.71	1.52	3			
Russian joint-stock companies ¹⁵	2005	730	6.64	2.40	7	48.9	35.3	55.6
Asia-Pacific								
Japanese listed firms ¹⁶	1990-2001	1,280	13.97	6.55	13	20.0	19.7	14.3
Chinese IPO firms ^{17c}	1996	113	10.13	3.18		30	24	
Chinese listed firms ¹⁸	1996	530	9.8			41		
Taiwanese listed firms ¹⁹	1998	251	8.19	4.18	7			
Korean listed firms ²⁰	1990-99	199	10.51	8.36				
Australian listed firms ^{21c}	1989	135	5.56	2.03	5	62	27	67
Singapore listed firms ²²	1995	147	8.04	2.08	8	57	21	57
New Zealand listed firms ²³	1991-95	63-105	6.60	2.15	6	55.7	25.7	60.0

This table reports board size and proportion of outsider directors in North-American, European, and Asia-Pacific companies based on the following 23 studies: 1: Baker and Gompers (2003); 2: Boone et al. (2007); 3: Fich and Shivdasani (2006); 4: Booth et al. (2002); 5: Linck et al. (2008); 6: de Andres et al. (2005); 7: Bozec (2005); 8: Peasnell et al. (2005); 9: Vefas and Theodorov (1998); 10: Roosenboom (2005); 11: Beiner et al. (2004); 12: van Ees et al. (2003); 13: Randøy and Jenssen (2004); 14: Eisenberg et al. (1998); 15: this study; 16: Abe (2003); 17: Tian and Lau (2001); 18: Peng (2004); 19: Yeh and Woitke (2005); 20: Kim (2005); 21: Arthur (2001); 22: Mak and Li (2001); and 23: Prevost et al. (2002).

^aThe proportion of outsider directors is calculated using the data of the percentage of executive directors.

^bBoard of auditors.

^cThe proportion of outsider directors covers only independent directors

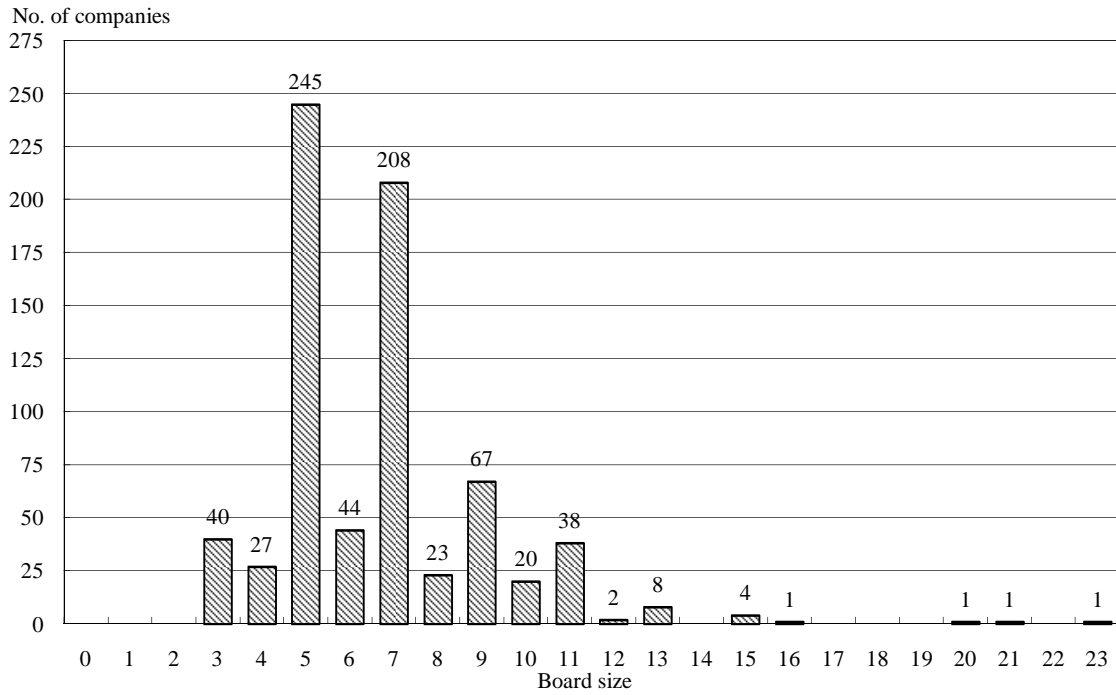


Figure 1. Board size of 730 Russian joint-stock companies

The samples are the same as those in Table 1. Board size denotes the total number of board directors. The basic statistics of board size are as follows: mean: 6.66; standard deviation: 2.44; median 7; skewness: 1.72; kurtosis: 9.26.

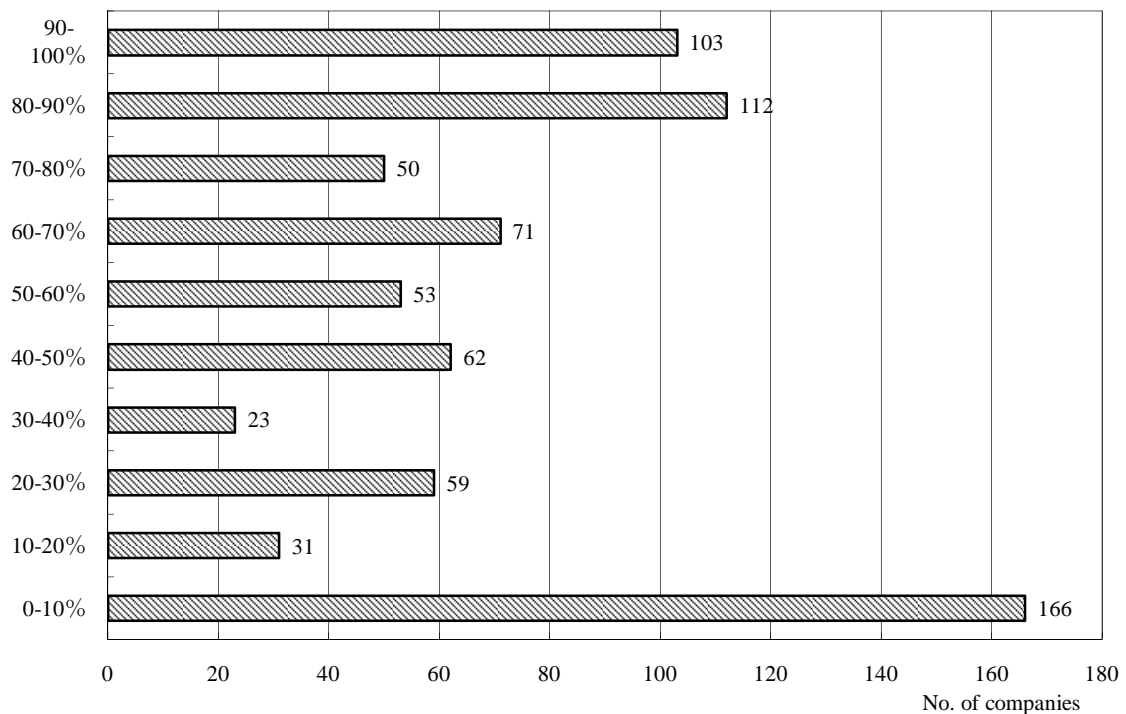


Figure 2. Proportion of outsider directors in 730 Russian joint-stock companies

The samples are the same as those in Table 1. "Outsider director" denotes a director who was not appointed from among the company managers, rank-and-file employees or representatives of a labor union. The proportion of outsider directors is measured by dividing the number of outsider directors by the total number of board members for each sample firm. The basic statistics of the proportion of outsider directors are as follows: mean: 48.87; standard deviation: 35.33; median 56; skewness: -0.11; kurtosis: 1.61.

Table 5. Definitions and descriptive statistics of variables used in the empirical analyses and correlation coefficients with the proportion of outsider directors

Definition (variable name)	Descriptive statistics					Correlation coefficients with the proportion of outsider directors (<i>OUTDIR</i>)
	Mean	S. D.	Median	Min.	Max.	
Bargaining variables						
Dummy for newly appointed top manager (<i>NEWCEO</i>)	0.39	0.49	0	0	1	0.216 ***
Large managerial shareholder dummy (<i>MANSHA</i>)	0.48	0.50	0	0	1	-0.521 ***
Ownership share of top manager (<i>OWNCEO</i>) (%)	6.41	13.41	0.04	0.00	97.12	-0.296 ***
Ownership share of management group (<i>OWNMAN</i>) (%)	15.93	21.94	4.22	0.00	100.00	-0.338 ***
Ownership share of corporate ownership and foreign investor (<i>OWNOUT</i>)	1.87	2.14	0	0	5	0.412 ***
Business group member dummy (<i>GROFIR</i>)	0.39	0.49	0	0	1	0.344 ***
Core business group member dummy (<i>GROCOR</i>)	0.05	0.23	0	0	1	0.013
Business group affiliation dummy (<i>GROAFF</i>)	0.34	0.47	0	0	1	0.354 ***
Other governance variables						
Dummy for firms with a top manager of retirement age (<i>CEOAGE</i>)	0.10	0.30	0	0	1	0.016
Open joint-stock company dummy (<i>OPECOM</i>)	0.68	0.47	1	0	1	0.021
Dummy for firms with upper limits on ownership shares (<i>LIMOWN</i>)	0.14	0.35	0	0	1	-0.126 ***
Dummy for firms with a collective executive organ (<i>COLEXE</i>)	0.34	0.47	0	0	1	0.079 **
Dummy for former state-owned or ex-municipal privatized companies (<i>PRICOM</i>)	0.69	0.46	1	0	1	-0.045
Dummy for firms separated from state-owned or privatized enterprises (<i>PIOFF</i>)	0.10	0.29	0	0	1	-0.001
Total number of employees (<i>COMSIZ</i>)	1884.44	5570.00	465	106	74000	0.207 ***

(continued)

(Table 5 continued)

Business-activity variables						
Number of business lines (<i>BUSLIN</i>)	2.15	2.05	1	1	12	0.165 ***
Dummy for the development of new products or services in 2001-04 (<i>NEWPRO</i>)	0.62	0.48	1	0	1	-0.038
Annual average gross profit rate on sales in 2001-04 (<i>PROAVE</i>)	4.86	19.43	0.00	-25.28	197.91	0.135 ***
Firms which used bank credits and their average lending period (<i>BANCRE</i>)	2.53	1.45	3	0	5	0.093 **
Share of exports in total sales (<i>EXPSHA</i>)	0.88	1.20	0	0	5	0.072 *

This table presents the definition, descriptive statistics, and data source of variables used in the empirical analyses and the correlation coefficients with the proportion of outsider directors measured by dividing the number of outsider directors by the total number of board members (*QUTDIR*). The samples are the same as those in Table 1. The SKRIN database was used for the ownership shares held by company managers (*OWNCEO*, and *OWNMAN*) and the numbers of business lines (*BUSLIN*). The SPARK database was used for the annual average gross profit rate on sales (*PROAVE*). All other variables were created on the basis of the results of the 2005 joint enterprise survey. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The following are the supplementary variable definition:

[Bargaining variables] *OWNOUT*: Excluding domestic individual shareholders. "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%. *MANSHA*: A dichotomous variable with a value of 1 if the company has a specific manager or a specific managerial group as its major shareholder. *GROFIR*: A dichotomous variable that assigns a value of 1 to member firms of a business group. *GROCOR*: A dichotomous variable that assigns a value of 1 to core business group firms. *GROAFF*: A dichotomous variable that assigns a value of 1 to business group affiliations. *NEWCEO*: "New top manager" denotes a top manager (CEO, company president, or general director) appointed during the period from 2001 to 2004.

[Other governance variables] *CEOAGE*: "Top manager of retirement age" denotes a top manager aged 61 or older as of the survey date. *OPECOM*: A dichotomous variable that equals 1 if the company was established as an open joint-stock company. *LIMOWN*: A dichotomous variable that assigns a value of 1 to firms that have an upper limit on ownership per shareholder in its articles of incorporation. *COLEXE*: A collective executive organ headed by a company president that functions as an internal executive organization to supervise daily management matters. The Law on JSCs prohibits 25% or more board membership from being represented by collective executive organ member.

[Business-activity variables] *BUSLIN*: A proxy for the level of business diversification measured by the OKONKh two-digit classification. *PROAVE*: Industry-adjusted using a method proposed by Eisenberg *et al.* (1998). *BANCRE*: "Firms which used bank credits and their average lending period" fall 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. *EXPSHA*: "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%.

Table 6. Correlations of the proportion of outsider directors with ownership share by company managers and outsider investors

Proportion of outsider directors (group no.)	Value of ownership variable			
	<i>MANSHA</i>	<i>OWNOUT</i>	<i>OWNCEO</i>	<i>OWNMAN</i>
0-10%(G1)	0.77	0.55	13.40	27.47
10-20%(G2)	0.83	1.10	9.82	22.47
20-30%(G3)	0.79	1.55	6.49	21.19
30-40%(G4)	0.57	2.32	15.97	28.25
40-50%(G5)	0.61	1.73	10.54	22.04
50-60%(G6)	0.54	2.09	7.81	19.23
60-70%(G7)	0.41	2.33	5.03	12.12
70-80%(G8)	0.35	2.51	3.32	13.71
80-90%(G9)	0.19	3.01	2.63	7.11
90-100%(G10)	0.07	2.74	1.35	8.04
Analysis of variance				
ANOVA (<i>F</i>)	31.100 ***	14.600 ***	5.770 ***	6.710 ***
Bartlett test (χ^2)	57.059 ***	43.304 ***	176.348 ***	40.028 ***
Kruskal-Wallis test (χ^2)	202.107 ***	109.462 ***	66.602 ***	83.852 ***
Scheffé multiple comparison test (χ^2)				
G1/G10	119.842 ***	62.927 ***	28.286 ***	40.939 ***
G1/G5	4.247	11.072	0.386	1.392
G6/G10	30.737 ***	3.780	12.488	7.792
G1/G6	8.202	16.988 **	0.840	6.689
G5/G10	44.088 ***	8.733	15.219 *	18.216 **
G5/G6	0.568	0.629	0.073	1.592
G4/G7	1.766	0.066	3.101	4.665
G3/G8	20.133 **	3.793	0.937	1.613
G2/G9	37.793 ***	15.295 *	22.187 ***	22.974 ***
Number of observations	705	612	457	458

This table presents results from the comparative analysis of ownership shares in Russian joint-stock companies divided into 10 groups in terms of the proportion of outsider directors. The samples are the same as those in Table 1. *MANSHA* is the large managerial shareholder dummy with a value of 1 if the company has a specific manager or a specific managerial group as its large shareholder. *OWNOUT* is the 6-point-scale ownership share of outsider shareholders. *OWNCEO* and *OWNMAN* are the percent of shares held by a top manager and management group, respectively. Table 5 provides more detailed variable definitions. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels,

Table 7. Industry-to-industry comparison of the proportion of outsider directors

	Proportion of outsider directors (<i>OUTDIR</i>)
Industrial sector	0.47
Fuel and energy	0.70
Metallurgy	0.53
Machine-building and metal working	0.49
Chemical and petrochemical	0.58
Wood, paper, and wood products	0.47
Light industry	0.36
Food industry	0.45
Construction materials	0.28
Communications sector	0.66
Comparison between the industrial and communications sectors	
<i>t</i> test on the equality of means	-4.125 ***
Wilcoxon rank sum test	-4.372 ***
Analysis of variance of the 9 industries	
ANOVA (<i>F</i>)	9.740 ***
Bartlett test (χ^2)	5.479
Kruskal-Wallis test (χ^2)	72.814 ***

This table presents results from an industry-to-industry comparative analysis of the proportion of outsider directors on a corporate board of 730 Russian joint-stock companies. The samples are the same as those in Table 1. The proportion of outsider directors is measured by dividing the number of outsider directors by the total number of board members for each sample firm. *** denotes statistical significance at the 1% level.

Table 8. Multivariate regression analysis of the impacts of governance and business-activity variables on board composition

Models	[1]	[2]	[3]	[4]	[5]
Intercept	-0.1824 (0.173)	-0.1540 (0.174)	-0.1310 (0.174)	0.1359 (0.201)	0.1886 (0.202)
Bargaining variables					
<i>NEWCEO</i> (+)	0.0597 (0.037)	0.0605 (0.037)	0.0552 (0.037)	0.0318 (0.040)	0.0553 (0.039)
<i>MANSHA</i> (-)	-0.3184 *** (0.039)	-0.3262 *** (0.040)	-0.3271 *** (0.039)		
<i>OWNCEO</i> (-)				-0.0054 *** (0.001)	
<i>OWNMAN</i> (-)					-0.0037 *** (0.001)
<i>OWNOUT</i> (+)	0.0424 *** (0.010)	0.0437 *** (0.010)	0.0434 *** (0.010)		
<i>GROFIR</i> (+)	0.1029 ** (0.042)	0.1101 *** (0.042)		0.1216 *** (0.045)	0.1096 ** (0.045)
<i>GROCOR</i> (-)			-0.0151 (0.090)		
<i>GROAFF</i> (+)			0.1284 *** (0.044)		
Other governance variables					
<i>CEOAGE</i> (-)	0.1083 * (0.060)	0.1090 * (0.060)	0.1030 * (0.060)	0.0006 (0.061)	0.0264 (0.060)
<i>OPECOM</i> (-)	0.0744 ** (0.038)	0.0759 ** (0.038)	0.0714 * (0.038)	0.0578 (0.041)	0.0589 (0.040)
<i>LIMOWN</i> (-)	-0.0997 * (0.057)	-0.1022 * (0.057)	-0.1055 * (0.057)	-0.1106 * (0.057)	-0.1156 ** (0.056)
<i>COLEXE</i> (+)	-0.0143 (0.040)	-0.0126 (0.040)	-0.0113 (0.040)	-0.0228 (0.043)	-0.0200 (0.043)
<i>PRICOM</i> (+)	-0.0538 (0.053)	-0.0597 (0.054)	-0.0629 (0.053)	-0.0809 (0.063)	-0.0993 (0.063)
<i>SPIOFF</i> (+)	-0.1001 (0.075)	-0.1050 (0.075)	-0.1130 (0.075)	-0.1849 ** (0.081)	-0.1881 ** (0.080)
<i>COMSIZ</i> (+)	0.0423 ** (0.021)	0.0416 ** (0.021)	0.0359 * (0.021)	0.0298 (0.022)	0.0226 (0.022)
Business-activity variables					
<i>BUSLIN</i> (+)	0.0114 (0.008)	0.0115 (0.008)	0.0130 (0.009)	0.0097 (0.008)	0.0087 (0.008)
<i>NEWPRO</i> (-)	-0.0840 ** (0.038)	-0.0860 ** (0.038)	-0.0848 ** (0.038)	-0.0583 (0.040)	-0.0507 (0.040)
<i>RROAVE</i> (-)	-0.0026 *** (0.001)	-0.0025 *** (0.001)	-0.0024 ** (0.001)	-0.0015 * (0.001)	-0.0016 * (0.001)
<i>BANCRE</i> (+)	0.0257 * (0.013)	0.0269 ** (0.013)	0.0283 ** (0.013)	0.0340 ** (0.015)	0.0292 ** (0.015)
<i>EXPSHA</i> (-)	-0.0606 (0.043)	-0.0612 (0.043)	-0.0608 (0.043)	-0.0542 (0.044)	-0.0629 (0.043)
<i>EXPSHA</i> ² (+)	0.0150 (0.010)	0.0150 (0.010)	0.0154 (0.010)	0.0158 (0.010)	0.0187 * (0.010)

(continued)

(Table 8 continued)

Board size and leadership structure					
<i>BOASIZ</i> (+)	0.1061 (0.067)	0.1031 (0.067)	0.1082 (0.067)	0.0429 (0.076)	0.0572 (0.075)
<i>OUTCHA</i> (+)	0.2205 *** (0.039)	0.1863 *** (0.047)	0.1798 *** (0.047)	0.2055 *** (0.048)	0.2028 *** (0.048)
Industry dummies	Yes	Yes	Yes	Yes	Yes
No. of observations	406	406	406	320	320
Wald test that all coefficients = 0 (χ^2)	279.81 ***	339.86 ***	343.96 ***	173.28 ***	176.51 ***

This table reports results from the regressions of board composition on the variables reflecting the bargaining power of company managers and their countervailing parties (bargaining variables), the variables capturing the other elements of firm organization (other governance variables), and the variables relating to business type, R&D/innovation activities, corporate financing, and financial performance (business-activity variables). The samples are the same as those in Table 1. We estimate models that take the proportion of outsider directors (*OUTDIR*) as the dependent variable by *NEWCEO* is a dummy variable, which takes 1 for the firms with a top manager appointed in or after 2001. *MANSHA* is the large managerial shareholder dummy with a value of 1 if the company has a specific manager or a specific managerial group as its major shareholder. *OWNCEO* and *OWNMAN* are the percent of shares held by a top manager and management group, respectively. *OWNOUT* is the 6-point-scale ownership share of outsider shareholders. *GROFIR* is a dummy variable of business group participation, and *GROCOR* and *GROAFF* are dummy variables which assign a value of 1 to core group firms and group affiliations, respectively. *CEOAGE* assigns a value of 1 to firms with a top manager of retirement age (61 or older). *OPECOM* is the open joint-stock company dummy. *LIMOWN* captures firms with upper limits on ownership shares. *COLEXE* takes 1 if a firm has a collective executive organ. *PRICOM* and *SPIOFF* are the dummy variables for former state-owned or ex-municipal privatized companies and firms separated from state-owned or privatized enterprises, respectively. *COMSIZ* is a proxy for company size measured by the total number of employees. The log of *COMSIZ* is used in regressions.

BUSLIN is the number of business lines as a proxy for business diversification. *NEWPRO* is the dummy variable for firms that developed new products or services in the period of 2001-04 as a proxy for the intensity of R&D/innovation activities. *PROAVE* denotes the average rate of gross profit on sales in 2001-04. *BANCRE* captures firms which used bank credits and expresses their average lending period by a 6-point scale. *EXPSHA* is the share of exports in total sales measured by a 6-point scale.

BOASIZ is the board size measured by the total number of board members. *OUTCHA* is the outsider chairman appointment dummy that equals 1 if a firm has an outsider board chairman. Table 5 provides more detailed variable definitions. We estimate Models 2-5, which endogenize the dependent variable and *OUTCHA*, using the Murphy-Topel variance-covariance estimator for the two-step model. *OUTCHA* is instrumented by all exogenous variables in the right-hand side and the 6-point-scale age level of board chairman as an additional instrument (*HAAGE*). Predicted signs are indicated in parentheses following the abbreviation of the independent variables. Standard errors are given in parentheses beneath the regression coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Appendix. Competence of board of directors stipulated by the Law on Joint-stock Companies

Major field of competence	Item of competence (applicable article)
Overseeing acquisitions, divestitures, establishment, reorganization and liquidation of company, branches and affiliates	Approval of report on acquisition of shares for capital decrease (Art. 12(3)), Amendment of articles after opening/closing branches and affiliates (Art. 12(5)), Proposal on merger-related matters to the general shareholders' meeting (Art. 16(2)), Proposal on relevant matters to the general shareholders' meeting when absorbing any other companies (Art. 17(2)), Proposal on new-division-related matters to the general shareholders' meeting (Art. 18(2)), Proposal on branch-related matters to the general shareholders' meeting (Art. 19(2)), Proposal to the general shareholders' meeting on matters related to reorganization into limited liability company or production cooperative (Art. 20(2)), Proposal to the general shareholders' meeting on matters related to liquidation and appointment of the liquidation committee (Art. 21(2)), Establishment of branches and affiliates (Art. 45 (1) Para. 14)
Overseeing major capital financing, expenditures and transactions	Amendment of articles following capital increase (Art. 12(2))* , Issue of convertible bonds (Art. 33(2))* , Determination of value of assets involved in investment in kind at new issue of shares (Art. 34(3)), Determination of public subscription price for shares (Art. 36(1)), Determination of public subscription price for securities (Art. 38(1)), Capital increase by issuing new shares (Art. 65 (1) Para. 5)* , Issue of bonds and other securities (Art. 65 (1) Para. 6)* , Determination of price for assets and purchase price for issued securities (Art. 65 (1) Para. 7), Acquisition of own shares, bonds and other securities by the company (Art. 65 (1) Para. 8)* , Recommendation to the general shareholders' meeting on dividend and way of allocation (Art. 65 (1) Para. 11), Utilization of reserve funds and other funds (Art. 65 (1) Para. 12), Approval of major transactions (Art. 65 (1) Para. 15)* , Approval of transactions with interested parties (Art. 65 (1) Para. 16)* , Approval of the roster administrator and conclusion/cancellation of contract with them (Art. 65 (1) Para. 17)
Preparing and organizing the general shareholders' meeting	Selection of items on the agenda of the general shareholders' meeting (Art. 53(5)), Convocation of the general shareholders' meeting (Art. 65(1) Para. 2), Approval of the agenda of the general shareholders' meeting (Art 65(1) Para. 3), Preparation for the general shareholders' meeting (Art. 65(1) Para. 4)
Nominating, compensating, monitoring and replacing corporate executives	Nomination of candidates for corporate organs (Art. 53(7)), Election of the executive organs and the early termination of their power (Art. 45 (1) Para. 9)* , Recommendation to the general shareholders' meeting on remuneration of the audit committee (auditors) members and the external auditor (Art. 45 (1) Para. 10), Election of the chairman of the board of directors (Art. 67(1)), Proposal to the general shareholders' meeting on external entrustment of authority of the single executive organ (Art. 69(1)), Signature of contract with executive officers (Art. 69(3)), Permission for executive officers to work for other companies concurrently (Art. 69(3)), Election of the extraordinary single executive organ and convocation of the extraordinary shareholders' meeting for election of the single executive organ (Art. 69(4)), Election of the extraordinary collective executive organ and convocation of the extraordinary shareholders' meeting for election of the collective executive organ (Art. 70(2))
Reviewing and guiding corporate strategy, major plans of action, business plans, annual reports, and other financial and internal documents	General leadership in corporate management except for exclusive competence of the general shareholders' meeting (Art. 64(1)), Determination of priority direction for corporate management (Art. 65 (1), Para. 1), Approval of internal documents (Art. 65 (1) Para. 13), Request for audit of financial and managerial activities (Art. 85(3))* , Prior approval of annual report (Art. 88(4))

This table lists and classifies the competences of the board of directors of a joint-stock company stipulated by the Law on Joint-stock Companies of the Russian Federation (Law on JSCs) effective during the period of the 2005 enterprise survey. The items of competence are not strictly and completely translated from the Law on JSCs. The symbols denote as follows: * - competence which may be delegated to the board of directors if the general shareholders' meeting resolves so, or the articles of incorporation specify so; and ** - matters under the competence of the general shareholders' meeting shared with the board of directors.