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Economic transition, firm organisation and internal control: determinants of audit structure in Russian firms

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Summary

With a unique dataset of joint-stock companies, this paper describes the corporate audit structure in Russia and empirically analyses its determinants. When compared to the international standard, Russian firms have a weak audit structure in terms of the independence and expertise of the board of auditors and the accounting auditor. We found that board composition, affiliation with a business group and presence of foreign investors are the most important factors determining the audit structure of Russian firms. The scope of the impact of these three factors, however, differed considerably. We also found that government ownership, company size, fund procurement activities and overseas advancement have significant effects on the corporate audit structure in Russia.

Keywords: audit structure, board composition, foreign investment, Russia

JEL Classification Number: G34, K22, L22, M42, P31, P34

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The working paper series has been produced to stimulate debate on the economic transformation of central and eastern Europe and the CIS. Views presented are those of the authors and not necessarily of the EBRD.

1. Introduction

In the achievement of sound company management, the role of auditing cannot be overemphasised. In fact, many preceding studies have repeatedly verified that the hiring of an internal audit organisation and an external accounting auditor, thus combining a high degree of independence and expertise, considerably contributes to an enhancement of management discipline and an increase in corporate value.¹ Moreover, the establishment of an adequate audit structure confers a benefit to not only the shareholders of the company but also other potential investors by improving the credibility of disclosed information on the business contents and financial performance and, consequently, contributes to the development of the entire stock and financial markets. In other words, the significance of the corporate audit structure includes even the national economic value.

If proper corporate auditing is very important in the United States and Europe, where highly developed capital markets exist, the significance of a good performing audit system is sure to increase even more from the viewpoint of ensuring the transparency of corporate management and the right of minority shareholders in countries where a security market is undeveloped and the concentration of property rights is noticeable (Méndez and García, 2007). Former socialist states, such as Russia and central and eastern European countries, are no exception. Despite this, studies on corporate audit in post-communist transition economies and, even more so, microeconomic empirical studies are primitive and obviously far behind those in developed economies. In fact, only a few cases are admitted in recent Chinese studies. As pointed out by Lin and Liu (2009), emerging markets with notably different political and economic circumstances from those of developed economies provide valuable research opportunities to redefine, from another perspective, the significance and role of the audit structure in corporate management. Moreover, studies on Russia and other transitional countries, in which the government regulations on corporate governance are relatively moderate in comparison to those in Western countries and, accordingly, firms are allowed to have a wide range of discretionary powers about their audit

¹ See survey articles by Fields et al. (2001) and Turley and Zaman (2004) for a thorough description of this area of study.

structures, are very useful for discovering the firm-level determinants of the audit structure.

Therefore, from the standpoint of a study on transition economies in central and eastern Europe, this paper makes a specific contribution to this body of research by revealing an accurate description of the corporate audit structure in Russia and empirically examining its determinants utilising a unique dataset of joint-stock companies based on a nationwide enterprise survey in 2005. Although some studies addressing the corporate audit in Russia already exist, to the best of our knowledge, this study is the first micro-level econometric analysis of this subject.

The results of our survey strongly suggest that, when compared to the international standard, Russian firms compose a questionable audit structure in terms of the independence and expertise of the board of auditors and the contract audit firm. Our empirical analysis confirms that board composition, affiliation with a business group through stock ownership, and the presence of foreign investors are the most important factors determining the independence and expertise of the audit structure. At the same time, however, it also became apparent that the scope of the impact of these three factors greatly differed. In addition, we also found that government ownership, company size, fund procurement activities and business internationalisation also have significant impacts on the audit structure of Russian firms.

The remainder of this paper is organised as follows. Section 2 describes the data employed for this study. Section 3 examines the legal framework and market environment of the corporate audit in Russia. Section 4 overviews the actual state of the audit structure in joint-stock companies. Section 5 presents the testable hypotheses regarding the determinants of the corporate audit structure in the context of a Russian transition economy, and Section 6 conducts empirical analysis. Section 7 summarises the major findings and concludes the paper.

2. Data

As the basis for the empirical analysis in this paper, we employ the results of an enterprise survey jointly conducted by the Institute of Economic Research, Hitotsubashi University (Tokyo), and the Institute for Industrial and Market Studies, State University – Higher School of Economics (Moscow). 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 Labour, 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. Of these, 94.8 per cent were company presidents, CEOs, general directors or vice presidents. The remaining respondents were board chairmen (1.6 per cent) or senior managers responsible for corporate governance affairs (3.6 per cent).

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 per cent of the total workforce in both the industrial and communications 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 privatisation policy in the early 1990s and their *de novo* private counterparts established in the transition period.

The survey results contain information on Russian companies concerning the number of persons comprising the board of auditors² as well as their basic attributes and enable detailed research of 2,438 auditors in total. In addition, the survey results also

² The Russian phrase for “board of auditors” is “revizionnaya komissiya.” Although Iwasaki (2007a) uses “audit committee”, which is a translation that respects the Russian phrase, as described in Section 3, this is positioned as an organisation closer to the board of auditors in the company with a board of auditors than the audit committee in the company with board committees. To avoid any misunderstanding, “board of auditors” is used here as an English equivalent.

comprise information on audit firms with which 771 surveyed companies have made a contract to implement an independent external audit of their own (hereinafter referred to as a contract audit firm).

In summary, the dataset of joint-stock companies derived from our enterprise survey provides desirable conditions for achieving the objective of this study.³

³ See Dolgopyatova and Iwasaki (2006) for more details about the survey.

3. Corporate audit in Russia

In Russia, the foundation of the legal framework for the corporate audit of joint-stock companies is formed by the Civil Code, the Federal Law on Joint-Stock Companies (Law on JSCs) and the Corporate Governance Code (CG Code).⁴ The Civil Code and the Law on JSCs do not make companies with board committees, such as established in the United States and many European countries, the norm for the management supervisory organisation. Rather, they adopt an institutional design in which a board of auditors, who are independent of the board of directors in function and personnel matters, is established under the general shareholders meeting (Civil Code, Art. 103 and Law on JSCs, Art. 85). In this sense, the Russian laws ordain an internal (voluntary) audit structure similar to the corporate audit system, which is widely prevalent in Japan and Italy. On the other hand, the CG Code promulgated by the Federal Commission for the Securities Market recommends establishing the audit committee along with the strategic planning committee, the human resources committee, the remuneration committee and the corporate conflicts resolution committee under the board of directors (Chapter 3, Section 4.7.1). However, there are quite a few companies where these subordinate committees are established under the board of directors in conformity with the CG Code, which has no legally binding force. Indeed, not one company among those we surveyed has a board committee.

Although in many countries the establishment of an internal audit organisation is decided by the will of shareholders and is a so-called matter of corporate autonomy in its articles of incorporation, all joint-stock companies in Russia are obliged to establish a board of auditors regardless of their form of incorporation, company size and public stock offering. The number of auditors composing the board of auditors is not regulated by law. The appointment of auditors is the exclusive right of the general shareholders meeting which cannot be delegated to the board of directors or executive organisation, and is an ordinary resolution matter (Law on JSCs, Art. 48(1), Para. 9).

⁴ These provisions refer to Part I, Chapter 4 (Art. 96 to 104) of the Civil Code of 30 November 1994, the Federal Law on Joint-Stock Companies of 26 December 1995 and the Resolution of the Federal Commission for the Securities Market dated 4 April 2002, regarding the recommendation of the adoption of the Corporate Governance Code. The description of this section reflects the contents of the laws and regulations that were in effect in Russia during the period of the joint enterprise survey underlying the empirical analysis.

The auditor's term of office is one year (more properly, the period from the date of appointment to the date of the next annual general shareholders meeting), and the auditors have to be re-elected every year at the regular general shareholders meeting (Law on JSCs, Art. 47(1)). Although there is no special provision concerning outsider auditors, the independence of the board of auditors in terms of personnel composition within the company is secured by prohibiting auditors from concurrently holding the position in the board of directors or other executive organs (Law on JSCs, Art. 85(6), first para.). Moreover, the Law on JSCs of Russia simultaneously prohibits, in the second paragraph of the above section and article, directors and other executive officers from exercising their voting rights when electing auditors, although it is very unusual throughout the world and, thus, institutionally reinforces the provision of the first paragraph.

A shareholder who possesses 2 per cent or more voting shares has the right to propose auditor candidates at a general shareholders meeting (Law on JSCs, Art. 53(1)). Meanwhile, when no shareholder proposes auditor candidates or the number of auditor candidates necessary for the resolution of the general shareholders meeting cannot be ensured, Art. 53(7) of the Law on JSCs allows the board of directors to propose auditor candidates selected at their discretion to a general shareholders meeting. To supplement the practical incompleteness concerning the operation of the general shareholders meeting, this section and article were newly included in the Law on JSCs when the law was substantially amended in August 2001. At the same time, it is interpreted that this amendment also means that the law expressly accepts the board of directors' use of direct influence on the selection of auditors (Shapkina, 2002).

Following developed countries, also in Russia, the external audit by accounting auditors and the internal audit by the board of auditors are regarded as the two wheels of a corporate audit. Instead, due to the shortage of talent and the poor on-site experience of auditors in Russia, shareholders and investors lay greater hope on the accounting and operating audit by expert certified public accountants and audit firms (Bulgakova, 2005; Iwasaki, 2007a). In accordance with the provisions of the Civil Code and Audit Activity Law,⁵ a legal external audit by an audit firm is mandated to

⁵ The Federal Law on Audit Activity of 7 August 2001.

an open joint-stock company⁶ whose stocks are freely transferable to third parties and who is able to have a public stock offering as well as to a company whose annual sales are half a million times or more than the official minimum wage or whose asset balance at the end of the term in the balance sheet is 200,000 times or more than this wage (Civil Code, Art. 103(5) and Audit Activity Law, Art. 7). Generally, the vast majority of medium- and large-scale enterprises in the industrial and communications sectors are in this category. The firms we surveyed were no exception.

The accounting auditor is approved (not “selected”) by the general shareholders meeting, and the compensation for its duty is decided by the board of directors (Law on JSCs, Art. 86(2)). Although the Law on JSCs does not clearly specify to whom the right of submitting a proposal for the selection of an accounting auditor to the general shareholders meeting belongs, it is obvious from the provision of Art. 86(2) of the Law on JSCs that the board of directors is delegated the right of pre-negotiation with nominee certified public accountants or audit firms for the sake of its company. Therefore, it is presumed that the board of directors has such power. In fact, in almost all cases that we investigated, the general shareholders meeting approved the accounting auditor based on a proposal of the board of directors. In this regard, the CG Code strongly recommends securing the independence of an accounting auditor from the executive officers, the board of directors and the shareholders to ensure the fairness of an external audit (Chapter 8, Section 4.1.1).

The above are the essential points of the legal framework concerning the audit structure of joint-stock companies. At the same time, the selection of an accounting auditor is greatly affected by the development and structure of the audit industry as the supply side. The Audit Activity Law was enacted as a comprehensive law to regulate the external audit in August 2001, and this took place after almost 10 years since the establishment of newly emerged Russia and more than five-and-a-half years since the enforcement of the Law on JSCs. Until then, the Temporary Rules on

⁶ According to the Civil Code and the Law on JSCs, an individual who intends to set up a joint-stock company in the territory of Russia must choose as a legal form of incorporation either an open joint-stock company or a closed joint-stock company in which a preferential acquisition right for the transferred stocks is granted to other shareholders and the company (Civil Code, Art. 97 and Law on JSCs, Art. 7). In terms of minimum capital, number of shareholders and information disclosure obligation, a certain difference is established between the two types of companies. For more details on this point, see Iwasaki (2007a, 2007b).

Auditing, which were promulgated as an appendix to a presidential decree, made up the only valid regulatory framework throughout Russia in relation to the official qualification and business activity of accountants and audit firms.⁷ Consequently, at about the same time that we conducted the joint enterprise survey in 2005, official documents, such as the federal audit activity standards conforming to the International Standards on Auditing (ISA) and the code of ethics for auditors, which supplement the Audit Activity Law, had finally been established, and the association of expert auditors, a civilian nonprofit organisation, started to assume the implementation of auditor examinations and the registration of certified public accountants and audit firms (Chikunova, 2003; Samsonova, 2007).

As explained above, the establishment of a legal system and organisations sustaining external audits was considerably delayed. This fact is closely associated with the historical development of expert auditors and audit firms. Interaudit, which was established in 1987 on the basis of the resolution of the Cabinet of Ministers of the USSR, was the first audit firm in modern Russian history and was a sort of national policy corporation solely engaged in the mandated audit of foreign joint venture companies (McGee and Preobragenskaya, 2005).⁸ Since then, amid ongoing drastic market-oriented economic reform and denationalisation of business activities triggered by the end of the socialist system, the needs of external audits have also expanded dramatically. As a consequence, in 2005, the number of certified public accountants and audit firms reached approximately 30,000 and 3,000, respectively. During this period, international audit firms entered Russia one after another after Ernst & Young's advance in 1989. By 2005, around 25 foreign audit firms opened branch offices or established subsidiaries in Russia (Bulgakova, 2005; Smirnov, 2005; Samsonova, 2009). In this way, the Russian audit industry was created in a shorter

⁷ This refers to the presidential decree "on the audit activity in Russia" of 22 December 1993. Before the promulgation of this presidential decree, the laws and presidential decrees on joint-stock companies, the banking business, insurance business, privatisation of state-owned enterprises, and others had regulated accounting audits in the individual fields subject to control on a patchwork basis (Bulgakova, 2005).

⁸ Before the Soviet government launched the substantial deregulation on foreign direct investment as one of the economic reconstruction plans, the accounting review conducted in that country was an inspection by the competent state superior agency. This "branch revision" was quite different from the external audits in Western countries (Mori, 2003). As the state ruled almost all economic relationships and owned practically every means of production, there was no need for an independent auditor to add reliability to the financial statements of socialist enterprises. In fact, the person responsible for accounting, who was appointed by the superior agency, was only concerned about maintaining the books of state-owned property (Sweetman et al., 1999).

period than that in Western countries, in which the policy response of the federal government and its regulatory agencies was not fast enough.

The presence of foreign-affiliated companies in the Russian audit market is prominent. Most of them are at the top of sales ranking of audit firms, from PricewaterhouseCoopers down (Iwasaki, 2007a). Reports indicate that these foreign audit firms are performing an enlightening and educational role in the industry. They have established a reputation for their work quality and independence from clients. In particular, the strategic advantage of hiring a leading international audit firm as an accounting auditor is widely acknowledged among Russian investors and management executives. Meanwhile, it is also a fact that the major clients of international audit firms are limited to the subsidiaries of multinational enterprises coming from developed countries and Russian big businesses (Sucher and Bychkova, 2001; Samsonova, 2009).

Among domestic audit firms, there are more than a dozen major firms that have head offices in Moscow and St Petersburg. They are engaged in fierce competition for customer acquisition with respect to one another or with the indigenous small and medium-sized audit firms. However, the market evaluations of domestic audit firms are generally low irrespective of the company size and business scale. Therefore, at least in the first half of 2005, when our survey was implemented, it is hard to say that these major domestic audit firms have established a good reputation and that they are evidently superior to the local-based small- and medium-sized audit firms in terms of expertise and independence from client companies (McGee and Preobragenskaya, 2005; Guttsait, 2007). The insufficiency of market selection and differentiation in the audit industry clearly reflect the short history of external auditing in Russia.

4. Overview of the audit structure in Russian firms

As described in the previous section, the legal framework and market environment surrounding the corporate audit in Russia are very different from those in advanced countries. With this point in mind, this section examines the actual state of the audit structure in Russian companies by using the results of the 2005 enterprise survey.

Of the 822 executives in the companies surveyed, 690 officers (83.9 per cent) gave detailed answers to our questions concerning the internal audit organisation of their companies in terms of the number of auditors and their basic attributes. As shown in Table 1, the board of auditors of a Russian joint-stock company is composed of an average number of 3.5 auditors (median: 3). Of 690 companies, only 36 (5.2 per cent of the total) have more than 5 auditors. An overwhelming majority of them, 561 companies (81.3 per cent), entrust its voluntary audit to 3 to 5 persons. According to the survey results of the preceding 22 studies on the composition of the internal audit organisation of 5,052 companies in 25 countries around the world (Table 2), these companies set up an internal audit organisation with 3 to 4 auditors on average, regardless of whether they are a company with board committees or one with a board of auditors. Accordingly, under the condition in which there is no legal regulation on the number of auditors to be appointed, Russian joint-stock companies organise a board of auditors that meets the international standards in terms of its personnel size.

Table 1: Descriptive statistics on the size of the board of auditors and the number of auditors by their attributes in 690 joint-stock companies

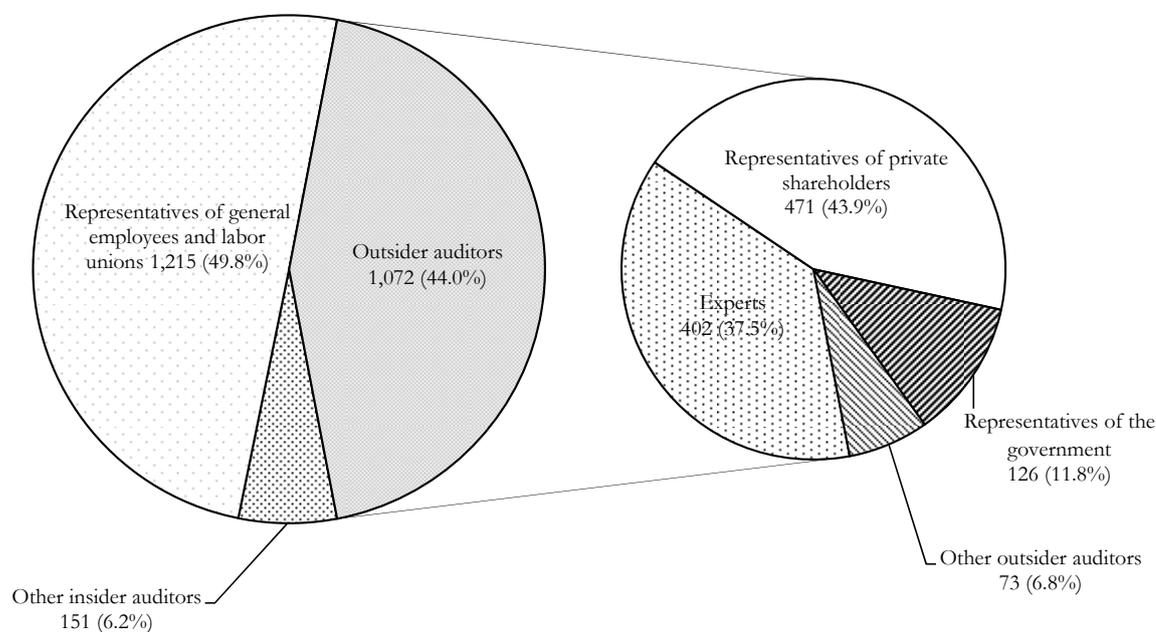
	Mean	S. D.	Median	Min.	Max.	25 percentile	75 percentile
Size of the board of auditors (total number of auditors)	3.53	2.14	3	1	40	3	4
Insider auditors	1.98	1.97	2	0	30	1	3
Auditors representing rank-and-file employees and labour unions	1.76	1.97	2	0	30	0	3
Other insider auditors	0.22	0.78	0	0	5	0	0
Outsider auditors	1.55	1.77	1	0	12	0	3
Auditors representing private shareholders	0.68	1.28	0	0	9	0	1
Expert auditors	0.58	1.18	0	0	10	0	1
Auditors representing the government	0.18	0.58	0	0	5	0	0
Other outsider auditors	0.11	0.56	0	0	7	0	0

This table contains descriptive statistics on the size of the board of auditors and the number of auditors by their attributes of 690 Russian joint-stock companies that participated in a 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.

Source: Enterprise survey results.

The above 690 companies have appointed a total of 2,438 auditors. In this paper, auditors selected from among rank-and-file employees, labour union members and management staff (excluding executive officers) who are prohibited from concurrently holding a position in the board of auditors, are defined as “insider auditors”, and those selected from individuals other than those reported above are defined as “outsider auditors”. Table 1 and Chart 1 report the breakdown of the 2,438 auditors classified according to six attributes as well as basic statistics of their attributes. As shown in Chart 1, insider auditors account for the majority of auditors (56.0 per cent). In addition, most of the insider auditors are selected from those who represent the interests of rank-and-file employees and the labour union. On the other hand, the most prominent group among outsider auditors is composed of representatives of private shareholders and accounts for 43.9 per cent of outsider auditors. The expert auditors selected from specialist occupations, including lawyers, accountants and other professionals, form the second group with a difference of 6.4 per cent. Auditors sent from the government account for only 5.1 per cent of all auditors and 11.8 per cent of outsider auditors. In sum, the board of auditors of an average joint-stock company in Russia is composed of 2.0 insider auditors and 1.6 outsider auditors. In addition, one out of every two companies invites an expert of non-affiliated parties to the board of auditors.

Chart 1: Classification of 2,438 auditors of 690 companies by their attributes



Note: The samples are Russian joint-stock companies that participated in the Japan-Russia joint enterprise survey conducted in 2005. "Insider director" denotes an auditor selected from among rank-and-file employees, labour union members and management staff, and "outsider director" denotes an auditor selected from among persons other than the above-mentioned ones defined as an outsider auditor.
Source: Enterprise survey results

From the above results, we can ascertain that, among the companies surveyed, the mean (median) of the proportion of outsider auditors and that of expert auditors to all auditors, which are typical indices measuring the independence and expertise of an internal audit organisation, are 42.8 per cent (33.0 per cent) and 16.7 per cent (0.0 per cent), respectively. According to the international comparison on the proportion of outsider auditors shown in Table 2, although the Law on JSCs prohibits auditors from concurrently holding the position of board member or other company executive and prohibits directors and other executive officers from exercising their voting rights when electing auditors, as described in the previous section, the board of auditors in Russian joint-stock companies is notably inferior not only to Western enterprises but also to Asian Pacific enterprises in terms of its independence. However, the matter does not end there. In fact, the remarkable structural feature seen in the board of

auditors of Russian joint-stock companies, as clearly presented in Chart 2, is the polarisation of its composition due to the proportion of outsider auditors. More specifically, 193 (28.0 per cent) out of 690 companies entrust almost all their auditors' positions to outside persons. On the other hand, 275 companies (39.9 per cent) organise their board of auditors with almost no outsider auditors. Consequently, its distribution is very far from the normal distribution (Shapiro-Wilk $W=0.992$, $z=3.127$, $p=0.001$). This polarisation phenomenon is also observed in the composition of the board of directors (Iwasaki, 2008) and is a distinctive feature of the Russian corporate governance not seen even in other former socialist economies.

Table 2: International comparison of the size of internal audit organisations and the proportion of outsider auditors

	Analysis period	Sample size	Size of internal audit organization (total number of auditors)			Proportion of outsider auditors (%)		
			Mean	S. D.	Median	Mean	S. D.	Median
North America								
U.S. listed firms ¹	1992-93	692				79.6		
U.S. major firms ²	1992-96	282	4.53			85		
U.S. listed firms ³	2000	167	4.48		4			
U.S. commercial banks ⁴	2000-01	989	4.31	1.47	4	88.0	16.8	100.0
Canadian non-financial firms ⁵	1993-97	66				86.6	16.2	100.0
Canadian major firms ⁶	1994	627	3.5	0.98	3	82.3	15.7	75.0
Canadian listed firms ^{7 a}	1997-2003	72	3.56		3	91.1		100.0
Europe								
Listed firms in 15 EU countries ⁸	2008	270				73		
U.K. non-financial listed firms ^{9 a}	2001-02	259	3.12	0.05	3	34.7	34.1	33.0
U.K. major firms ¹⁰	2006	71	4.11	2.75				
German listed firms ¹¹	2007	150	4.0					
Austrian listed firms ¹¹	2007	56	4.13					
Belgian listed firms ^{12 b}	2001-02	29	3.69			83		
Spanish non-financial listed firms ¹³	1998-2001	75	3.47	0.99	3	90	18	100
Spanish listed firms ^{14 b c}	2003	69				91		100
Swiss listed firms ^{15 a}	2004	167	3.3			67		
Russian joint-stock companies ¹⁶	2005	690	3.53	2.14	3	42.8	40.7	33.0
Asian-Pacific								
Japanese listed firms ¹⁷	2009	215	4.2			72.7		
Chinese IPO firms ¹⁸	2001-04	184	4.41	2.08	3			
Chinese Hong Kong listed firms ^{19 a}	2007	46	3.63	1.00	3	83.2	17.1	81.7
Singaporean and Malaysian listed firms ^{20 a}	2000	252				69.7	10.4	66.7
Australian listed firms ^{21 a}	1997	109	3.6	0.99	3	65.9	27.4	66.7
Australian firms ^{22 a}	2001	81	4.58	2.14		57.2	40.8	
New Zealand firms ^{22 a}	2001	28	4.61	1.50		62.7	39.0	
New Zealand listed firms ^{23 b}	2004-05	96	3.46	0.94	3	94.1	13.6	100

This table lists the size of internal audit organizations (i.e., audit committee and board of auditors) and the proportion of outsider auditors in North-American, European, and Asian-Pacific companies based on the following 23 studies: 1: Klein (2002b); 2: Xie et al. (2003); 3: Chan and Li (2008); 4: Zhou and Chen (2004); 5: Erickson et al. (2005); 6: Beasley and Salterio (2001); 7: Charitou et al. (2007); 8: RiskMetrics Group (2009); 9: Mangena and Tautangina (2007); 10: Adelojo and Jallow (2008); 11: Velte (2010); 12: Wilkens et al. (2004); 13: Ruiz-Barbadillo et al. (2003); 14: Méndez and García (2007); 15: Canepa and Ruigrok (2005); 16: this study; 17: Fujishima (2010); 18: Lin and Liu (2009); 19: Lin et al. (2009); 20: Bradbury et al. (2004); 21: Cotter and Silvester (2003); 22: Goodwin (2003); 23: Sharma et al. (2009).

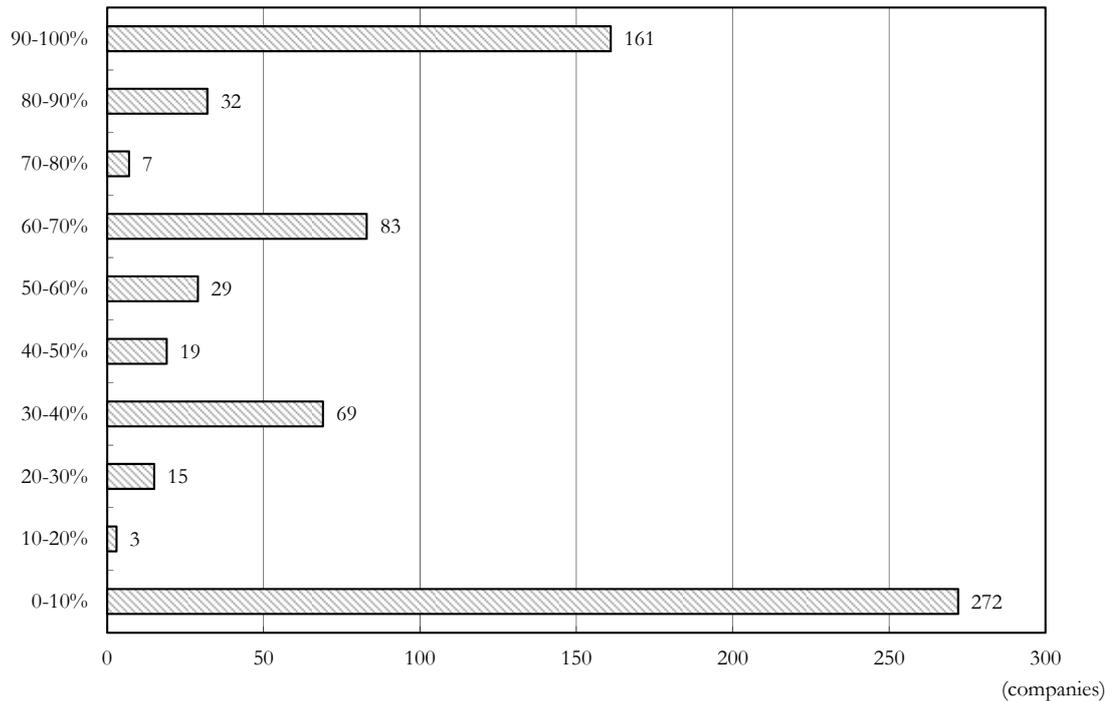
^a Proportion of independent auditors.

^b Proportion of non-executive officers.

^c The proportion of outsider auditors is calculated using the data of the proportion of executive officers.

Sources: Author's calculations based on various studies.

Chart 2: Proportion of outsider auditors in the board of auditors of 690 Russian joint-stock companies



Note: The samples are Russian joint-stock companies that participated in the Japan-Russia joint enterprise survey conducted in 2005. The proportion of outsider auditors is measured by dividing the number of outsider auditors by the total members of the board of auditors for each sample firm. The basic statistics of the proportion of outsider auditors are as follows: mean: 42.82; standard deviation: 40.70; median: 33; skewness: 0.25; kurtosis: 1.45.
Source: Enterprise survey results.

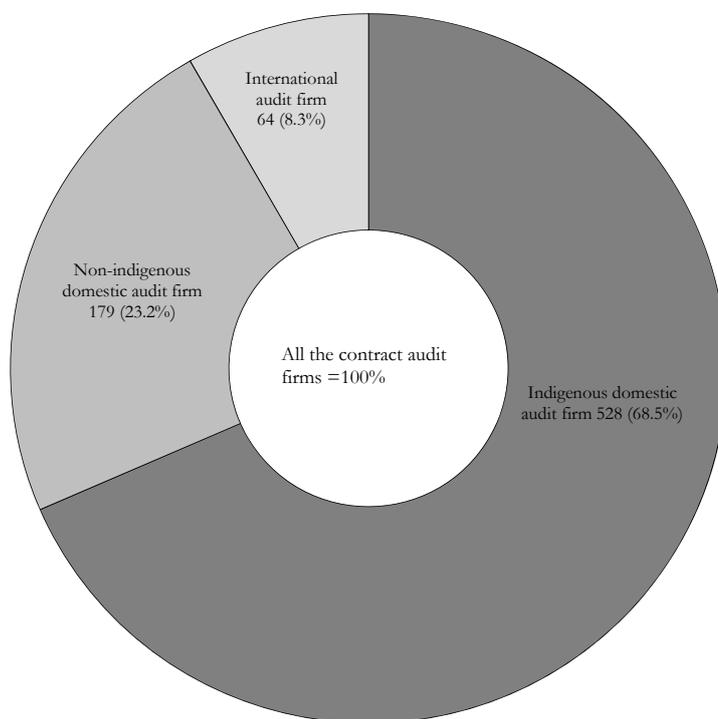
Our joint enterprise survey made an enquiry to respective companies about the attributes of contract audit firms. As described in the previous section, among nearly 3,000 audit firms operating in Russia, there is no question that the international audit firms pride themselves in having the highest reputation in terms of the quality of their auditing work and independence from clients. With regard to domestic audit firms, unlike researchers of such issues in developed countries, specialists have not reached a consensus, either currently or at the time of the survey, with regard to whether the selection of a major audit firm clearly reflects the will of the clients to seek a better external audit. What most Russian enterprises are seeking is not a thorough review of their financial statements from the audit firms but, rather, a measure for the taxing authorities that benefits their management executives and major owners (McGee and Preobragenskaya, 2005; Samsonova, 2007). An enterprise with such an objective tends to collude with an indigenous audit firm. In this respect, the domestic major audit firms are no exception.

With the above facts in mind, we asked the surveyed companies the following questions about their contract audit firm as the second-best way to objectively measure their needs for the quality and rigidity of internal audits: (1) Is it an international audit firm? (2) Is it a domestic audit firm with its head office separate from the company location? (3) Is it an indigenous domestic audit firm? In our opinion and in that of Russian experts, the action of a company boldly appointing an international audit firm or a non-indigenous domestic audit firm as its accounting auditor could, in many cases, be regarded as the expression of its management attitude of seeking a better external audit.⁹ Chart 3 shows the survey results. Out of 771 surveyed companies, 64, or 8.3 per cent of the total, appoint an international audit firm as their accounting auditor, and 179, or 23.2 per cent, enter into an external audit contract with a non-indigenous domestic audit firm. Thus, as expected, most of the surveyed companies choose an indigenous audit firm, even though such firms are reported to have a variety of problems when performing external audits.

Based on the above discussion, our empirical analysis uses the aforementioned proportions of outsider auditors (*AUDCOM*) and expert auditors (*AUDEXP*) to the total members of the board of auditors and an ordinal variable, which takes a value of 0 for companies entrusting their external audit to an indigenous domestic audit firm, 1 for those appointing a non-indigenous domestic audit firm as their accounting auditor, and 2 for those making an external audit contract with an international audit firm, as the contract audit firm attribute variable (*AUDFIR*). For brevity, these terms are hereinafter referred to as the “audit structure variables”

⁹ Although this is true for local companies, it is never applied to the companies operating in the capital and St Petersburg, where the major audit firms are concentrated. Accordingly, if a contract audit firm is a domestic one, a survey that asks whether such an audit firm is a non-indigenous firm removed from the client company, or an indigenous firm could underestimate the management attitude about the quality and independence of the external audit of companies in large cities. However, we believe that this will not decrease the persuasiveness of the empirical results of this study and will not substantially distort the implication, although this is a disadvantage of our analysis.

Chart 3: Classification of contract audit firms of 771 joint-stock companies by their attributes



Note: This figure classifies the audit firms that conclude an external audit contract with 771 Russian joint-stock companies that participated in a Japan-Russia joint enterprise survey conducted in 2005. "Indigenous domestic audit firm" denotes a Russian audit firm located in the same federal district of the surveyed company.
Source: Enterprise survey results.

According to the Hotelling's T^2 test, there is a statistically significant difference at the 1 per cent level in the mean vector of the audit structure variables between industrial enterprises and communications enterprises ($T^2=82.199$, $F=27.316$, $p=0.000$). Table 3 shows the results of a more detailed comparison among industries. In terms of the proportion of outsider auditors and the attributes of contract audit firms, communications enterprises are superior to industrial enterprises at the 1 per cent significance level. Meanwhile, no statistical difference in the proportion of expert auditors is confirmed between the two sectors. A multiple comparison of eight industrial sectors and the communications sector, again regarding the two variables of *AUDCOM* and *AUDFIR*, rejects the null hypothesis that the mean values of these nine sectors are equal at the 1 per cent significance level. This table also shows that, among industrial enterprises, those belonging to the fuel and energy sector and the metallurgy sector more positively appoint outsider auditors, on average, than enterprises in other sectors and more frequently nominate an audit firm with better

independence and expertise as their accounting auditor. On the other hand, enterprises belonging to light industry and construction materials sectors generally organise the most problematic audit structure from the viewpoint of ensuring a fair and rigid audit. These facts strongly suggest that it is necessary to pay attention to the differences among sectors when empirically examining the determinants of the corporate audit structure in Russia.

Table 3: Industry-to-industry comparison of audit structure

	Audit structure variables		
	Proportion of outsider auditors (<i>AUDCOM</i>)	Proportion of expert auditors (<i>AUDEXP</i>)	Contract auditing firm attributes (<i>AUDFIR</i>)
Industrial sector	0.404	0.162	0.337
Fuel and energy	0.707	0.264	0.710
Metallurgy	0.569	0.223	0.735
Machine-building and metal working	0.427	0.166	0.280
Chemical and petrochemical	0.441	0.258	0.290
Wood, paper, and wood products	0.419	0.222	0.356
Light industry	0.211	0.081	0.273
Food industry	0.325	0.119	0.296
Construction materials	0.277	0.095	0.153
Communications sector	0.726	0.230	1.078
N	690	690	771
Comparison between the industrial and communications sectors			
<i>t</i> test on the equality of means	-5.554 ***	-1.456	-9.406 ***
Wilcoxon rank sum test	-5.385 ***	-0.798	-7.436 ***
Multiple comparison among 9 industries			
ANOVA (<i>F</i>)	12.480 ***	2.770 ***	18.140 ***
Bartlett test (χ^2)	3.831	38.626 ***	62.954 ***
Kruskal-Wallis test (χ^2)	79.795 ***	12.259	67.303 ***

This table presents results from an industry-to-industry comparative analysis of the audit structure of Russian joint-stock companies that participated in a Japan-Russia joint enterprise survey conducted in 2005. The proportion of outsider (expert) auditors in the board of auditors, *AUDCOM* (*AUDEXP*), is measured by dividing the number of outsider (expert) auditors by the total member of the board of auditors for each sample firm, and it is the continuous variable taking values of $0.00 \leq x \leq 1.00$. The contract audit firm attribute, *AUDFIR*, is the ordinal variable that gives a value of 0 to a company hiring an indigenous domestic audit firm as its accounting auditor, 1 to a company hiring a non-indigenous domestic audit firm, and 2 to a company hiring an international audit firm. The result of the Welch test is reported instead of the *t* test when the null hypothesis in which the population variance is equal is rejected by an *F* test on homoscedasticity. *** denotes statistical significance at the 1% level.

Source: Enterprise survey results and author's calculations.

As the notable features of the audit structure in Russian joint-stock companies, the following four points have become apparent. First, Russian firms organise the internal audit structure conforming to international practice in terms of the personnel size.

Second, the independence of the board of auditors measured by the proportion of outsider auditors, however, falls well below the average of enterprises operating in foreign countries and, among Russian enterprises, remarkable polarisation takes place. Third, the appointment of an international audit firm as the accounting auditor is very limited in Russian practice, and most enterprises lean towards external audit contracts with an indigenous firm. Fourth, regarding the degree of independence and expertise in the audit structure, there is a significant difference between the industrial sector and the communications sector as well as among subgroups of the industrial sector.

5. Determinants of the corporate audit structure in Russia: hypothesis development

In this section, we present a hypothesis concerning the factors that cause Russian firms to organise an audit structure with the structural features revealed in the previous section. As the factors that could have a significant impact on the audit structure in a joint-stock company in the context of a Russian transition economy, we focus on the following: (a) the composition of the board of directors; (b) affiliation with a business group through stock ownership; and (c) the presence of foreign investors.

As reported in Section 3, in Russia, the board of directors has, by law and practice, the exclusive right of submitting a proposal for the approval of an accounting auditor to the general shareholders meeting. Although with some conditions, the board of directors is also able to select candidates at its sole discretion and recommend them as auditors. In other words, the board of directors is given the authority to play a highly active role in the organisation of the company's audit structure. The authority of the board of directors in this function is increasingly sharpened because the top manager (CEO or company president) and other executives in a company, who are forbidden from exercising their voting rights at the general shareholders meeting, will try to influence the decision making on the company's audit structure at the board of directors. Needless to say, outsider directors are also sure to act similarly to these executive officers. Since the vast majority of outsider directors are the representatives of private shareholders and the government (Iwasaki, 2008), the board of directors becomes a main battlefield for the bargaining game between company managers and major shareholders over the shape of its own audit structure (Ruiz-Barbadillo et al., 2007). Accordingly, the composition of the board of directors becomes the most important internal organisational factor that determines the audit structure.

There is a persuasive logic demanding an audit structure whereby the outsider auditors fulfil a stronger monitoring function in comparison with the insider directors. First, it is necessary to reduce the information asymmetry between the outsider directors and the executive officers in order to achieve effective management

supervision (Linck et al., 2008). The realisation of an audit structure with a high level of independence and expertise can become an effective means to achieve this objective through a functional synergy effect with the board of directors (Adams, 1997; Beasley and Petroni, 2001).

Second, the board of directors, whose important responsibilities are the evaluation and approval of management strategy, must accept as board members a certain number of employees who have specialised knowledge and in-house information. This is a sort of trade-off relationship between the independence and the expertise of the board of directors. By improving the real functions of the board of auditors and the accounting auditor, which more genuinely pursue management supervision, the outsider directors can achieve a balance between the necessity of management supervision and the demand for specialised knowledge and information for strategic decision making (Klein, 2002a).

Third, the outsider directors have a strong motive to attempt to maintain and improve their reputation as a stockholders' agent for their own career development. The revelation of false statements in annual securities reports and other corporate disclosure information and blunders, including the correction and restatement of financial statements, will lead to a reduction in confidence. In the worst-case scenario, it is possible that they will be exposed to a shareholders' lawsuit regarding negligence of their duties. To minimise this risk, the outsider directors aim at an audit structure that secures a rigid audit to the greatest possible extent (Cotter and Silvester, 2003; Ruiz-Barbadillo et al., 2007). From these arguments, we expect that the following causality will be established between the composition of the board of directors and the audit structure's independence and expertise:

H₁: The stronger the bargaining power of the outsider directors within the board of directors, the higher the independence and expertise required by the audit structure of the company.

One noteworthy feature of the Russian transition economy is the burgeoning business integration among domestic enterprises. In Russia, through stock acquisitions by commercial banks and major industrial enterprises, the crossholdings of stocks among

enterprises and the hostile takeovers by newly emerged financial cliques led by “oligarchs”, many business groups have been formed at both the federal and regional levels (Mizobata, 2004; Avdasheva, 2005). In fact, the result of our survey indicates that 323 (39.3 per cent) of the 822 surveyed companies are affiliated with a certain business group through shareholding. This is accompanied by difficult problems in theoretically forecasting the impact of the affiliation with business groups on the managerial discipline and corporate governance of group member companies. However, confining the discussion only to Russia, a series of previous studies has repeatedly verified the relatively good management performance and active restructuring activities of group companies relative to those of independent companies not belonging to any business group (Kuznetsov and Muravjev, 2000; Perotti and Gelfer, 2001; Guriev and Rachinsky, 2005). As an explanation of the background of this situation, there is a common understanding among researchers that relatively more sound corporate governance has materialised within the business group of Russia than within independent companies. In addition, from our survey results, evidence supporting this view has been obtained (Avdasheva, 2007; Dolgopyatova et al., 2009). In addition, a core group company has a strong motive to establish a unified and technologically sophisticated audit network among group companies to efficiently perform the accounting work of group companies subject to consolidated accounting. Thus, the following hypothesis can be raised about the relationship between the participation in a business group through stock ownership and the audit structure of the member company:

H₂: Affiliation with a business group improves the independence and expertise of the audit structure of the participating company.

Another factor to be noted in the context of a Russian transition economy is the role of foreign investors in corporate governance. Russia has entered a new millennium and its economy is booming as one of the major emerging markets. As a result, Russia has become a country that attracts considerable attention from overseas investors. However, the accumulated foreign direct investment per capita from 1989, when the communist bloc collapsed, to 2005 was only US\$ 459 , far short of that of the central and eastern European countries that became new EU members during this period (Iwasaki and Suganuma, 2009). Domestic enterprises are closed to foreign investors,

whose presence is still weak in the Russian business community. Furthermore, it is not easy for foreign investors to communicate with Russian management executives for several reasons. Consequently, many overseas investors recognise the serious information asymmetry with executive officers more than domestic investors do, and deeply fear the damage to the corporate value due to the opportunistic behaviour of company managers. Hence, it is natural that foreign stockholders ask their companies to supervise the management more thoroughly than domestic shareholders do. A strong demand for the preparation of financial statements conforming to the international accounting standards and the rigid auditing of them is a direct reflection of the above. In this respect, Sucher and Bychkova (2001) noted that, in Russia, foreign investors tend to force companies to have an external audit by a leading international audit firm. To sum up, the above arguments lead us to the following hypothesis about the impact of the presence of foreign investors on the audit structure of Russian companies:

H₃: The presence of foreign investors enhances the independence and expertise of the audit structure of the company they invested in.

The preceding studies have repeatedly confirmed the positive correlation between foreign ownership and the probability of hiring international audit firms (Citron and Manalis, 2001; Guedhami et al., 2009). It is likely that the empirical analysis of Russian firms in this paper will obtain a similar result.

As other potential factors affecting the audit structure in Russian firms, we also pay attention to the effect of the presence of a dominant shareholder, government ownership, the establishment of an open joint-stock company as a legal form of incorporation, the succession of state assets, company size, business diversification, fund procurement from the capital market, use of bank credits, past financial performances and business internationalisation.

In accordance with our findings concerning the relationship between the above factors and management supervision in Russian firms (Iwasaki, 2007b, 2008) as well as the arguments on the determinants of audit committee composition and auditor choice in the previously described study and other preceding literature (Abbott and Parker,

2000; Beasley and Salterio, 2001; Deli and Gillan, 2001; Fan and Wong, 2005; Hope et al., 2008), we expect that the establishment of an open joint-stock company mitigates the need for independence and expertise of the audit structure because the high transferability of stocks in an open as opposed to a closed company replaces the governance function by the statutory organs of the company. On the other hand, we predict that all seven factors – namely, company size, business diversification, business internationalisation, succession of state assets, fund procurement from the capital market, use of bank credits and past poor financial performance – are positively correlated with the independence and expertise of an audit structure. This is because the former three factors induce complexity in company management and agency problems and the latter four factors tend to raise the monitoring pressure on top management from the governments, general public, shareholders and external funds providers.

According to the agency theory, the existence of a dominant shareholder renders supervision by the statutory organs of the company less necessary because controlling shareholders have a sufficient incentive and capability to effectively monitor and discipline the top management of their companies (Rediker and Seth, 1995).

However, in the countries in which the corporate control market is underdeveloped or in the case in which the exit cost by selling stock is very significant for some reason, major shareholders possibly exert their bargaining power to enhance the monitoring function of company organisations to improve their ability to collect managerial information or strengthen their authority to dismiss management executives who fail to increase the corporate value (Whidbee, 1997; Hermalin and Weisbach, 1998). It is likely that the latter hypothesis is more appropriate in Russia, where social distrust of company managers is particularly strong. Thus, we expect the presence of dominant shareholders to be positively associated with the independence and expertise of the audit structure of the company in which they invested.

Wang et al. (2008) reported a close relationship between government ownership and the probability of hiring small indigenous audit firms in China. Guedhami et al. (2009) confirmed, from an empirical analysis of 176 privatised companies in 32 countries, a significantly negative correlation between government ownership and the probability of hiring the “Big Four” international audit firms. Meanwhile, according

to our empirical study, in which we examined the role of state representatives on a corporate board in corporate governance, the behavioural pattern of government directors is greatly different depending on whether they have been sent by the federal government or a local one. We found that the presence of board directors representing the federal government significantly improves the quality of corporate governance measured as the degree of compliance with the CG Code in the company to which such directors have been sent. At the same time, we cannot confirm that representatives of regional and local governments exert the same effect in their companies (Frye and Iwasaki, 2010). Based on this empirical evidence, we predict that shareholding by the regional and local governments relaxes the audit structure of the company and, in contrast, that by the federal government strengthens the independence and expertise of the audit structure.

In an empirical analysis, in addition to the factors already noted, we examine the impact of the size of the board of auditors on its independence and expertise. We also examine the effect of the client's demand for consulting services and the physical distance between the capital region and the location of the company on the audit firm choice. If it is reasonable to consider that increasing the number of auditors gains in the possibility of the appointment of outside persons or experts, the size of the board of auditors may positively correlate with its independence and expertise. The client's demand for consulting services may stimulate a contract with an excellent audit firm. On the other hand, as described in Section 3, international audit firms and major domestic audit firms are concentrated in the capital region, and their domestic branch networks were insufficient in the first half of 2005. Therefore, it is expensive, in terms of time and money, for a Russian company to entrust an external audit to a leading firm because of the vastness of Russia and the 10-hour difference from the westernmost to the easternmost region. Accordingly, the greater the distance between the capital region and a client company, the lesser the likelihood of hiring a non-indigenous audit firm. Table 4 summarises the theoretical arguments developed in this section.

6. Empirical analysis

In this section, we test the hypotheses regarding the independence and expertise of the corporate audit structure in Russia. First, we select the variables to be used in the empirical analysis and then report the results of our estimation. And finally, we check robustness of our estimation results.

6.1. Variable selection

The focal point of our empirical analysis is the effect of the composition of the board of directors, affiliation with a business group and presence of foreign investors on the audit structure. Corresponding to the discussion in the previous section, we estimate the impact of board composition by using the proportion of outsider directors to the total board members (*BOACOM*). The effects of the latter two factors are examined with dummy variables. Affiliation with a business group is represented by *GROFIR*, which takes a value of 1 for firms belonging to a certain business group through stock ownership. As for the presence of foreign investors, we utilise *FORFIR* with a value of 1 if the company accepts foreign investment. The impacts of the presence of a dominant shareholder, shareholding by the federal, regional and local governments, and the establishment of an open joint-stock company as a legal form of incorporation on the audit structure are examined using dummy variables which capture the company falling under the respective categories with 1 (*DOMSHA*, *FEDGOV*, *REGGOV*, *OPECOM*). The impact of the succession of state assets is captured by the dummy variables, which indicate whether the company is a former state-owned (ex-municipal) privatised company (*PRICOM*) or a newly established company spun off from a state-owned (municipal) company or a privatised company (*SPIOFF*). The company size is measured by the average annual number of employees (*COMSIZ*). The extent of business diversification is represented by the number of business lines of the company in accordance with the two-digit industrial classifications in the Russian All-Union Classifier of the National Economy Branches (*BUSLIN*).

Table 4: Theoretical predictions of the impacts on the independence and expertise of the corporate audit structure

	Predicted sign
Outsider directors' bargaining power within the board of directors	+
Affiliation with a business group	+
Presence of foreign investors	+
Presence of a dominant shareholder	+
Shareholding by the federal government	+
Shareholding by the regional and local governments	-
Establishment of an open joint-stock company as the corporate form	-
Succession of state assets	+
Company size	+
Business diversification	+
Fund procurement from the capital market	+
Use of bank credits	+
Poor financial performance	+
Business internationalization	+
Size of the board of auditors	+
Demand for consulting services	+
Physical distance between the capital region and the location of the company	-

This table summarizes the theoretical predictions of the impact of potential factors on audit structure in Russian firms on the basis of the discussion in Section 5 of the paper. The sign '+' denotes a positive correlation between a given factor and the independence and expertise of the audit structure, '-' for a negative correlation. The size of the board of auditors is regarded as a special factor concerning the independence and expertise of the board of auditors, and the demand for consulting services and the physical distance between the capital region and the location of the company are considered as special factors affecting the independence and expertise of the contract audit firm.

Source: Author's interpretation of the literature.

The impact of the fund procurement from the capital market and the use of bank credits on the audit structure is estimated by using a dummy variable that has a value of 1 if the company issued shares or bonds in the overseas or domestic stock exchange (*MARFIN*) and a variable for the length of the lending period of bank credits borrowed by surveyed firms during the period from 2001 to 2004 (*BANCRE*), respectively. We examine the impact of past financial performance using the industry-adjusted value of the annual average of return on equity for the past four years prior to the survey (*ROAAVE*).¹⁰ As a proxy for the degree of business internationalisation, we utilise the share of total exports in total sales (*EXPSHA*).

¹⁰ *ROAAVE* represents the distance from the median performance in each industry computed on the basis of a method proposed by Eisenberg et al. (1998).

The effect of the size of the board of auditors on its independence and expertise is examined by the total number of auditors (*AUDSIZ*). The impact of the demand for consulting services on audit firm choice is estimated using a dummy variable with a value of 1 for companies having a consulting service agreement with the contract audit firm (*CONSUL*). The impact of the physical distance between the capital region and the company location is estimated by the natural logarithm of the linear distance between Moscow and the capital of the federal district (autonomous republic, territory and province) where the surveyed company is located (*DISCAP*).

The probability of companies located in the capital or St Petersburg entrusting the external audit to a non-indigenous audit firm is inevitably low compared to that of companies operating in other areas for the reason presented in Section 4. To overcome this possible downward bias that the companies having their headquarters in these large cities affect the estimation result of the regression model with the variable of contract audit firm attributes (*AUDFIR*) as a dependent variable, the dummy variable that designates the companies located in the capital or St Petersburg with a value of 1 (*CAPITAL*) is added to the right-hand side of the regression equation together with *DISCAP*. As reported in Section 4, there is a remarkable difference among industrial sectors in terms of the audit structure. Although, for the most part, such a difference can be explained by the above variables, the impact of factors unobservable for econometricians remains. Hence, we control the fixed effects in each industry using eight dummy variables with the communications sector as a default category.

Table 5 contains the definition and descriptive statistics of the above selected variables along with the correlation coefficient with the audit structure variables.¹¹ As the table shows, *BOACOM*, *GROFIR* and *FORFIR* are positively associated with all three elements of the audit structure variables at the 1 per cent significance level, and they strongly support the theoretical hypothesis stated in the previous section. A similar result is evident from the correlation coefficient between the audit structure variables and *FEDGOV*, *COMSIZ*, *BUSLIN* and *MARFIN*. *DOMSHA*, *BANCRE*, *ROAAVE* and *EXPSHA* significantly correlate with some of the audit structure variables, in line with our expectations. Although *REGGOV*, *OPECOM* and *PRICOM*

¹¹ The mean of the absolute value (standard deviation) and the maximum value of the correlation coefficient of these independent variables are 0.084 (0.103) and 0.542, respectively. Every combination falls well below the threshold of 0.700 for possible multicollinearity.

are also significantly related to the audit structure variables, their signs do not correspond with the theoretical prediction. The remaining *SPIOFF* does not significantly correlate with any of the audit structure variables, as in the case of *AUDSIZ*, *CONSUL*, *DISCAP* and *CAPITAL*. The aim of the multivariate regression analysis is to confirm whether or not the relationship between the audit structure and its potential determinants can be replicated while simultaneously controlling the latter.

Table 5: Definition and descriptive statistics of the variables used in the empirical analysis and correlation coefficients with the audit structure variables

Definition of variable (variable name)	Descriptive statistics					Correlation coefficient with the audit structure variables		
	Mean	S. D.	Median	Min.	Max.	Proportion of outsider auditors (<i>AUDCOM</i>)	Proportion of expert auditors (<i>AUDEXP</i>)	Contract audit firm attributes (<i>AUDFIR</i>)
Proportion of outsider directors (<i>BOACOM</i>)	0.49	0.35	0.56	0.00	1.00	0.493 ***	0.176 ***	0.305 ***
Business group member dummy (<i>GROFIR</i>)	0.39	0.49	0	0	1	0.310 ***	0.183 ***	0.367 ***
Dummy for firms owned by foreign investors (<i>FORFIR</i>)	0.14	0.35	0	0	1	0.203 ***	0.118 ***	0.398 ***
Dummy for firms with a dominant shareholder (<i>DOMSHA</i>)	0.87	0.33	1	0	1	0.025	0.037	0.062 *
Dummy for firms owned by the federal government (<i>FEDGOV</i>)	0.13	0.34	0	1	0	0.094 **	0.075 *	0.175 ***
Dummy for firms owned by the regional and local governments (<i>REGGOV</i>)	0.09	0.28	0	1	0	0.093 **	0.022	0.063 *
Open joint-stock company dummy (<i>OPECOM</i>)	0.68	0.47	1	0	1	0.061	0.068 *	0.034
Dummy for former state-owned or ex-municipal privatized companies (<i>PRICOM</i>)	0.69	0.46	1	0	1	-0.118 ***	-0.056	-0.037
Dummy for firms separated from state-owned or privatized enterprises (<i>SPIOFF</i>)	0.10	0.29	0	0	1	0.037	-0.010	-0.043
Total number of employees (<i>COMSIZ</i>)	1884.44	5570.00	465	106	74000	0.187 ***	0.076 **	0.346 ***
Number of business lines (<i>BUSLIN</i>)	2.15	2.05	1	1	12	0.111 ***	0.080 **	0.101 ***
Dummy for firms that issued shares or bonds in the overseas or domestic stock exchange (<i>MARFIN</i>)	0.13	0.34	0	0	1	0.258 ***	0.088 **	0.461 ***
Firms that used bank credits and their average lending period (<i>BANCRE</i>)	2.53	1.45	3	0	5	0.037	0.033	0.121 ***
Annual average of ROA in 2001-2004 (<i>ROAAVE</i>)	0.12	0.90	0.00	-8.08	4.26	-0.087 **	-0.007	0.033
Share of exports in total sales (<i>EXPSHA</i>)	0.88	1.20	0	0	5	0.010	0.049	0.083 **
Size of the audit committee (<i>AUDSIZ</i>)	3.53	2.14	3	1	40	0.046	-0.020	-
Dummy for firms that conclude consulting agreement with audit firm adopted as accounting auditor (<i>CONSUL</i>)	0.73	0.44	1	0	1	-	-	-0.042
Linear distance between Moscow and the capital of the federal district where the company is located (<i>DISCAP</i>)	1091.17	1242.34	702.86	6773.13	0.00	-	-	0.005
Dummy for firms located in Moscow or Saint Petersburg (<i>CAPITAL</i>)	0.08	0.28	0	0	1	-	-	0.046

This table presents the definition, descriptive statistics, and data source of variables used in the empirical analyses and the correlation coefficients with the audit structure variables. See Table 3 for a definition of the audit structure variables. The samples are Russian joint-stock companies that participated in a Japan-Russia joint enterprise survey conducted in 2005. The number of business lines (*BUSLIN*) originates in the SKRIN open database. ROA (*ROAAVE*) originates in the SPARK open database. The linear distance between Moscow and the capital of the federal district where the company is located (*DISCAP*) is computed using the materials provided by Kazuhiro Kumo. All other variables were created on the basis of the results of the 2005 joint enterprise survey. The natural logarithm of *COMSIZ*, *AUDSIZ*, and *DISCAP* is used in the regression analysis. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. The following are the supplementary variable definitions: *BOACOM*, a continuous variable measured by dividing the number of outsider directors by the total number of board members; *GROFIR*, a dichotomous variable that assigns a value of 1 to member firms of a business group; *OPECOM*, a dichotomous variable that equals 1 if the company was established as an open joint-stock company; *BUSLIN*, a proxy for the level of business diversification measured by the Russian All-Union Classifier of the National Economy Branches (OKONKb) two-digit classification; *BANCRE*, "firms that 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; *ROAAVE*, industry-adjusted using a method proposed by Eisenberg et al. (1998); *EXPSHA*, "share of exports in total sales" falls under one of the following 6 categories: 0, 0% or less; 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%; *AUDSIZ*: total members of the board of auditors; *DISCAP*, the unit is kilometers.

Sources: Enterprise survey results, SKRIN database, SPARK database, author's calculations.

6.2. Estimation results

Our empirical analysis is carried out by taking the following four steps. In the first three subsections, we scrutinize the factors affecting the independence of the board of auditors, the expertise of the board of auditors and the audit firm choice, respectively.

Then, in the fourth subsection, we examine the determinants of the comprehensive choice of an audit structure.

Independence of the board of auditors

Table 6 contains the estimation results concerning the independence of the board of auditors. The table reports the Tobit estimation¹² with *AUDCOM* as a dependent variable and, in order to check the statistical robustness of each independent variable, the estimation results of the Logit model with dependent variables, such as the dummy variable that specifies a company whose outsider auditors account for the majority of the board of auditors (*INDAUD*) and the dummy variable that assigns a value of 1 to a company whose auditors are perfectly outside persons (*PERIND*). To compute standard errors, we use White's heteroskedasticity-consistent estimator.

As shown in Table 6, *BOACOM* is positively estimated at the 1 per cent significant level in any of these three models, and it verifies that the outsider directors' bargaining power against insiders is a crucial factor that promotes independence of the board of auditors. This result is entirely consistent with the finding stated in Section 4, that is, that both the proportion of outsider directors and that of outsider auditors show a noticeable polarisation trend. *GROFIR* is estimated to be positive and significant at the 10 per cent level in Model [1]. Meanwhile, *FORFIR* does not reach the 10 per cent significance level even though its coefficient is positive.

The estimation result of *MARFIN* and *BANCRE* indicates that the fund procurement from the capital market and banks greatly affects the independence of the board of auditors. Contrary to our prediction, *PRICOM* is estimated to be negative and significant at the 5 per cent level in Model [1]. This result suggests that, in general, the former state-owned (ex-municipal) privatised enterprises possibly have not fulfilled sufficient accountability, in the form of the fairness of an internal voluntary audit, to the state and general public even though they are the successor of state assets that were declared as the "common property of the working class" under socialism.

¹² The Tobit model, reported in Tables 6 and 7, is the estimation result of the log likelihood function whose dependent variable has the lower limit (0) and the upper limit (1) as the threshold.

Table 6: Regression analysis of the independence of the board of auditors

Model	[1]	[2]	[3]
Estimator	Tobit	Logit	Logit
Dependent variable	<i>AUDCOM</i>	<i>INDAUD</i>	<i>PERIND</i>
Bargaining power of outsider directors (<i>BOACOM</i>) (+)	1.1636 ^{***} (0.151)	3.4454 ^{***} (0.464)	3.3427 ^{***} (0.588)
Affiliation with a business group (<i>GROFIR</i>) (+)	0.1909 [*] (0.099)	0.4369 (0.296)	0.4491 (0.355)
Presence of foreign investors (<i>FORFIR</i>) (+)	0.0116 (0.140)	0.1056 (0.437)	0.1293 (0.456)
Presence of a dominant shareholder (<i>DOMSHA</i>) (+)	0.0573 (0.117)	-0.1171 (0.394)	0.1641 (0.417)
Shareholding by the federal government (<i>FEDGOV</i>) (+)	-0.0214 (0.108)	-0.3184 (0.407)	-0.4911 (0.473)
Shareholding by the regional and local governments (<i>REGGOV</i>) (-)	0.0552 (0.113)	0.3916 (0.487)	-0.9053 (0.605)
Establishment of an open joint-stock company (<i>OPECOM</i>) (-)	0.0361 (0.083)	0.1360 (0.274)	0.1823 (0.332)
Privatization of a state-owned or municipal enterprise (<i>PRICOM</i>) (+)	-0.3362 ^{**} (0.135)	-0.6449 (0.415)	-0.5045 (0.442)
Separation from a state-owned or privatized enterprise (<i>SPIOFF</i>) (+)	-0.1837 (0.168)	-0.3031 (0.528)	-0.2996 (0.577)
Company size (<i>COMSIZ</i>) (+)	-0.0198 (0.044)	-0.0446 (0.160)	0.0597 (0.176)
Extent of business diversification (<i>BUSLIN</i>) (+)	0.0158 (0.018)	-0.0649 (0.063)	0.0432 (0.075)
Fund procurement from the capital market (<i>MARFIN</i>) (+)	0.3735 ^{**} (0.151)	2.1393 ^{***} (0.614)	0.2709 (0.589)
Use of bank credits (<i>BANCRE</i>) (+)	0.0201 (0.032)	0.2387 ^{**} (0.107)	0.0399 (0.128)
Past financial performance (<i>ROAAVE</i>) (-)	-0.0335 (0.049)	-0.0328 (0.137)	-0.2195 (0.180)
Degree of business internationalization (<i>EXPSHA</i>) (+)	0.0437 (0.041)	0.0242 (0.120)	0.1478 (0.150)
Size of the audit committee (<i>AUDSIZ</i>) (+)	-0.2398 (0.156)	-0.5035 (0.501)	-2.6752 ^{***} (0.686)
<i>Const.</i>	0.3144 (0.400)	0.4544 (1.303)	0.4099 (1.470)
Industry dummies	Yes	Yes	Yes
N	424	424	424
Pseudo R ²	0.20	0.31	0.27
Log likelihood	-354.12	-194.32	-153.03
<i>F</i> test/Wald test (χ^2)	6.27 ^{***}	125.09 ^{***}	85.04 ^{***}

This table contains the results from the regressions of the independence of the board of auditors on the variables reflecting firm organization and business activities. The samples are Russian joint-stock companies that participated in a Japan-Russia joint enterprise survey conducted in 2005. The proportion of outsider auditors (*AUDCOM*), the dummy variable for firms whose outsider auditors account for the majority of the board of auditors (*INDAUD*), and the dummy variable that gives a value of 1 to a company whose auditors are all outside persons (*PERIND*) are used as dependent variables. Table 5 provides the definitions of the independent variables. The predicted signs are indicated in parentheses following the abbreviation of the independent variables. Standard errors are computed using White's heteroskedasticity-consistent estimator and given in parentheses beneath the regression coefficients. The *F* test and Wald test test the null hypothesis in which all coefficients are zero. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Source: Author's calculations

Expertise of the board of editors

Table 7 contains the results from the regression analysis of the expertise of the board of auditors. Here, in addition to the estimation of the Tobit model taking *AUDEXP* as a dependent variable¹³, we estimated the Poisson model and the Logit model, which has a total number of expert auditors (*NUMEXP*), and the dummy variable for companies that hire one or more expert auditors (*EXPAPP*) in the left-hand side of their estimation equation, respectively. As shown in the table, the composition of the board of directors has a positive and significant impact not only on the board of auditors' independence but also on its expertise. *GROFIR* is estimated with a positive sign at a significance level not less than *BOACOM*, suggesting that experts are more actively appointed by business groups than independent enterprises in order to conduct a professional internal audit for affiliated companies. *FORFIR* is estimated to be significant and positive in Model [2]. This result is affirmed to have a certain positive effect on the appointment of expert auditors from the presence of foreign investors as well.

The positive and significant estimate of *FEDGOV*, in contrast with the insignificant estimate of *REGGOV*, strongly suggests a more active role of the federal government in corporate governance of state-owned enterprises than those of regional and local governments. Furthermore, the negative and significant estimate of *PRICOM* exposes the unfavourable attitude of former-socialist enterprises towards the establishment of an internal audit organisation equipped with outside experts. A similar trend is evident in the newly established companies spun off from state-owned (municipal) companies or privatised companies. *COMSIZ* is negatively estimated in all models with a statistical significance at the 10 per cent level or below. This result suggests that, in Russia, contrary to conventional understanding, the larger the organisation of a company, the greater the negative attitude toward the use of experts as auditors. *EXPSHA* is estimated to be significant and positive in Models [1] and [2], in line with our expectations, suggesting that overseas business development is a factor urging Russian companies to improve the expertise of internal auditing, which has to address international standardisation of finance and accounting.

¹³ Like *AUDCOM*, *AUDEXP* is also far from the normal distribution (Shapiro-Wilk $W=0.935$, $z=8.241$, $p=0.000$).

Table 7: Regression analysis of the expertise of the board of auditors

Model	[1]	[2]	[3]
Estimator	Tobit	Poisson	Logit
Dependent variable	<i>AUDEXP</i>	<i>NUMEXP</i>	<i>EXPAPP</i>
Bargaining power of outsider directors (<i>BOACOM</i>) (+)	0.6948 ** (0.313)	1.0600 *** (0.364)	0.8150 * (0.423)
Affiliation with a business group (<i>GROFIR</i>) (+)	0.4683 ** (0.212)	0.5023 ** (0.241)	0.7221 ** (0.295)
Presence of foreign investors (<i>FORFIR</i>) (+)	0.4490 (0.290)	0.4423 * (0.269)	0.4954 (0.369)
Presence of a dominant shareholder (<i>DOMSHA</i>) (+)	0.4361 (0.285)	0.5079 (0.371)	0.5963 (0.439)
Shareholding by the federal government (<i>FEDGOV</i>) (+)	0.4546 * (0.251)	0.4616 * (0.249)	0.7271 * (0.384)
Shareholding by the regional and local governments (<i>REGGOV</i>) (-)	-0.3372 (0.303)	-0.4997 (0.376)	-0.3829 (0.499)
Establishment of an open joint-stock company (<i>OPECOM</i>) (-)	0.0477 (0.188)	0.1582 (0.219)	-0.0517 (0.278)
Privatization of a state-owned or municipal enterprise (<i>PRICOM</i>) (+)	-0.4806 * (0.257)	-0.5571 ** (0.249)	-0.6946 * (0.363)
Separation from a state-owned or privatized enterprise (<i>SPIOFF</i>) (+)	-0.5719 (0.355)	-0.9411 ** (0.412)	-0.7014 (0.523)
Company size (<i>COMSIZ</i>) (+)	-0.2123 ** (0.102)	-0.1708 * (0.104)	-0.2896 * (0.152)
Extent of business diversification (<i>BUSLIN</i>) (+)	0.0328 (0.043)	0.0536 (0.046)	0.0404 (0.063)
Fund procurement from the capital market (<i>MARFIN</i>) (+)	0.1505 (0.357)	-0.0146 (0.352)	0.2600 (0.523)
Use of bank credits (<i>BANCRES</i>) (+)	0.0511 (0.067)	0.0452 (0.080)	0.0122 (0.100)
Past financial performance (<i>ROAAVE</i>) (-)	-0.0809 (0.085)	-0.0670 (0.107)	-0.1486 (0.138)
Degree of business internationalization (<i>EXPSHA</i>) (+)	0.1663 * (0.091)	0.2062 ** (0.089)	0.1639 (0.134)
Size of the audit committee (<i>AUDSIZ</i>) (+)	-0.1570 (0.329)	1.3182 *** (0.243)	0.3157 (0.478)
<i>Const.</i>	-0.9331 (0.950)	-3.5816 *** (1.059)	-2.0715 (1.393)
Industry dummy	Yes	Yes	Yes
N	424	424	424
Pseudo R ²	0.09	0.18	0.10
Log likelihood	-260.00	-372.35	-203.60
<i>F</i> test/Wald test (χ^2)	1.64 **	129.49 ***	43.93 ***

This table contains the results from the regressions of the expertise of the board of auditors on the variables reflecting firm organization and business activities. The samples are Russian joint-stock companies that participated in a Japan-Russia joint enterprise survey conducted in 2005. The proportion of expert auditors (*AUDCOM*), the total number of expert auditors (*NUMEXP*), and the dummy variable that assigns a value of 1 to a company that appoints more than one expert auditor from outside (*EXPAPP*) are used as dependent variables. Table 5 provides the definitions of the independent variables. The predicted signs are indicated in parentheses following the abbreviation of the independent variables. Standard errors are computed using White's heteroskedasticity-consistent estimator and given in parentheses beneath the regression coefficients. The *F* test and Wald test test the null hypothesis in which all coefficients are zero. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Source: Author's calculations

Audit firm choice

The estimation results regarding the determinants of an audit firm choice are presented in Table 8. Here, in addition to the order Logit estimation with *AUDFIR* as a dependent variable, we report the estimation result of the Logit model taking *NONLOC*, a dummy variable for companies not using an indigenous domestic audit firm, and *INTAUD*, a dummy variable which is equal to 1 if a company chose an accounting auditor from among international firms, as dependent variables.¹⁴

From the estimation results in Table 8, we confirm that the presence of outsiders on a corporate board strongly influences their company's decision making when appointing an audit firm for an external audit. The estimate of *BOACOM* demonstrates that, along with an increase in the proportion of outsider directors to all board members, the probability of hiring an audit firm with more preferable attributes as an accounting auditor significantly increases. Although affiliation with a business group produces the same effects as the board composition, this factor is not significantly related to the probability of hiring international audit firms. In contrast to *GROFIR*, *FORFIR* is estimated at the 1 per cent significance level with a positive sign in Model [3]. This evidence empirically supports a finding by Sucher and Bychkova (2001), namely, that foreign investors venturing into Russia have a strong tendency to press the company in which they have invested to perform an external audit by a leading international audit firm.

According to the estimation results of *COMSIZ* and *MARFIN*, a company that has a large-scale organisation and procures funds from the capital market by issuing shares or bonds has a high probability of entrusting its external auditing to a non-indigenous domestic audit firm. Further, *DISCAP* has a negative and significant coefficient at the 5 per cent level in Models [1] and [2]. This result suggests that the cost and time burden represented by the physical distance from the capital is a serious factor that inhibits the appointment of non-local auditors by Russian companies.

¹⁴ Model [3] uses observations limited to companies hiring a non-indigenous domestic audit firm. Heckman's two-step selection model with *NONLOC* as a dependent variable at the first estimation step also showed an estimation result that differs little from Model [3].

Table 8: Regression analysis of audit firm choice

Model	[1]	[2]	[3]
Estimator	Ordered Logit	Logit	Logit
Dependent variable	<i>AUDFIR</i>	<i>NONLOC</i>	<i>INTAUD</i>
Bargaining power of outsider directors (<i>BOACOM</i>) (+)	1.0034 *** (0.369)	1.1828 *** (0.392)	1.8355 * (1.022)
Affiliation with a business group (<i>GROFIR</i>) (+)	0.7265 *** (0.272)	0.7911 *** (0.265)	0.8250 (0.877)
Presence of foreign investors (<i>FORFIR</i>) (+)	0.6939 * (0.371)	0.3347 (0.392)	1.9108 *** (0.711)
Presence of a dominant shareholder (<i>DOMSHA</i>) (+)	0.4956 (0.403)	0.4121 (0.419)	0.4774 (1.067)
Shareholding by the federal government (<i>FEDGOV</i>) (+)	-0.0625 (0.374)	0.0620 (0.408)	0.1417 (0.765)
Shareholding by the regional and local governments (<i>REGGOV</i>) (-)	-0.1621 (0.390)	0.0595 (0.450)	-1.4360 ** (0.669)
Establishment of an open joint-stock company (<i>OPECOM</i>) (-)	-0.0632 (0.262)	-0.0452 (0.276)	0.5409 (0.615)
Privatization of a state-owned or municipal enterprise (<i>PRICOM</i>) (+)	-0.3134 (0.335)	-0.3734 (0.353)	-0.3651 (0.670)
Separation from a state-owned or privatized enterprise (<i>SPIOFF</i>) (+)	0.5506 (0.427)	0.7427 (0.467)	-1.4480 (0.939)
Company size (<i>COMSIZ</i>) (+)	0.4849 *** (0.138)	0.5529 *** (0.153)	0.2754 (0.219)
Extent of business diversification (<i>BUSLIN</i>) (+)	-0.0795 (0.069)	-0.1021 (0.071)	0.1785 (0.191)
Fund procurement from the capital market (<i>MARFIN</i>) (+)	1.1819 ** (0.541)	0.9423 ** (0.450)	2.0053 ** (0.960)
Use of bank credits (<i>BANCRE</i>) (+)	0.0487 (0.103)	0.0122 (0.101)	0.0090 (0.370)
Past financial performance (<i>ROAAVE</i>) (-)	0.1760 (0.162)	0.1463 (0.153)	0.0438 (0.338)
Degree of business internationalization (<i>EXPSHA</i>) (+)	0.0962 (0.121)	0.0651 (0.131)	0.1571 (0.349)
Demand for consulting services (<i>CONSUL</i>) (+)	-0.1597 (0.272)	-0.2085 (0.283)	-0.2929 (0.564)
Distance from the capital region (<i>DISCAP</i>) (-)	-0.2147 ** (0.104)	-0.2067 ** (0.104)	-0.3793 (0.272)
Location in Moscow or Saint Petersburg (<i>CAPITAL</i>) (-)	-0.5485 (0.697)	-1.0687 * (0.635)	2.8051 * (1.462)
<i>Const.</i>	-2.3762 *** (0.916)	-2.9934 ** (1.297)	-1.9280 (2.544)
Industry dummy	Yes	Yes	Yes
N	438	438	132
Pseudo R ²	0.25	0.26	0.43
Log likelihood	-260.73	-198.98	-44.47
Wald test (χ^2)	136.05 ***	89.12 ***	42.35 **

This table contains the results from the regressions of audit firm choice on the variables reflecting firm organization and business activities. The samples are Russian joint-stock companies that participated in a Japan-Russia joint enterprise survey conducted in 2005. The ordinal variable that gives a value of 0 to a company adopting an indigenous domestic audit firm as its accounting auditor, 1 to a company adopting a non-indigenous domestic audit firm, and 2 to a company adopting an international audit firm (*AUDFIR*), the dummy variable that captures companies not adopting an indigenous domestic audit firm (*NONLOC*), and the dummy variables for firms that made choice of the company's accounting auditor from international firms (*INTAUD*) are used as dependent variables. Table 5 provides the definitions of the independent variables. The predicted signs are indicated in parentheses following the abbreviation of the independent variables. Standard errors are computed using White's heteroskedasticity-consistent estimator and given in parentheses beneath the regression coefficients. The *F* test and Wald test test the null hypothesis in which all coefficients are zero. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Source: Author's calculations

Comprehensive choice of audit structure

Since the board of auditors and the accounting auditor institutionally complement one another, a person with appointive power must have a deep interest in the combination of the two organisations, in other words, the overall shape of the audit structure. The significance of this strategic choice is not inferior to the individual attribute and capability of the members of the board of auditors and the audit firm.

In Chart 4, the audit structures of 660 surveyed companies are sorted into four types with reference to the outsider auditor proportion of 50 per cent and indicators of whether or not an indigenous domestic firm is used for the contract audit. The figure shows that only 17.6 per cent (116 of 660 companies) established an A-type audit structure, which is most preferable in terms of both the independence of the board of auditors and the attributes of the contract audit firm. Meanwhile, as many as 300 companies, or 45.5 per cent, chose the D-type audit structure, in which the majority of auditor's posts are given to insiders and which relies on indigenous audit firms for the external audit. In terms of the quality of the audit structure, 244 companies, or 37.0 per cent, fall between the A- and D-types.

Chart 4: Classification of audit structure of 660 joint-stock companies by a combination of the composition of the board of auditors and contract audit firm attributes

		Composition of the board of auditors	
		Proportion of outsider auditors, 50% or more	Proportion of outsider auditors, 50% or less
Contract audit firm attributes	International audit firm or non-indigenous domestic auditing firm	Type-A 116 companies (17.6%)	Type-B 88 companies (13.3%)
	Indigenous domestic audit firm	Type-C 156 companies (23.6%)	Type-D 300 companies (45.5%)

This figure classifies the audit structure of 660 Russian joint-stock companies that participated in a Japan-Russia joint enterprise survey conducted in 2005 in accordance with the composition of the board of auditors and the contract firm attributes. The proportion of outsider auditors in the board of auditors is measured by dividing the number of outsider auditors by the total members of the board of auditors for each sample firm. "Indigenous domestic audit firm" denotes a Russian audit firm located in the same federal district of the surveyed company.

Sources: Enterprise survey results and author's calculations.

To pinpoint the factors that create the situations demonstrated in Chart 4, we perform the Logit estimation of a multiple-choice model. In this model, a company choosing the D-type audit structure of Chart 4 is designated as the base category ($j=0$), and, similarly, companies belonging to the A-, B- and C-types are designated as the first, second and third categories ($j=1, 2, 3$), respectively. This multinomial Logit model is expressed by the following formula:

$$P[Y_i = j] = \frac{e^{\beta_j x_i}}{\sum_{k=0}^3 e^{\beta_k x_i}}, j = 0,1,2,3.$$

where x is the vector of the dependent variable and β is the vector of the parameter.

Table 9 reports the estimation results. According to this table, the bargaining power of the outsider directors within the corporate board leads the company to avoid the D-type audit structure, which is the worst of the four, and strongly encourages the choice of type A or B, which best emphasises the independence of the board of auditors. Affiliation with a business group also encourages member companies to select a more independent and professional audit structure than that provided by the D-type. However, differently from the impact of board composition, such affiliation exerts pressure to choose an audit structure that emphasises the independence and expertise of a contract audit firm.

From the estimation results shown in Table 9, we conclude that the expansion of the company size promotes the establishment of an audit structure that is comprehensively preferable. Business diversification, in contrast, suppresses such firm behaviour. Moreover, fund procurement from the capital market and banks is similar to the board composition and increases the probability of choosing an audit structure that secures the superiority of outsider auditors.

6.3. Robustness check

To check the overall robustness of the empirical results reported in Tables 6 to 9, we conducted a supplemental estimation to impose a variety of sample restrictions on each regression model and confirmed that these restrictions do not cause any major changes in the estimation results. More specifically, supplemental regressions were performed with the following six settings: (1) limiting the samples to industrial enterprises; (2) excluding companies operating in the fuel/energy, metallurgy and communications sectors, which are subject to unique government regulations regarding firm organisation and business activities; (3) limiting the samples to those with a company size within the mean ± 1 standard deviation to exclude very large enterprises from observations; (4) limiting the samples to companies whose size of the board of auditors is within the mean ± 1 standard deviation; (5) limiting the

Table 9: Regression analysis of the comprehensive choice of the audit structure

Estimator	Multinomial Logit		
	Type-A	Type-B	Type-C
Dependent variable (type of audit structure)			
Bargaining power of outsider directors (<i>BOACOM</i>) (+)	4.6195*** (0.881)	0.9827* (0.539)	3.5585*** (0.570)
Affiliation with a business group (<i>GROFIR</i>) (+)	1.1888*** (0.462)	0.7861** (0.366)	0.4832 (0.364)
Presence of foreign investors (<i>FORFIR</i>) (+)	0.6447 (0.640)	0.8148 (0.662)	0.1538 (0.547)
Presence of a dominant shareholder (<i>DOMSHA</i>) (+)	-0.2446 (0.629)	0.8182 (0.582)	0.0450 (0.434)
Shareholding by the federal government (<i>FEDGOV</i>) (+)	-0.6869 (0.557)	0.1306 (0.568)	-0.2304 (0.578)
Shareholding by the regional and local governments (<i>REGGOV</i>) (-)	0.4823 (0.782)	-0.0162 (0.573)	0.3513 (0.630)
Establishment of an open joint-stock company (<i>OPECOM</i>) (-)	0.6235 (0.477)	-0.3558 (0.355)	-0.0337 (0.318)
Privatization of a state-owned or municipal enterprise (<i>PRICOM</i>) (+)	-0.9781 (0.670)	-0.1366 (0.572)	-0.4396 (0.478)
Separation from a state-owned or privatized enterprise (<i>SPIOFF</i>) (+)	0.0144 (0.872)	1.3311* (0.685)	0.0895 (0.611)
Company size (<i>COMSIZ</i>) (+)	0.6859** (0.273)	0.2503 (0.217)	-0.2907 (0.210)
Extent of business diversification (<i>BUSLIN</i>) (+)	-0.2142* (0.112)	-0.0492 (0.091)	-0.0856 (0.089)
Fund procurement from the capital market (<i>MARFIN</i>) (+)	1.8919** (0.744)	-1.0654 (1.546)	1.4976* (0.772)
Use of bank credits (<i>BANCRE</i>) (+)	0.3348* (0.194)	0.0558 (0.128)	0.2617** (0.119)
Past financial performance (<i>ROAAVE</i>) (-)	-0.0929 (0.258)	0.2837 (0.189)	-0.0871 (0.151)
Degree of business internationalization (<i>EXPSHA</i>) (+)	0.1323 (0.230)	-0.0368 (0.223)	-0.0250 (0.161)
Size of the audit committee (<i>AUDSIZ</i>) (+)	0.4635 (0.630)	0.0359 (0.613)	-0.9720 (0.606)
Demand for consulting services (<i>CONSUL</i>) (+)	-0.6504 (0.479)	-0.2745 (0.401)	-0.3059 (0.354)
Distance from the capital region (<i>DISCAP</i>) (-)	-0.2240 (0.159)	-0.4017** (0.192)	-0.0584 (0.115)
Location in Moscow or Saint Petersburg (<i>CAPITAL</i>) (-)	0.2036 (0.949)	-35.9321*** (1.190)	0.2443 (0.643)
<i>Const.</i>	-4.6520* (2.573)	-0.8165 (2.111)	2.3286 (1.789)
Industry dummy	Yes	Yes	Yes
N		406	
Pseudo R ²		0.31	
Log likelihood		-347.06	
Wald test (χ^2) ²⁾		17810.95***	

This table reports the Logit estimation result of the multiple-choice model of the audit structure. The samples are Russian joint-stock companies that participated in a Japan-Russia joint enterprise survey conducted in 2005. In this model, a company choosing the D-type audit structure of Figure 4 is designated as the base category, and companies belonging to the A-, B-, and C-types are designated as the first, second, and third category, respectively. For details of the estimation methodology, see Subsection 6.2.4 of the paper. Table 5 provides definitions of the independent variables. The predicted signs are indicated in parentheses following the abbreviation of the independent variables. Standard errors are computed using White's heteroskedasticity-consistent estimator and given in parentheses beneath the regression coefficients. The *F* test and Wald test test the null hypothesis in which all coefficients are zero. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Source: Author's calculations.

samples to companies that have not issued securities; and (6) limiting the samples to non-group-affiliated firms. Moreover, we re-estimated models in which the percentages of shareholding by foreign investors, federal government, and regional and local governments are used instead of ownership dummy variables, namely *FORFIR*, *FEDGOV* and *REGGOV*, respectively, and obtained no distinctive differences from the estimation results reported in subsection 6.2 by these variable changes. Furthermore, we performed supplemental regressions using the industry-adjusted value of the frequency of dividend payment and the gross profit to sales as the proxy for past financial performance and confirmed that these two alternative indices also have the same sign and statistical significance as *ROAAVE*.

On the basis of the above findings, we can confidently report that the results of regression analysis conducted in this paper are statistically robust in the above sense.

7. Conclusion

In this paper, we present a clear picture of the corporate audit structure in transition Russia and empirically analyse its determinants using the results of a Japan-Russia enterprise survey conducted throughout the country in 2005.

The survey results exposed that Russian joint-stock companies, in comparison with those of Western and Asian Pacific countries, had organised a questionable audit structure by securing fair and rigid operation and accounting audits. More specifically, the independence of the internal audit organisation adopted by Russian firms falls well below the average level for companies in the above countries; in addition, the appointment of an international audit firm as an accounting auditor is very limited, and most Russian companies have a strong tendency to make external audit contracts with indigenous domestic audit firms. Moreover, Russian firms are generally negative about the appointment of outside experts as auditors. Furthermore, from the viewpoint of the independence of a board of auditors, a remarkable polarisation phenomenon had emerged among Russian companies.

The empirical analysis presented here verifies that the following types of Russian companies *are* more likely to establish a comparatively desirable audit structure than other firms: companies in which the outsider directors take a strong initiative within the corporate board; companies that perform business integration with a specific business group through stock ownership; and companies that have accepted foreign investment. Looking at this finding from another angle, we conclude that the less independent and professional audit structure of Russian firms in comparison with the international standard is deeply rooted in a weak countervailing power of outsider board directors against management executives, a loose management discipline of independent companies that are operating in isolation in terms of capital relationship, and low foreign direct investment within the country.

As reported above, the composition of the board of directors, affiliation with a business group through shareholding and presence of foreign investors are the most important determinants of the audit structure of Russian companies. The extent of the

impact of these three factors, however, differs greatly between them. Although the bargaining power of the outsider directors within the board of directors has a significant positive impact on every aspect concerning the independence and expertise of a corporate audit, there is a tendency for the main emphasis to be focused on the organisation structure of the board of auditors rather than the choice of an audit firm. Meanwhile, management integration with a business group exerts a noteworthy effect on the assignment of outside experts as members of the board of auditors and the choice of an audit firm from non-indigenous firms by an affiliated company. Meanwhile, the presence of foreign investors has a strong promotional effect, especially on the appointment of an international audit firm.

Moreover, from the empirical results of this study, we confirmed that shareholding by the federal government, company size, fund procurement from the capital market and banks, and overseas business advancement have significant impacts on the corporate audit structure in Russia. We also found that former state-owned (ex-municipal) privatised enterprises and newly established companies spun off from state-owned (municipal) companies or privatised enterprises tend to have a negative attitude towards the establishment of an open audit structure, *ceteris paribus*, probably due to the self-contained and exclusive organisational culture cultivated during the socialist era (Abe and Iwasaki, 2001).

Soundness of company management that sustains the market economy at the firm level is one of the economic endeavours that Russia has to take seriously. As reported above, the establishment of a rigid and fair corporate audit structure is an effective measure for overcoming this issue. However, our empirical evidence suggests that it is not an easy task. Persistent efforts of the Russian government and citizenry are required as well as technical and financial assistance by the international community.

References

- L. Abbott, and S. Parker (2000), "Auditor selection and audit committee characteristics", *Auditing: A Journal of Practice and Theory*, 19:2, 47-66.
- N. Abe, and I. Iwasaki (2010), "Organizational culture and corporate governance in Russia: A study of managerial turnover", *Post-Communist Economies*, 22:4, 449-470.
- M. Adams (1997), "Determinants of audit committee formation in the life insurance industry: New Zealand evidence", *Journal of Business Research*, 38:2, 123-129.
- I. Adelopo, and K. Jallow (2008), "Board structures, audit committee characteristics, and external auditors' fee behaviour", Paper presented at the 2nd European Risk Conference, University of Bocconi, Milan, September 2008.
- S. Avdasheva (2005), "Business groups in Russian industries", In: Oleinik, Anton N. (ed.), *The institutional economics of Russia's transformation*, Ashgate: Aldershot, 290-308.
- S. Avdasheva (2007), "Russian holding groups: New empirical evidence", *Problems of Economic Transition*, 50:5, 4-43.
- M.S. Beasley, and K. R. Petroni (2001), "Board independence and audit-firm type", *Auditing: A Journal of Practice and Theory*, 20:1, 97-114.
- M.S. Beasley, and S. E. Salterio (2001), "The relationship between board characteristics and voluntary improvements in audit committee composition and experience", *Contemporary Accounting Research*, 18:4, 539-570.
- M.E. Bradbury, Y. T. Mak, and S. M. Tan (2004), "Board characteristics, audit committee characteristics, and abnormal accruals", (unpublished manuscript)
- L.I. Bulgakova, (2005), *Audit v Rossii: Mekhanizm provovogo regulirovaniya*. Bolters Kluver: Moscow. (in Russian)
- A. Canepa, and R. Winfried (eds.) (2005), *The audit committee impact on Swiss companies*. Ernst & Young Ltd.
- K.C. Chan, and J. Li (2008), "Audit committee and firm value: Evidence on outside top executives as expert-independent directors", *Corporate Governance: An International Review*, 16:1, 16-31.
- A. Charito, C. Louca, and S. Panayides (2007), "Cross-listing, bonding hypothesis and corporate governance", *Journal of Business Finance and Accounting*, 34:7-8, 1281-1306.
- E.P. Chikunova (2003), "Zakon Ob auditorskoi deyatelnosti v deistvii", *Auditor*, No. 8, 13-25. (in Russian)

- D.B. Citron, and G. Manalis (2001), “The international firms as new entrants to the statutory audit market: An empirical analysis of auditor selection in Greece, 1993 to 1997”, *European Accounting Review*, 10:3, 439-459.
- J. Cotter, and M. Silvester (2003), “Board and monitoring committee independence”, *Abacus*, 39:2, 211-232.
- D.N. Deli, and S. L. Gillan (2000), “On the demand for independent and active audit committees”, *Journal of Corporate Finance*, 6:4, 427-445.
- T.G. Dolgopyatova, and I. Iwasaki (2006), “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, Hitotsubashi University, Tokyo.
- T.G. Dolgopyatova, I. Iwasaki, and A. A. Yakovlev (eds.) (2009), *Organization and development of Russian business: A firm-level analysis*. Palgrave Macmillan: Basingstoke.
- T. Eisenberg, S. Sundgren, and M. T. Wells (1998), “Larger board size and decreasing firm value in small firms”, *Journal of Financial Economics*, 48:1, 35-54.
- J. Erickson, Yun W. Park, J. Reising, and H-H. Shin (2005), “Board composition and firm value under concentrated ownership: The Canadian evidence”, *Pacific-Basin Finance Journal*, 13:4, 387- 410.
- J.P.H. Fan, and T. J. Wong (2005), “Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia”, *Journal of Accounting Research*, 43:1, 35-72.
- T.D. Fields, T. Z. Lys, and L. Vincent (2001), “Empirical research on accounting choice”, *Journal of Accounting and Economics*, 31:1-3, 255-307.
- T. Frye, and I. Iwasaki (2010), “Double-edged sword: Government directors and business-state relations in Russia” (paper presented at the ICCEES VIII World Congress, Stockholm, July 2010).
- Y. Fujishima (2010), “Nihon kigyō no kōporeito gabanansu; dai 8 kai JCGIndex chōsa no deta bunseki”, *Keizai Senryaku Kenkyū*, 24, 36-47. (in Japanese)
- J. Goodwin (2003), “The relationship between the audit committee and the internal audit function: Evidence from Australia and New Zealand”, *International Journal of Auditing*, 7:3, 263-278.
- O. Guedhami, J. A. Pittman, and W. Saffar (2009), “Auditor choice in privatized firms: Empirical evidence on the role of state and foreign owners”, *Journal of Accounting and Economics*, 48:2-3, 151-171.
- S. Guriev, and A. Rachinsky (2005), “The role of oligarchs in Russian capitalism”, *Journal of Economic Perspectives*, 19:1, 131-150.

- E.M. Guttsait (2007), “Novye auditorskie standarty i starye auditorskie problem”, *Auditor*, No. 1, 21-30. (in Russian)
- B.E. Hermalin, and M. S. Weisbach (1998), “Endogenously chosen board of directors and their monitoring of the CEO”, *American Economic Review*, 88:1, 96-118.
- O-K. Hope, T. Kang, W. Thomas, and Y. K. Yoo (2008), “Culture and auditor choice: A test of the secrecy hypothesis”, *Journal of Accounting and Public Policy*, 37:5, 357-373.
- I.Iwasaki (2007a), “Corporate law and governance mechanism in Russia”, In: B. Dallago, and I. Iwasaki (eds.), *Corporate restructuring and governance in transition economies*. Palgrave Macmillan: Basingstoke, 213-249.
- I.Iwasaki (2007b), “Legal forms of joint stock companies and corporate behavior in Russia”, *Problems of Economic Transition*, 50:5, 73-86.
- I.Iwasaki (2008), “The determinants of board composition in a transforming economy: Evidence from Russia”, *Journal of Corporate Finance*, 14:5, 532-549.
- I.Iwasaki and K. Suganuma (2009), “EU enlargement and foreign direct investment into transition economies revisited”, *Transnational Corporations*, 18:3, 27-57.
- A. Klein (2002a), “Economic determinants of audit committee independence”, *Accounting Review*, 77:2, 435-452.
- A. Klein (2002b), “Audit committee, board of director characteristics, and earnings management”, *Journal of Accounting and Economics*, 33:3, 375-400.
- P. Kuznetsov, and A. Muravjev (2000), “Gosudarstvennye kholdingi kak mekhanizm upravleniya predpriyatiyami gosudarstvennogo sektora”, *Voprosy Ekonomiki*, No. 9, 34-47. (in Russian)
- P. Lin, M. Hutchinson, and M. Percy (2009), “The role of the audit committee and institutional investors in constraining earnings management: Evidence from Chinese firms listed in Hong Kong”. (unpublished manuscript)
- Z. J. Lin, and M. Liu (2009), “The impact of corporate governance on auditor choice: Evidence from China”, *Journal of International Accounting, Auditing and Taxation*, 18:1, 44-59.
- J.S. Linck, J. M. Netter and T. Yang (2008), “The determinants of board structure”, *Journal of Financial Economics*, 87:2, 308-328.
- M. Mangena, and V. Taurigana (2007), “Corporate compliance with non-mandatory statements of best practice: The case of the ASB statement on interim reports”, *European Accounting Review*, 16:2, 399-427.
- R.W. McGee, and G. G. Preobragenskaya (2005), *Accounting and financial system reform in a transition economy*. Springer: New York.

- C. F. Méndez, and R. A. García (2007), “The effects of ownership structure and board composition on the audit committee meeting frequency: Spanish evidence”, *Corporate Governance: An International Review*, 15:5, 909-922.
- S. Mizobata (2004), “Kokuyu kigyo no mineika to kigyō touchi”, In: Ohtsu, Sadayoshi and Masahiko Yoshii (eds.), *Roshia Touou Keizairon*. Minerva Publishing: Kyoto, 61-83. (in Japanese)
- A. Mori (2003), “Roshia renpou no kansahou ni tsuite », *Meidai Shougaku Ronso*, 85:3, 1-12. (in Japanese)
- E.C. Perotti, and S. Gelfer (2001), “Red barons or robber barons? Governance and investment in Russian financial-industrial groups”, *European Economic Review*, 45:9, 1601-1617.
- K.J. Rediker, and A. Seth (1995), “Boards of directors and substitution effects of alternative governance mechanisms”, *Strategic Management Journal*, 16:2, 85-99.
- RiskMetrics Group (2009), “Study on monitoring and enforcement practices in corporate governance in the member states”, survey report submitted to the European Commission based on the contract No. ETD/2008/IM/F2/126.
- E. Ruiz-Barbadillo, E. Biedma-López, and N. Gómez-Aguilar (2007), “Managerial dominance and audit committee independence in Spanish corporate governance”, *Journal of Management and Governance*, 11:4, 311-352.
- Rosstat (the Federal Statistical Service) (2005), *Rossiskii statisticheskii ezhegodnik 2004*, Rosstat: Moscow. (in Russian)
- A. Samsonova (2007), “Regulation and trust in auditing in Russia”, In: R. Quick, S. Turley, and M. Willekens (eds.) *Auditing, trust and governance: developing regulation in Europe*. Routledge: London, 223-242.
- A. Samsonova (2009), “Local sites of globalization: A look at the development of a legislative framework for auditing in Russia”, *Critical Perspectives on Accounting*, 20:4, 528-552.
- G.S. Shapkina (2002), “Novoe v Rossiiskom aktsionernom zakonodatel'stve: Izmeneniya i dopolneniya federal'nogo zakona ob aktsionernykh obshchestvakh”, *Ekonomika i Zhiznj*: Moscow. (in Russian)
- V. Sharma, V. Naiker, and B. Lee (2009), “Determinants of audit committee meeting frequency: Evidence from a voluntary governance system”, *Accounting Horizons*, 23:3, 245-263.
- E.E. Smirnov, (2005), “Kakoi audit nuzhen Rossii?”, *Auditor*, No. 6, 10-20. (in Russian)
- P. Sucher, and S. Bychkova (2001), “Auditor independence in economies in transition: A study of Russia”, *European Accounting Review*, 10:4, 817-841.

- A. Sweetman, T. Robinson, and G. Shilnikova (1999), “The evolution of audit regulation in a Russian market economy”, *Journal of East-West Business*, 5:3, 95-113.
- S. Turley, and M. Zaman (2004), “The corporate governance effects of audit committees”, *Journal of Management and Governance*, 8:3, 305–332.
- P. Velte, Patrick (2010), “The link between supervisory board reporting and firm performance in Germany and Austria”, *European Journal of Law and Economics*, 29:3, 295-331.
- Q. Wang, T. J. Wong, and L. Xia (2008), “State ownership, the institutional environment, and auditor choice: Evidence from China”, *Journal of Accounting and Economics*, 46:1, 112-134.
- D.A. Whidbee, (1997), “Board composition and control of shareholder voting rights in the banking sector”, *Financial Management*, 26:4, 27-41.
- M. Willekens, H. V. Bauwhede, and A. Gaeremynck (2004), “Voluntary audit committee formation and practices among Belgian listed companies”, *International Journal of Auditing*, 8:3, 207-222.
- B. Xie, N.D.III Wallace, and P. J. DaDalt (2003), “Earnings management and corporate governance: The role of the board and the audit committee”, *Journal of Corporate Finance*, 9:3, 295-316.
- J. Zhou, and K. Y. Chen (2004), “Audit committee, board characteristics and earnings management by commercial banks” (unpublished manuscript)