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The Wedge between Ownership and Control, Shareholder Identity and Corporate Disclosure: Evidence from Russia

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Abstract

The paper explores a dual-class stock setting to examine the effect of separation of ownership and control on corporate disclosure. Our analysis is based on a unique panel dataset of publicly traded firms in Russia, where dual-class stock companies emerged exogenously during the privatization process. Applying conventional panel data analysis methods and using several robustness checks, we find that the separation of ownership and control through dual-class stock results in lower corporate disclosure. Disclosure is inversely related to the wedge between the control and ownership rights of the largest shareholder (specifically, it increases with her ownership rights but decreases with her control rights). There is also evidence that the effect of the wedge on disclosure depends on the type of controlling shareholder. The negative effect is most pronounced when the largest shareholder is a domestic private person and is virtually non-existent for foreign shareholders from non-offshore jurisdictions. The state and state-related companies as well as foreign entities from offshore jurisdictions occupy an intermediate position in this regard.

Keywords: disclosure, ownership and control, dual-class stock companies, shareholder identity, Russia

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Introduction

The implications for corporate disclosure of the separation of ownership and control, which is a key feature and a major governance issue of public companies, have long drawn a lot of attention in the accounting and corporate governance literatures [1–3]. There is considerable theoretical ambiguity on this matter. On the one hand, the separation of ownership and control may lead the parties controlling the firm to opt for low disclosure standards, which helps them conceal their consumption of private benefits (e.g., [4–5]). On the other hand, managers and/or controlling shareholders may use disclosure to reassure investors that their interests will be protected, especially if the company requires additional external financing [6–7]. This theoretical ambiguity ultimately makes the impact of the separation of ownership and control on disclosure an interesting and important empirical question.

To date, most available empirical evidence on this matter comes from studies of ownership concentration and shareholder identity (e.g., [8–10]) In such analyses, ownership concentration is viewed as a key corporate governance mechanism that reduces the gap between ownership and control and the severity of agency conflicts in a widely held firm [11]. Alternatively, the effects of the separation of ownership and control are examined from the perspective of shareholder identity. For example, despite holding significant ownership stakes in a company, institutional investors may forgo exercising control, transferring it to managers [12]. In contrast, families tend to have greater control over companies [13]. Overall, according to H. Khlif et al. [14], the results of such studies are mixed and do not provide a clear picture as ownership concentration and shareholder identity are only indirect indicators of the separation of ownership and control and can be confounded by other factors.

In recent years, additional evidence has started to emerge from analyses of disclosure practices in dual-class stock firms, which are characterized by an intrinsic divergence between voting and cash flow rights. In fact, dual-class shares are one of the most explicit and visible mechanisms for separating ownership and control (e.g., [15–16])[1]. It can therefore be argued that dual-class stock companies provide a much cleaner setting for examining the effects of the divergence between ownership and control on corporate disclosure than the more traditional designs that focus on ownership concentration or shareholder types. The idea of considering dual-class stock firms has been explored by K.W. Lee [17], T. Li and N. Zaiats [18] and R. Palas and D. Solomon [19], among others.

However, this newer approach faces a number of difficulties. The main obstacle is that dual-class stock companies tend to emerge endogenously, particularly due to their founders' desire to retain control of productive assets while obtaining external financing, and thus can be very different from single-class stock firms[2]. In other words, firms' decisions to adopt or abandon a dual-class stock structure are unlikely to be random and are usually determined by certain observable and unobservable characteristics [16; 21; 22][3]. Therefore, relevant empirical studies that emphasize external validity must contend with the difficult selectivity problems associated with company decisions to issue different classes of shares. There are only a handful of studies relying on natural experiments that generate a divergence between ownership and control where sample selection is not a problem (e.g., [25]). Others try to explicitly model the selection process or use propensity score matching techniques [22; 26; 27]. These strategies have their own problems and are often not very convincing. Indeed, the matching strategy cannot handle potential selection on unobservables while the sample selection models often lack instruments for identifying the selection process, which results in a questionable econometric identification based on the non-linearity of the normal distribution.

Furthermore, the sparse literature linking corporate disclosure to the separation of ownership and control in the dual-class stock setting frequently proxies disproportionate control rights with a single dummy variable [18; 28; 29]. Such a simplified approach ignores the strength of incentives of the parties controlling the firm. Only a few studies of corporate disclosure as shown by R. Palas et al. [30], attempt to quantify the wedge between ownership and control that arises from the issue of dual-class stock. The problem here appears to be the lack of detailed data on ownership and control.

Finally, to our best knowledge, little or no attention is paid in the literature to the potential variability in the impact of the wedge on corporate disclosure depending on the identity of the largest shareholder. In fact, both the incentives and the abilities to push for greater disclosure may depend not only on the size of the wedge but also on whether the controller is a founding CEO, a government, a financial institution, an industrial holding company, etc. This seems to be a common gap in the study of dual-class stock companies, as noted by D. Aggarwal et al. [31]. Indeed, these authors emphasize a general lack of knowledge of "the effects of dual-class structures on different outcomes, such as valuation and innovation" and in particular of whether and how "[t]he type of controller and wedge between economic and voting rights may have an effect on various outcomes" [31, p. 150].

[1] Other mechanisms generating the control-ownership wedge include pyramids and cross-holdings, voting coalitions, proxy votes, and loyalty shares that confer additional voting rights to long-term shareholders.

[2] B. Amoako-Adu et al. [20] show that the issue of dual-class stock is more typical of family companies. For example, 83.2% of companies with dual-class stock from the S&P 1500 list are family firms (those marked by the dominance of a family in the ownership structure). Among comparable companies with single-class stock, family firms account for only 29.04%.

[3] Interestingly, R. Adams and D. Ferreira [23] note that there are few studies of the determinants of ownership proportionality. Some recent papers address the issue of dual-class IPOs (e.g., [24]), but the evidence remains thin.

Our paper aims to address the aforementioned gaps in the accounting and corporate governance literatures. We examine the impact of the wedge between ownership and control on corporate disclosure, exploiting an unusually clean setting that resembles a natural experiment and using a rich dataset from an emerging economy – Russia of the first decade of the new century. First, we take advantage of the fact that the overwhelming majority of Russian dual-class stock companies emerged exogenously due to the peculiarities of the privatization process of the early 1990s [32–33][4]. Therefore, the concern that the choice of a dual-class share structure is not exogenous and a sample selection bias exists (e.g., [35]) is of little or no significance in our analysis. Second, we compile detailed data that not only identify dual-class stock companies but also provide us with a direct measure of the size of the wedge between ownership and control of the largest shareholder. Third, we collect and process information about the identities of these largest shareholders. This allows us to study the impact on corporate disclosure of (a) the separation of ownership and control, (b) the magnitude of the control-ownership wedge, and (c) its interactions with the type of controller (i.e., the moderating effects of shareholder identity). These are the central research questions in our analysis.

The data for our study are assembled from multiple sources, the most important being the Standard & Poor's (S&P) Transparency and Disclosure Index and the SKRIN database. We have an unbalanced panel of 125 non-financial companies registered and operating in Russia during the period 2002–2010, with a total of 559 observations. The core of our data, the S&P index, is based on more than 90 individual items and measures the disclosure of (a) ownership structure and investor relations, (b) financial and operational information and (c) board and management structure and process. Therefore, it broadly corresponds to the disclosure of the G dimension of the currently popular ESG. As we explain later in the text, the main strengths of S&P data from Russia are their internationally validated methodology, high level of detail and wide coverage of firms.

Although our data are not very recent and, in particular, do not tell much about the current disclosure practices in Russian firms, they are very well suited to address the research questions of general interest raised in this article. Indeed, these questions refer to the general, fundamental incentives guiding the behavior of individuals and firms that do not vary much over time and across space. Not surprisingly, but S&P data on Russian companies have been recently used by S. Banerjee et al. [36], A. Grosman [37], A. Muravyev [38] and I. Berezinets and A. Muravyev [39] in their articles that tackle general research questions related to corporate governance and disclosure.

Using conventional panel data analysis techniques, we show that disclosure is significantly lower (by approximately 9%) in companies most affected by the separation of ownership and control (i.e., dual-class stock companies) compared to their single-class stock counterparts. It turns out that the level of disclosure is a decreasing function of the wedge between the control and ownership rights of the largest shareholder. More precisely, disclosure increases with her ownership rights but decreases with her control rights. We also find evidence that the type of controlling shareholder moderates the wedge-disclosure relationship. The negative effect of the wedge is most pronounced when the largest shareholder is a Russian private person, be it an individual or a legal entity, and is practically absent in the case of foreign shareholders from non-offshore jurisdictions. The state and state-affiliated companies as well as foreign companies from offshore jurisdictions occupy an intermediate position in this regard. We discuss and interpret these results at the end of the article.

Our analysis has several caveats. First, it focuses on total disclosure as defined by S&P in its Transparency and Disclosure Index, which does not distinguish between mandatory and voluntary disclosure. The drivers of the two may be different, as suggested by C. Arena et al. [40]. Second, our analysis ignores other potential mechanisms of the separation of ownership and control that are distinct from the issue of dual-class shares, such as pyramids and cross-shareholdings. Third, while we emphasize the exogenous creation of dual-class stock companies in Russia during the privatization process, we cannot claim the exogeneity of ownership, including the identity of the largest shareholders in firms. Fourth, we recognize that the two types of shares that can be issued by Russian companies are not absolutely identical in terms of the cash flow rights attached to them. In fact, Russian companies can issue only one type of common (voting) shares and several types of preferred shares, which under normal circumstances do not have voting rights but are usually entitled to a higher dividend. However, previous studies have not found these nuances in cash flow rights to be important, not at least for the voting premium (e.g., [41]).

Despite these limitations, we believe that our analysis represents a noteworthy contribution to the current international literature on corporate governance and corporate disclosure, particularly to the strand that focuses on the effects of the separation of ownership and control and the identity of controlling owners. Here, too, the main strength of our analysis is that it answers previously underexplored questions using an unusually clean setting of exogenously created dual-class stock companies.

[4] In Russia, the key driver of the introduction of dual-class stock was the capital intensity of firms offered for privatization in the early 1990s. Managers and employees of capital-intensive firms were unable to accumulate enough funds to buy 51 percent of shares under Privatization Option 2 and therefore opted for Privatization Option 1 which implied the establishment of a dual-class stock structure with preference (non-voting) shares amounting to up to 25% of the charter capital. These shares were then distributed among managers and employees for free (see the study by P. Hare and A. Muravyev [34] for details).

The rest of the paper is structured as follows. Second section provides a brief review of the relevant literature. Third section describes the data and methods used. Fourth section presents the main empirical results. Finally, conclusions are drawn in fifth section.

Literature review and hypothesis development

In this study, we primarily rely on agency theory, which represents the dominant framework for analyzing both corporate governance [11] and corporate disclosure [42–43]. This theory assumes that the separation of ownership and control – in particular, through the use of dual-class shares – involves agency costs associated with the consumption of perks, excessive compensation, related party transactions, and other private benefits enjoyed by managers and/or controlling owners [11]. This separation can have two opposing effects on corporate disclosure. On the one hand, it may encourage company insiders to reduce the amount and/or quality of disclosure to conceal their consumption of private benefits [5]. Therefore, disclosure is predicted to be lower in companies with potentially high agency costs, such as dual-class stock firms. On the other hand, managers and/or controlling owners can use disclosure as a bonding tool to signal to investors the protection of their interests [6; 44]. As a result, the level and/or quality of disclosure will be higher in companies with potentially high agency costs, including dual-class stock companies. Overall, the connection between corporate disclosure and the separation of ownership and control becomes an empirical matter.

The relevant empirical literature mostly focuses on ownership concentration (typically in the hands of insiders) and shareholder identity (drawing a distinction between families, institutional investors, foreign companies, government, etc.). Both are considered valid indicators of the separation of ownership and control. Indeed, ownership concentration naturally reduces the gap between the two, while the identity of shareholders is normally related to their involvement with the firm (e.g., institutional investors tend to transfer their control rights to managers, while families tend to concentrate control in their own hands). The empirical results based on these proxies are somewhat mixed. In particular, ownership concentration is often found to have a negative impact on disclosure (e.g., [9; 45–46]). However, some studies provide a more nuanced picture. For example, H. Jankensgård [8] uses data from Sweden to show a concave relationship, with disclosure first increasing and then decreasing with ownership concentration. These results could be related to the two different effects of ownership concentration, namely incentive alignment and entrenchment, which are generally difficult to disentangle [47–48]. Another explanation suggests that dominant shareholders may have alternative channels to obtain information about the firm, which may result in less information being passed on to the market [46].

Studies that focus on shareholder identity also provide mixed evidence [14]. For example, regarding government ownership, K.O. Alotaibi and K. Hussainey [49] report that it has a negative effect on disclosure in Saudi Arabia, Y. Lan et al. [50] find a quadratic convex association in China, while A. Amran and S.S. Devi [51] observe a positive link in Malaysia. The difficulty in interpreting these and other results in terms of the separation of ownership and control stems from additional confounding effects, such as the interference of bureaucrats and politicians in state-owned companies in the case of government ownership. Overall, the evidence on whether and how the separation of ownership and control affects corporate disclosure remains ambiguous.

Some researchers attempt to explicitly measure the degree of the separation of ownership and control and assess its effect on corporate disclosure. For example, G. Liu and J. Sun [2] and C. Bona-Sánchez et al. [52] identify the ownership-control wedge for pyramidal structures in China and Spain, respectively. Some studies use instead the dual-class stock setting, which generates an easily identifiable wedge between ownership and control [17; 29; 48; 53].

A common approach in the latter works is to compare disclosure practices in single vs. dual-class stock firms. This is done, e.g., in the studies by T. Li and N. Zaiats [18], R.M. Irani and D. Oesch [28], D. Solomon et al. [29] and S. Tinaikar [44]. The findings are quite mixed. For example, based on US data, S. Tinaikar [44] studies executive compensation disclosure and finds that it is lower in dual-class stock companies compared to single-class stock firms. A cross-country study by T. Li and N. Zaiats [18], based on a sample of 12,672 firms from 19 countries over the period 1994–2010, finds a poorer information environment and increased accrual-based earnings management in dual-class stock firms, suggesting that managers of these firms have incentives to hide the private benefits of control. However, D. Solomon et al. [29], who use data from US listed companies to examine the ability of financial reports of dual vs. single-class stock firms to predict an increase or decrease in earnings, find that financial reports prepared by dual-class public companies are more accurate in predicting changes in earnings, meaning that dual-class companies provide credible and high-quality information to their investors. Likewise, O. Lobanova et al. [54], who rely on the US sample used by P.A. Gompers et al. [16] extended to 2012, find less accruals management among dual-class companies. Finally, based on US data from 2012–2017, R. Palas and D. Solomon [19] report that the earnings of dual-class companies are more persistent and more informative about future cash flows compared to those of single-class stock firms.

The variability of the aforementioned findings is often attributed to the fact that dual-class stock companies tend to emerge endogenously, particularly due to their founders' desire to retain control of productive assets while obtaining external financing, and thus can be very different from single-class stock firms. This highlights the difficult selectivity issues associated with company decisions to issue differ-

ent classes of shares (e.g., [16; 22]), which may invalidate econometric results or complicate their interpretation. This fundamental problem emphasizes the importance of further research, especially in settings that are less sensitive to such selectivity.

Therefore, drawing on the central prediction of agency theory that the separation of ownership and control may incentivize managers and/or controlling owners to opt for low disclosure standards in order to conceal their consumption of private benefits [5] and taking advantage of the quasi-experimental setting of exogenously created dual-class stock firms in Russia [33], we propose our first and most general hypothesis:

H1: The separation of ownership and control through the issue of dual-class stock has a negative impact on corporate disclosure.

Both theoretical and empirical literature furthermore suggest that the magnitude of the wedge may matter for corporate outcomes and performance (e.g., [15]). An extreme example is a company with 100 shares that provide shareholders with equal rights to receive dividends but different voting rights, say 100% of the votes are contained in just one voting share while the remaining 99 shares are non-voting. As a result, a person who holds the voting share and none of the non-voting ones has full (100%) control of the firm but is entitled to only 1% of its cash flow. For such a tremendous wedge between ownership and control, amounting to 99% (control rights minus cash flow rights), one can expect various manifestations of agency costs, from the excessive compensation of managers to related party transactions and asset stripping [11]. Notably, agency theory suggests that disclosure is negatively associated with the aforementioned wedge.

The implications of the wedge for corporate disclosure have been empirically examined by K.W. Lee [17], A. Forst et al. [48], J. Bangert et al. [53] and R. Palas et al. [30], among others. For example, using a data set of 829 firms in eight East Asian countries during the period 2002–2003, K.W. Lee [17] shows that a larger wedge reduces disclosure as measured by the inclusion of specific items in annual reports according to Standard & Poor's transparency and disclosure methodology. Using a sample of US dual-class firms from 2000 to 2012, A. Forst et al. [48] find that disproportionate insider control is negatively associated with financial analysts' forecast accuracy and positively associated with forecast dispersion. This implies that the informativeness of corporate disclosure is a decreasing function of the wedge between ownership and control. Finally, employing data on US publicly traded companies from 2012 to 2019, R. Palas et al. [30] report that a larger wedge is associated with a higher quality of reporting.

Again, the empirical results are not very conclusive and call for further research, preferably in settings that are not plagued by sample selection issues. Therefore, using agency theory predictions, drawing on the above-cited studies and taking advantage of the quasi-experiment of the exogenous establishment of dual-class stock companies in Russia, we formulate our second hypothesis:

H2: Corporate disclosure is a decreasing function of the wedge between the control and ownership rights of the largest shareholder.

It has been recently suggested that the diverse and inconclusive empirical results summarized above may stem from the lack of nuances in measuring the ownership-control wedge. Indeed, the wedge is typically analyzed for insiders, that is managers and board members (e.g., [26; 53]). In particular, V. Baulkaran [26] distinguishes between controlling shareholders who are CEOs, directors or chairmen of the board in a study of US dual-class firms in the period 2001–2007. However, the motivation, abilities, and knowledge to exploit the ownership-control wedge may vary across shareholder types. D. Aggarwal et al. [31] point out the wide diversity among controlling shareholders, who may include founders and their heirs, governments, non-founding directors, and holding companies issuing shares in a subsidiary, and call for calculating the wedge based on the difference in voting and cash flow rights of public shareholders. A few scholars have taken a similar approach in studying ownership effects on company value. For example, K.V. Lins [55] analyzes the effect of the wedge on company value by distinguishing between management and non-management blockholder stock ownership, but his analysis is focused on pyramidal structures in 18 emerging markets. Likewise, C.K. Hoi and A. Robin [56] examine the effect of controller identity (whether the largest shareholder is a top executive, a board member or an outsider) on the value of US dual-class firms.

Similar studies of corporate disclosure are virtually absent. A few papers suggest that the effect of the wedge on disclosure may be moderated by additional aspects of the firm's ownership structure. For example, K.W. Lee [17] reports that the negative effect of the wedge on disclosure is less pronounced in companies that have a large non-management shareholder. Therefore, large non-management shareholders appear to play a role in mitigating agency problems due to separation of ownership and control. Employing a sample of S&P 1500 firms from 1995 through 2015, J. Bangert et al. [53] show that shareholders' ability to predict future earnings decreases with the difference between insider voting and cash flow rights. This relationship is, however, weakened by the presence of large institutional investors, suggesting that the latter can mitigate inherent agency conflicts. K. Cieslak et al. [57] focus on executive compensation disclosure (ECD) using data from Sweden and find that disclosure decreases with ownership concentration and excess voting rights of the largest shareholder. Overpaid CEOs tend to improve ECD quality, but not in the case of excess control rights concentrated in the hands of the controlling owner. This suggests that ECD appears to be part of the agency problem between controlling and non-controlling owners when managers have a bond with controlling shareholders.

Drawing on a study by D. Aggarwal et al. [31] and taking into account the lack of evidence concerning the role of shareholder identity in shaping the relationship between disclosure and the ownership-control wedge, we advance our third hypothesis:

H3: The effect of the wedge between ownership and control on corporate disclosure varies with the type (identity) of the largest shareholder.

Our analysis of Hypothesis H3 should be viewed as exploratory, partly because of the lack of a comprehensive theory linking the wedge, shareholder identity and disclosure and partly due to the limited number and specificity of shareholder identity categories available in our data. We therefore do not advance any explicit hypotheses related to particular types of shareholders, leaving this task for further research.

Data and methodology

Our data are compiled from the Standard & Poor's (S&P) Transparency and Disclosure Index and the SKRIN database. Information from these sources was carefully processed and merged into a unique longitudinal database. The details on the original sources and data aggregation are provided below.

Data and sample

The main data source for our study is the Transparency and Disclosure Database collected by S&P for major Russian companies (e.g., [58]). It was part of the S&P global effort to evaluate the transparency and disclosure of the world's largest publicly traded firms, in particular those included in the S&P Global 1200 and S&P/IFCI 1200 (Emerging Markets) indices.

The methodology of the S&P studies is discussed in detail in the works by S.A. Patel et al. [59], S.A. Patel and G.S. Dallas [60], as well as in the S&P survey [58]. The data include more than 90 distinct disclosure attributes, each coded with a binary score. They are grouped into an overall score, which is based on all individual disclosure items, and three sub-indices characterizing (a) Ownership structure and investor relations, (b) Financial and operational information as well as (c) Board and management structure and process[5]. The focus of the S&P data collection effort is thus on the disclosure of the G dimension of the currently popular ESG. Notably, the overall index and its three sub-indices range between 0 and 100, allowing for easy interpretation in terms of percentages.

The S&P data do not distinguish between mandatory and voluntary disclosure. This is not necessarily a drawback, especially in the context of emerging markets, where enforcement of mandatory disclosure rules is typically poor. As a result, firms have considerable discretion in choosing the type and amount of information to be disclosed, even among the mandatory items. This motivates some scholars such as Y. Liu et al. [61] to focus on total disclosure (which combines voluntary disclosure and compliance with mandatory rules)[6].

The scores for Russian companies are available for nine years from 2002 to 2010 (the Russian survey was discontinued in 2011). Depending on the wave, the data cover between 42 and 90 companies (including banks and firms operating in Russia but registered abroad). Of these, 22 companies are surveyed in all nine waves. Overall, the main strengths of the S&P survey in Russia are an internationally validated methodology, a high level of detail and a good coverage of firms.

The publicly available part of the Russian dataset compiled by S&P has been exploited in the studies of disclosure and corporate governance by B.S. Black et al. [62], R. Enikolopov et al. [63], S. Banerjee et al. [36], A. Grosman [37], I. Berezinets and A. Muravyev [39] and A. Muravyev [38], most of which address research questions of general interest. Unlike most of these studies, we had access to additional waves from 2008 to 2010, which were made available to us by the Moscow office of S&P under conditions of confidentiality.

The original data for our study consisted of all observations in the S&P database, a total of 641 firm-years. We then imposed two key constraints on the original sample. First, we dropped all financial companies, which is common practice in the literature. Second, we omitted a handful of companies that were not listed/traded on the Russian stock exchange, but were only listed/traded abroad (they have most of their operations in Russia but are registered abroad). As a result, our final dataset contains 559 observations on 125 companies.

The distribution of the observations over time is shown in Figure 1. The increase in the number of observations over the study period is due to the wider coverage of Russian companies by S&P in more recent periods. Figure 2 shows the distribution of the sampled firms by region. Firms located in Moscow, the Urals and the Volga region as well as in St. Petersburg dominate the sample. Relative to the population of publicly traded companies (studied by A. Muravyev [64]), the sample is somewhat skewed towards companies based in Moscow. Finally, Figure 3 shows the distribution of observations by industry. Power utilities, telecommunication companies, manufacturing firms, and mining enterprises constitute the bulk of the sample. This is largely characteristic of publicly traded companies in Russia. Overall, the sample appears to be reasonably representative of the country's corporate sector[7].

[5] Here are examples of individual items from each group: (1) "Does the company disclose the way that shareholders nominate directors to board?"; (2) "Does the company disclose a detailed earnings forecast?"; (3) "Does the company disclose the specifics of directors' pay (e.g., the salary levels, etc.)?".

[6] Additional details on the S&P data are available in Appendix/Supplementary Material A1.

[7] Indeed, S. Banerjee et al. [36] formally confirm the external validity of their results, based on the S&P sample over 2003–2007, for the entire population of publicly traded firms in Russia.

Figure 1. The distribution of observations over time

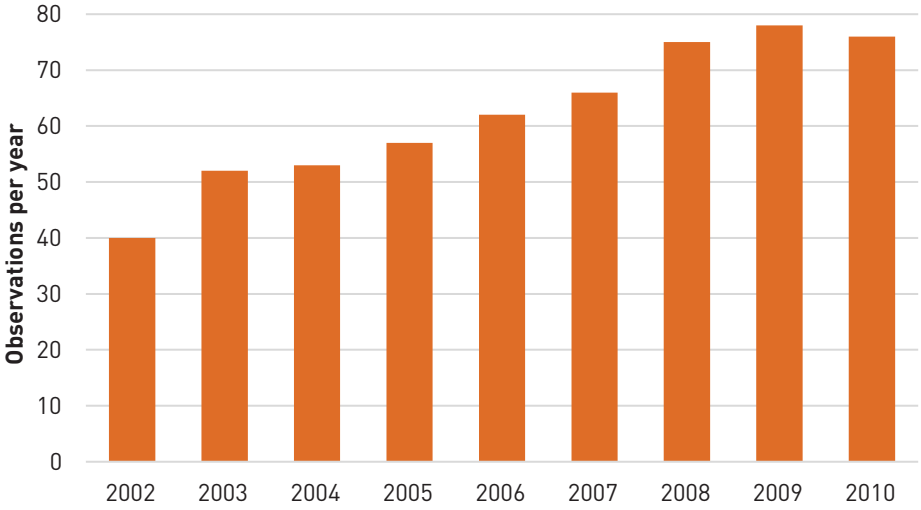


Figure 2. The distribution of observations by macro-region

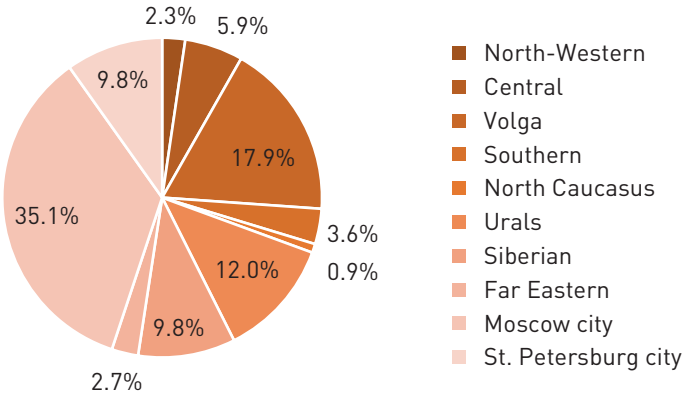
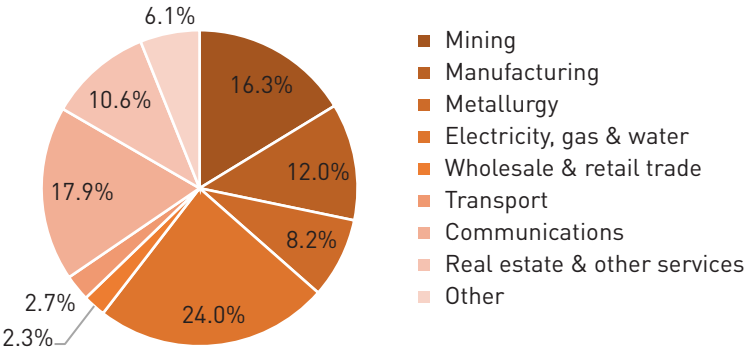


Figure 3. The distribution of observations by industry



The S&P data are supplemented by additional firm-level information obtained from SKRIN, one of the main sources on Russian enterprises whose retrospective coverage goes back to the mid-1990s[8]. It provides a wealth of data on various aspects of companies' operations, such as annual and quarterly financial reports, the distribution of ownership among major shareholders (the reporting threshold in Russia is 5%), and the composition of corporate boards. Although the amount of information provided by SKRIN is huge, only a few variables are available in a ready-to-use format, structured by company and year. Therefore, we manually processed a large portion of the available data to create variables that describe corporate boards and the ownership structure of the companies studied, including the dual-class stock status, the ownership-control wedge and the identity of the largest shareholder.

In particular, the data on cash flow and voting rights come from section 6.5 of the quarterly reports to the regulator (they are available in SKRIN). This section lists, for each owner with at least 5% ownership, their shares of both eq-

[8] The resource is available at http://www.skrin.com/ as accessed on January 20, 2024.

uity and common (voting) stock as recorded at the time of each shareholder meeting. We rely on data from regular meetings, which usually take place between April and June each year. We associate the share of equity with cash flow rights and the share of common stock with voting rights.

The available ownership data allow us to identify three broad categories of owners, namely the state, domestic private shareholders and foreigners. We are also able to distinguish between direct and indirect state ownership and identify foreign owners from offshore jurisdictions (for more details, see Appendix/Supplementary Material A2). As a result, there are five broad ownership categories (shareholder identity variables) in the analysis: direct state ownership, indirect state ownership, domestic private ownership, foreign non-offshore ownership, and foreign offshore ownership. A more detailed breakdown is difficult due to the relatively small number of observations, resulting in thin categories. For example, the division of domestic private owners into natural and legal persons shows that only 5% of observations fall into the category of natural persons.

Descriptive statistics

The descriptive statistics of the key data are presented in Table 1. The total disclosure index is at the top of the table (*Total_disclosure*) followed by the three sub-indices of disclosure (*Ownership_disclosure*, *Financial_disclosure* and *Board_manag_disclosure*) as well as key governance variables that characterize ownership, performance and other aspects of the firms. The descriptive statistics suggest a modest level of transparency and disclosure by Russian companies. The overall index reaches a value of 50, which corresponds to exactly half of the maximum on the S&P scale (0 to 100 points). In terms of disclosure dynamics, there was a clear upward trend until the 2008 financial crisis and stabilization (or even a slight decline) thereafter (see the averages of disclosure scores over time in Figure 4).

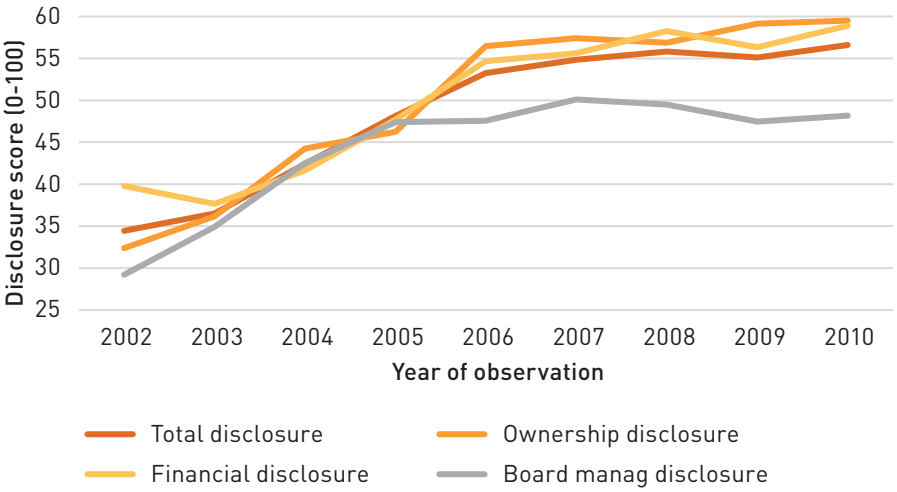
Table 1. Descriptive statistics of the variables

Variable	Definition	Mean	p50	SD	Min	Max
Total_disclosure	S&P T&D disclosure score, 0-100	50.03	52.42	16.73	6.08	85.50
Ownership_disclosure	Ownership structure and investor relations disclosure, 0-100	51.60	53.17	18.53	0	92.86
Financial_disclosure	Financial and operational information disclosure, 0-100	51.47	55.06	19.22	0	89.13
Board_manag_disclosure	Board and management structure and process disclosure, 0-100	45.21	45.07	16.14	0	86.00
DUAL	Dummy for a dual-class stock firm	0.37	0.00	0.48	0.00	1.00
WEDGE	The wedge, VOTING_R- CASH_ FLOW_R	2.74	0.00	4.88	-6.98	16.33
CASH_FLOW_RIGHTS	Cash-flow rights of the largest shareholder	46.99	44.72	18.72	9.52	100.00
VOTING_RIGHTS	Voting rights of the largest shareholder	49.73	50.67	18.89	6.24	100.00
STATE	Dummy for the largest shareholder being the state	0.41	0.00	0.49	0.00	1.00
STATE_DIRECT	Dummy for the largest shareholder being the state (directly)	0.09	0.00	0.29	0.00	1.00
STATE_INDIRECT	Dummy for the largest shareholder being the state (indirectly)	0.32	0.00	0.47	0.00	1.00
DOM_PRIVATE	Dummy for the largest shareholder being a domestic person	0.25	0.00	0.44	0.00	1.00
FOREIGN	Dummy for the largest shareholder being a foreign person	0.33	0.00	0.47	0.00	1.00
FOR_NONOFFSH	Dummy for the largest shareholder being a foreign person (non-offshore)	0.17	0.00	0.37	0.00	1.00

Variable	Definition	Mean	p50	SD	Min	Max
FOR_OFFSHORE	Dummy for the largest shareholder being a foreign person (offshore)	0.17	0.00	0.37	0.00	1.00
FIRM_SIZE	Firm size, log(sales)	11.12	10.84	1.63	1.50	15.24
ROA	Return on assets, profit before taxes/ assets, %	8.54	6.21	9.86	-10.24	34.96
LEVERAGE	Leverage, long-term debt/ (equity+long-term debt), %	22.26	18.02	18.73	0	69.63
TWO_TIER	Dummy for a two-tier board	0.68	1.00	0.47	0.00	1.00
BOARD_SIZE	Size of the board	10.26	11.00	2.16	5.00	17.00
NONEXEC_SHARE	Share of non-executive directors on the board, %	81.09	88.89	18.33	11.11	100.00
AUDIT_COMM	Dummy for an audit committee	0.63	1.00	0.48	0.00	1.00
ADR	Dummy for ADR/GDR	0.67	1.00	0.47	0.00	1.00
BIG-4_AUDITOR	Dummy for a Big-4 auditor	0.67	1.00	0.47	0.00	1.00

Note: The number of observations is 559 for all variables.

Figure 4. Dynamics of S&P transparency and disclosure scores



Dual-class stock companies account for approximately 37% of the sample. The average wedge between ownership and control is 2.74% (calculated for all firms in the sample). Regarding ownership and control, the data show a significant concentration of both, which is consistent with previous studies (e.g., [65–66]). In particular, the ownership stake of the largest shareholder averages 47%, while the control stake is just under 50%. Regarding the identity of the largest owners, state and state-controlled entities are the largest shareholders in 9% and 32% of the companies sampled, respectively. Domestic private shareholders dominate in 25% of the companies, and foreign shareholders in 34%. Interestingly, the percentages of offshore and non-offshore foreign ownership are very similar, at around 17% each.

The financial data suggest that the sampled companies are, on average, profitable and moderately levered. A comparison of the size of sampled companies with that of the universe of publicly traded firms in Russia (e.g., [64]) suggests that the former are slightly larger than the latter. The other variables in Table 1 indicate whether the firm has issued ADRs and appointed a BIG-4 auditor as well as characterizing its corporate board. All these factors have been identified as important determinants of corporate disclosure in previous research (see, e.g., [39]).

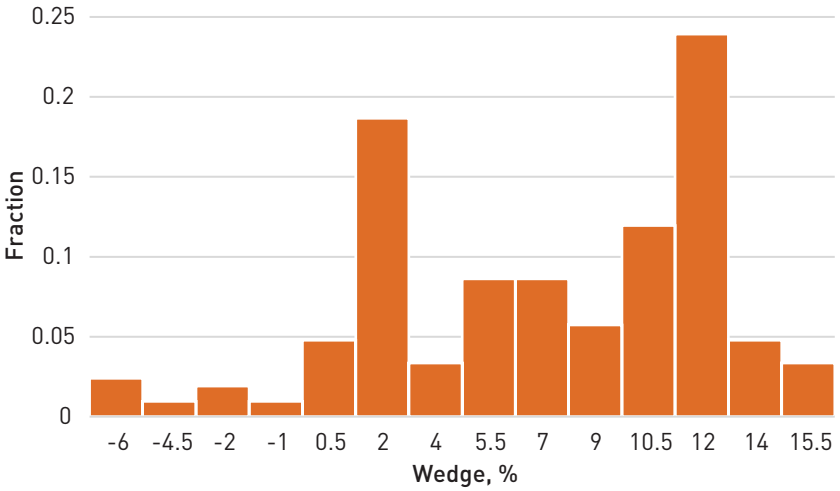
Table 2. Means of key variables by company type

Variable	SINGLE-CLASS	DUAL-CLASS	Difference
Total_disclosure	52.48	46.03	6.45***
Ownership_disclosure	53.42	48.64	4.78***
Financial_disclosure	54.63	46.31	8.32***
Board_manag_disclosure	46.67	42.82	3.85***
DUAL	0.00	1.00	n/a
WEDGE	0.00	7.33	-7.32***
CASH_FLOW_RIGHTS	49.78	42.30	7.48***
VOTING_RIGHTS	49.79	49.63	0.16
STATE	0.32	0.56	-0.24***
STATE_DIRECT	0.11	0.07	0.04
STATE_INDIRECT	0.21	0.50	-0.29***
DOM_PRIVATE	0.27	0.23	0.04
FOREIGN	0.41	0.20	0.21***
FOR_NONOFFSH	0.18	0.15	0.03
FOR_OFFSHORE	0.24	0.05	0.19***
FIRM_SIZE	11.07	11.19	-0.12
ROA	8.52	8.55	-0.03
LEVERAGE	22.23	22.30	-0.07
TWO_TIER	0.69	0.67	0.02
BOARD_SIZE	9.97	10.73	-0.76***
NONEXEC_SHARE	79.95	82.95	-3.00*
AUDIT_COMM	0.77	0.41	0.36***
ADR	0.67	0.68	-0.01
BIG-4_AUDITOR	0.67	0.67	0.00

Note: Asterisks denote significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 2 shows the descriptive statistics by company type, i.e., separately for single-class and dual-class companies. The disclosure score for single-class stock companies is significantly higher than for their dual-class stock counterparts, at 52.48 vs. 46.03, providing initial support for Hypothesis H1. This also applies to all disclosure sub-indices. The two types of firms are similar in terms of the voting rights of the largest shareholders, but differ in terms of their ownership rights. The distribution of the wedge between control and ownership in dual-class stock firms is shown in Figure 5. It has two modes, at about 2% and 12%. Interestingly, some companies feature a negative wedge, when the largest shareholder has more ownership rights than control rights.

Figure 5. Distribution of the wedge in dual-class stock firms



There are notable differences in the distribution of the identity of the largest shareholder between the two types of firms. Specifically, the largest shareholder in more than half of the dual-class stock companies is affiliated with the state, while the corresponding share in single-class stock companies is less than a third. However, the data do not suggest dramatic differences in the variables related to corporate governance (e.g., the proportion of non-executive directors, the issue of ADR, and the appointment of a BIG-4 auditor). The only exceptions are larger boards and a lower propensity to establish an audit committee in firms issuing dual-class shares.

Methods

Our empirical framework is similar to that used in most other disclosure studies, for example, those by G. Bueno et al. [67] and A. Gisbert and B. Navallas [68]. The regression analysis takes the disclosure score as the dependent variable and a measure of the separation of ownership and control and other corporate governance and financial attributes of companies as the explanatory ones. In its most general form, our econometric model can be written as follows:

$$Disclosure_{it} = \alpha_i + \boldsymbol{GAP}_{it}\boldsymbol{\beta} + \boldsymbol{X}_{it}\boldsymbol{\varphi} + \upsilon_t + \varepsilon_{it}, \quad (1)$$

where $Disclosure_{it}$ stands for the disclosure score of firm i in year t, α_i is an intercept (which is firm-specific), $\boldsymbol{GAP}_{it}$ describes the wedge between ownership and control (which can be a scalar or a vector), vector $\boldsymbol{X}_{it}$ denotes a set of control variables used in similar analyses (e.g., industry dummies, firm size, and leverage), and υ_t is a time effect. In particular, consistent with Hypotheses H1 and H2, ***GAP*** may be represented by the binary variable *DUAL* indicating dual-class stock companies, the continuous variable *WEDGE* measuring the control-ownership wedge of the largest shareholder or, in a more detailed analysis, two continuous variables characterizing ownership and control of the largest shareholder, *VOTING_RIGHTS* vs. *CASH_FLOW_RIGHTS*. The aforementioned hypotheses are not rejected when the estimated $\boldsymbol{\beta}$ is statistically different from zero.

Next, in order to test Hypothesis H3, we use a scalar measure of the wedge (variable *WEDGE*) interacted with the shareholder identity variables (assembled in vector $\boldsymbol{IDENT}_{it}$) available in the dataset, e.g.:

$$Disclosure_{it} = \alpha_i + WEDGE_{it} \cdot \boldsymbol{IDENT}_{it}\boldsymbol{\beta} + \\ + \boldsymbol{X}_{it}\boldsymbol{\varphi} + \upsilon_t + \varepsilon_{it}. \quad (2)$$

In this setup, Hypothesis H3 finds support in the data when the estimated components of vector $\boldsymbol{\beta}$ are statistically different from each other.

When selecting control variables (vector $\boldsymbol{X}_{it}$), we primarily rely on previous studies of disclosure conducted by G. Michelon et al. [69], M.Glaum et al. [70] and D. Vural [71]. Therefore, we include firm size, leverage, profitability, and industry dummies as key controls[9]. This results in a rather parsimonious specification that excludes potentially endogenous variables and reduces multicollinearity. We also consider an extension of model (2) which incorporates owner identity variables ***IDENT*** as additional control variables. This extension accounts for possible direct effects of shareholder identity, especially given its unequal distribution between single and dual-class stock firms (see Table 2).

We also perform a number of robustness checks by examining the effects of the separation of ownership and control on the three components of *Total_disclosure* (*Ownership_disclosure*, *Financial_disclosure*, and *Board_manag_disclosure*) and by adding additional control variables that have been found important in previous studies of corporate governance and disclosure, including in Russian firms (e.g., [71; 73–74]). These variables include board size, the proportion of non-executive directors (as a measure of board independence), a dummy for the issue of ADRs and a dummy for the appointment of a BIG-4 auditor. We ex-

[9] The selection of the control variables is theoretically grounded. For example, the inclusion of the leverage variable is motivated by the supposition that more levered firms have a lower need for disclosure as leverage helps control the free cash flow problem [72].

pect that these modifications of the main model will have no material effect on our findings.

As regards estimation, we consider pooled OLS, fixed effects (FE), and random effects (RE) estimators. In all cases, we calculate cluster-robust standard errors to account for potential heteroskedasticity and within-firm correlation of the error terms. The pooled OLS model is the most restrictive because it imposes the common intercept $\alpha_i = \alpha \; \forall \; i$ and therefore ignores unobserved heterogeneity across firms. The presence of unobserved effects α_i is checked using the Breusch and Pagan test for random effects (after the RE estimation). When unobserved heterogeneity is detected, the RE estimator is theoretically preferred as the most efficient; however, it is inconsistent if α_i are correlated with the regressors of the model. In this case, one has to rely on the FE estimator, which does not impose any restrictions on the correlation between α_i and the regressors. The main disadvantage of this estimator is that it solely uses the within variation in the variables, which may be small or even absent for many corporate governance attributes. We check the consistency of the RE estimator (and choose between the FE and RE estimators) using the robust version of the Hausman test [75].

Empirical results

Main empirical results

The main empirical results are presented in Table 3. They are organized according to the hypotheses stated in second section. Specifically, we start with the simplest model in which the control-ownership wedge is proxied by a dummy variable taking the value of 1 for dual-class stock companies and 0 otherwise (Column 1). This corresponds to Hypothesis H1. Next, we move on to the continuous wedge variable (Column 2) and, as is commonly done in the literature (e.g., [48]), consider its disaggregation into two variables measuring the ownership and voting rights of the largest shareholder (Column 3). These models are intended to verify Hypothesis H2. Finally, in order to test Hypothesis H3, we consider the interactions of the continuous wedge variable with binary variables for shareholder identity. Here we use either a simple categorization of shareholder identity based on three categories (Column 4) or a more nuanced one based on five categories (Columns 5 and 6). The model in Column 6 is similar to that in Column 5, but includes owner identity variables as additional regressors.

Table 3. Main regression results, the RE estimator

	(1)	(2)	(3)	(4)	(5)	(6)
DUAL	−9.210***					
	(2.127)					
WEDGE		−0.474**				
		(0.235)				
VOTING_RIGHTS			−0.477**			
			(0.239)			
CASH_FLOW_RIGHTS			0.456*			
			(0.235)			
WEDGE*STATE				−0.307		
				(0.189)		
WEDGE*STATE_DIRECT					−1.410*	−0.465
					(0.746)	(0.894)
WEDGE*STATE_INDIRECT					−0.242	−0.390**
					(0.190)	(0.196)
WEDGE*DOM_PRIVATE				−1.285***	−1.311***	−1.046***
				(0.330)	(0.328)	(0.359)
WEDGE*FOREIGN				0.412		
				(0.359)		
WEDGE*FOR_NONOFFSH					0.768***	0.700*
					(0.291)	(0.425)

	(1)	(2)	(3)	(4)	(5)	(6)
WEDGE*FOR_OFFSHORE					−1.017***	−1.105***
					(0.325)	(0.384)
STATE_INDIRECT						5.507*
						(3.018)
DOM_PRIVATE						1.330
						(2.736)
FOR_NONOFFSH						6.762*
						(3.755)
FOR_OFFSHORE						6.313*
						(3.565)
FIRM_SIZE	3.488***	3.242***	3.258***	3.356***	3.289***	3.454***
	(0.430)	(0.412)	(0.415)	(0.424)	(0.403)	(0.410)
ROA	−0.045	−0.032	−0.032	−0.020	−0.030	−0.041
	(0.077)	(0.076)	(0.076)	(0.074)	(0.074)	(0.081)
LEVERAGE	0.014	0.018	0.018	0.023	0.019	0.015
	(0.035)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Industry dummies	Yes	Yes	Yes	Yes	Yes	
Time dummies	Yes	Yes	Yes	Yes	Yes	
P-values of stat. tests:						
Breusch-Pagan for RE	0.000	0.000	0.000	0.000	0.000	0.000
Hausman test	0.723	0.521	0.731	0.396	0.659	0.527
Equality of coefficients on WEDGE* regressors				0.000	0.000	0.000
R2_overall	0.544	0.507	0.504	0.550	0.556	0.579
No. obs.	559	559	559	559	559	559

Note: The results are obtained using the RE estimator (supported by the Hausman test). The dependent variable is *Total_disclosure* in all models. Cluster-robust standard errors (clustering on firms) are in parentheses. Asterisks denote significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The equality of coefficients tests refer to the test that the coefficients on the interaction of *WEDGE* with shareholder identity variables used in a particular specification (e.g., *STATE*, *DOM_PRIVATE* and *FOREIGN*) are the same.

The table also reports the results of key specification tests – the Breusch and Pagan test for random effects and a robust version of the Hausman test. All the regressions we ran show the presence of unobserved heterogeneity across firms (the Breusch and Pagan test) as well as the consistency of the random-effects estimator (the Hausman test). Given the inefficiency of the fixed-effects estimator, we use the random-effects estimates as our benchmark results[10].

The estimates obtained for the simplest model in Column 1 show that the amount of disclosure is considerably lower in dual-class stock firms compared to their single-class stock counterparts as evidenced by the large and statistically significant coefficient on the variable *DUAL*. Quantitatively, the difference in the disclosure score between these two groups is 9.2% (the percentage interpretation is possible due to the dependent variable ranging from 0 to 100). This result lends strong support to Hypothesis H1.

[10] The fixed-effects estimator relies on the within variation in the variables, which is small or even absent for some corporate governance attributes. In our dataset, the within variance of the disclosure variables is only about half of the between variance; for some other variables, such as *DUAL* and *Firm_size*, it is even smaller. The FE results are available from the authors on request.

Regarding the control variables, it can be seen that larger firms tend to disclose more; this result will hold throughout our analysis. This effect of firm size has been found in most previous studies on disclosure (e.g., [7]). Industry effects are also important, as the respective dummies are jointly statistically significant at the 1% level (not reported). The same is true of the annual dummies. In contrast, neither leverage nor profitability has a significant impact on disclosure. This result will also be corroborated by the subsequent analysis[11].

The results in Column 2 suggest that the amount of disclosure is a decreasing function of the wedge between the voting and cash flow rights of the largest shareholder. Indeed, the negative and statistically significant coefficient on the variable *WEDGE* means that a 10-percentage point increase in the wedge reduces disclosure by approximately 4.7%. To substantiate this result, we split the wedge into two variables measuring the ownership and voting rights of the largest shareholder: *CASH_FLOW_RIGHTS* and *VOTING_RIGHTS* (Column 3). The coefficient on the former variable turns out to be positive, while the coefficient on the latter variable is negative. Therefore, disclosure increases with the ownership rights of the largest shareholder, but decreases with her control rights. Importantly, the absolute values of the two coefficients are similar, which supports the aggregation of variables *CASH_FLOW_RIGHTS* and *VOTING_RIGHTS* into a single variable *WEDGE*. The results reported in Columns 2 and 3 are thus fully consistent with Hypothesis H2.

Column 4 shows the results for the model where the effect of the wedge is allowed to vary with shareholder identity. The latter is represented by three variables – aggregate state ownership, domestic private ownership and aggregate foreign ownership (*STATE*, *DOM_PRIVATE* and *FOREIGN*). In this model, the effect of the wedge on disclosure is negative and statistically significant for domestic private ownership only; the coefficients on the other ownership categories lack statistical significance. From the perspective of Hypothesis H3, it is important to know whether or not the three coefficients are statistically different from each other. The null hypothesis that they are all equal is rejected at the 1% significance level. The pairwise differences are also statistically significant at least at the 10% level. These initial results lend support to Hypothesis H3.

In Column 5, we use a more disaggregated ownership typology (distinguishing between direct and indirect state ownership as well as between foreign offshore and non-offshore ownership) to test Hypotheses H3. The effect of the wedge on disclosure turns out to be negative and statistically significant for direct state ownership (at the 10% level), domestic private ownership (at the 1% level) and foreign offshore ownership (at the 1% level). It is insignificant for indirect ownership by the state and positive and statistically significant (at the 1% level) for foreign non-offshore ownership. The latter result implies that an increase in the wedge between ownership and control for a foreign main shareholder from a non-offshore jurisdiction leads to higher disclosure. This effect is statistically different from the estimated effects for all other groups of owners, at least at the 1% level. Most importantly, the null hypothesis that the five coefficients are equal is rejected at the 1% significance level. This lends support for Hypothesis H3 that emphasizes the role of shareholder identity.

Finally, in Column 6 we perform an additional test by adding shareholder identity dummy variables as separate controls. As already noted, these new variables account for possible direct effects of shareholder identity on corporate disclosure [14]. The key finding here is that the inclusion of additional controls does not change our main results except for those related to state ownership. In the latter case, the new estimates in Column 6 imply a negative effect of the wedge for firms where the largest shareholder is a state-controlled entity (indirect state ownership) rather than the state itself, as in Column 5[12].

An extra insight is provided by the results reported in Column 6. The coefficients on the shareholder identity dummy variables show whether, other things being equal, companies controlled by various types of large shareholders disclose more relative to companies directly controlled by the state (base category). Except for the dummy for domestic private owners, the estimated coefficients are all positive and statistically significant, suggesting that companies whose main shareholder is a state-related company or a foreign offshore/non-offshore company disclose more information compared to companies where the largest shareholder is represented by the state. However, all companies, except for those directly controlled by the state, turn out to be sensitive to the ownership-control wedge. Most interestingly, companies dominated by domestic private owners do not disclose more compared to state-owned companies yet are very sensitive to the wedge. While a similar effect of the wedge is observed for foreign offshore ownership, this category is associated with higher disclosure at the baseline. Finally, companies controlled by the state disclose less than those controlled by other types of owners. However, their disclosure practices are not sensitive to the ownership-control wedge. Overall, the results in Column 6 not only lend support

[11] The leverage and profitability are statistically insignificant and do not affect our key findings. This is true of both contemporaneous and lagged values of these variables. However, we keep them in the regressions to ensure the comparability of our models with those used in similar studies of corporate disclosure.

[12] The results reported above are robust to the inclusion of key corporate governance variables in the models, most importantly variables characterizing corporate boards (e.g., board size, the number of tiers, the share of non-executive directors, and the presence of an audit committee), cross-listing status and the quality of external audit as additional controls, and to the replacement of the dependent variable *Total_disclosure* with its three components, namely *Ownership_disclosure*, *Financial_disclosure* and *Board_manag_disclosure*. These additional results are available from the authors on request.

for Hypothesis H3 but also provide interesting nuances about the effects of various ownership types on corporate disclosure.

Discussion

This study provides strong evidence that corporate disclosure is related to the separation of ownership and control and that this relationship is influenced (moderated) by the identity of the largest shareholder. These results are broadly consistent with agency theory. Indeed, they are in line with the view that the separation of ownership and control induces the parties controlling the firm to opt for low disclosure standards, which helps them mask their consumption of private benefits (e.g., [4–5]). Moreover, the greater the wedge between ownership and control, the greater the incentive not to disclose information. Still, the most interesting results of our study relate to shareholder identity. One of our hypotheses – namely, that the effect of the ownership-control wedge (or, more broadly, of the separation of ownership and control) depends on shareholder identity – finds considerable support in the data, confirming the supposition by D. Aggarwal et al. [31].

Our analysis offers a number of additional insights. First, the negative effect of the wedge on disclosure is most pronounced when the largest shareholder is a domestic person or a foreign entity registered in an offshore jurisdiction. The former result can be linked to the evidence, particularly from the early 2000s, that domestic private ownership was not necessarily associated with better corporate governance and firm performance in Russia (e.g., [76]). The questionable legitimacy of the ownership structures that emerged during the privatization process may have resulted in high incentives for extracting private benefits and, correspondingly, low incentives for disclosure by the new private owners (e.g., [77]). The latter result (for offshore foreign ownership) can be explained by the fact that it simply masks domestic investors.

Second, the moderating effect of state ownership on the link between the wedge and disclosure turns out to be quite small. This result may be explained by more limited opportunities of both bureaucrats and managers to extract private benefits in government-owned firms compared to owners and managers in private firms. Interestingly, our findings for government ownership are at odds with those reported by G. Liu and J. Sun [2]. Indeed, they find lower disclosure quality among firms ultimately controlled by individuals compared to firms ultimately controlled by the state in China. Our results indicate a clear difference in terms of the effect on disclosure of direct and indirect government ownership, which seems to be in line with the argument by A. Cuervo-Cazurra and C. Li [78] stating that companies with indirect government ownership are more likely to behave as private firms.

Third, there is a clear difference between foreign owners from offshore and non-offshore jurisdictions. The former appear to increase the negative effect of the wedge on disclosure while the latter do not. This seems to be a new result in the literature. It may be related to the fact that foreign investor ownership is usually viewed as a factor contributing to better corporate governance in general and improved disclosure in particular (e.g., [79–80]). Such a positive effect on disclosure is especially pronounced for companies domiciled in emerging markets and for foreign investors coming from mature market economies that have better disclosure standards (foreign owners from non-offshore jurisdictions). In contrast, offshore foreign owners may simply mask domestic investors, who, as this study suggests, have lower incentives to disclose information about their companies. Moreover, there is anecdotal evidence suggesting that companies with offshore ownership were often involved in capital flight [81], implying no or low disclosure.

Conclusion

In this article, we studied the effect of the separation of ownership and control on corporate disclosure using a unique setting of exogenously created dual-class stock companies in Russia. We used a rich longitudinal dataset of Russian publicly traded companies compiled from the Standard & Poor's Transparency and Disclosure Index and the SKRIN database. We applied conventional methods of regression analysis – the pooled OLS, RE and FE estimators – to the data collected and used several specification tests and robustness checks to confirm the stability of our empirical results.

We found that the separation of ownership and control due to the issue of dual-class stock results in lower corporate disclosure. Disclosure also decreases with the wedge between the control and ownership rights of the largest shareholder (specifically, it increases with her ownership rights but decreases with her control rights). There is strong evidence that the type of controlling shareholder matters. The negative effect of the wedge is most pronounced when the largest shareholder is a domestic private person, either natural or legal, and is virtually absent for foreign shareholders from non-offshore jurisdictions. The state and state-related companies as well as foreign entities from offshore jurisdictions occupy an intermediate position.

Several caveats are due. First, we rely on data that only measure (a) total disclosure of (b) specific dimensions of company operations selected for the S&P index. While focusing on total disclosure is a sensible approach, especially in the context of emerging markets characterized by poor enforcement of and imperfect compliance with regulations, the bigger picture would still require separating voluntary disclosure from compliance with mandatory regulations. The drivers of the two may be different, as suggested by C. Arena et al. [40]. Moreover, as noted by S. Lim et al. [82], different types of disclosure, such as strategic and forward looking, financial and non-financial, etc., may be determined by different factors. While we provide evidence that our results are reasonably robust for the three components of total disclosure identified by S&P, we obviously cannot extend them to other types of disclosure, for example those related to CSR or ESG.

Second, while the Russian setting is attractive due to the exogenous creation of dual-class stock firms, there are some nuances in the rights attached to voting (common) and non-voting (preferred) shares. In general, they imply a deviation from the clean case where the cash-flow rights are identical across the two classes of stock while the voting rights differ. We assume that these nuances are of little importance and cannot significantly change our results, as suggested by previous studies of the voting premium in Russia (e.g., [41]).

Third, we do not explicitly address endogeneity concerns. Although we control for unobserved heterogeneity across firms using the RE estimator and have sufficient evidence that time-invariant omitted variables do not destroy our estimates (i.e., the Hausman test confirms that the unobserved heterogeneity is not correlated with the regressors so that the RE estimator is consistent and efficient), there are still concerns about the endogeneity of the identity of largest shareholders, which cannot be addressed in the present study (and, to our best knowledge, has not been convincingly addressed in previous studies).

Despite these limitations, we believe that our analysis offers a substantial contribution to the contemporary international literature on corporate governance and corporate disclosure, especially the part that focuses on the separation of ownership and control and the identity of the controlling owners. We also believe that our findings may be of interest not only to academics but also to regulators – for example, for tuning disclosure regulations in dual-class stock companies – as well as to investment professionals and other stock market participants for choosing companies for their investments.

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References

1. Smith E.D. The effect of the separation of ownership from control on accounting policy decisions. *The Accounting Review*. 1976;51(4):707-723.
2. Liu G., Sun J. Ultimate ownership structure and corporate disclosure quality: Evidence from China. *Managerial Finance*. 2010;36(5):452-467. https://doi.org/10.1108/03074351011039409
3. Ge X., Bilinski P., Kraft A. Institutional blockholders and voluntary disclosure. *European Accounting Review*. 2021;30(5):1013-1042. https://doi.org/10.1080/09638180.2021.1979418
4. Haw I M., Hu B., Hwang L S., et al. Ultimate ownership, income management, and legal and extralegal institutions. *Journal of Accounting Research*. 2004;42(2):423-462. https://doi.org/10.1111/j.1475-679X.2004.00144.x
5. Chen S.-S., Huang C.-W. Silence is not always golden: The effect of private benefits of control on voluntary disclosure. 2023. URL: https://ssrn.com/abstract=4443313 (accessed on 09.02.2024)
6. Jensen M.C., Meckling W.H. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*. 1976;3(4):305-360. https://doi.org/10.1016/0304-405X(76)90026-X
7. Allegrini M., Greco G. Corporate boards, audit committees and voluntary disclosure: Evidence from Italian listed companies. *Journal of Management & Governance*. 2013;17(1):187-216. https://doi.org/10.1007/s10997-011-9168-3
8. Jankensgård H. Between a rock and a hard place: New evidence on the relationship between ownership and voluntary disclosure. *International Review of Financial Analysis*. 2018;56:281-291. https://doi.org/10.1016/j.irfa.2017.09.009
9. Lepore L., Pisano S., Di Vaio A., et al. The myth of the 'good governance code': an analysis of the relationship between ownership structure and the comply-or-explain disclosure. *Corporate Governance: The International Journal of Business in Society*, 2018;18(5):809-838. https://doi.org/10.1108/CG-08-2017-0197
10. Hu Y.Y., Zhu Y., Tucker J. et al. Ownership influence and CSR disclosure in China, *Accounting Research Journal*. 2018;31(1):8-21. https://doi.org/10.1108/ARJ-01-2017-0011
11. Shleifer A., Vishny R.W. A survey of corporate governance. *Journal of Finance*. 1997;52(2):737-783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x
12. McCahery J.A., Sautner Z., Starks L.T. Behind the scenes: The corporate governance preferences of institutional investors. *The Journal of Finance*. 2016;71(6):2905-2932. https://doi.org/10.1111/jofi.12393
13. Villalonga B., Amit R. How are US family firms controlled? *The Review of Financial Studies*. 2009;*22*(8):3047-3091. https://doi.org/10.1093/rfs/hhn080
14. Khlif H., Ahmed K., Souissi M. Ownership structure and voluntary disclosure: A synthesis of empirical studies. *Australian Journal of Management*. 2017;42(3):376-403. https://doi.org/10.1177/0312896216641475
15. Masulis R.W., Wang C., Xie F. Agency problems at dual-class companies. *The Journal of Finance*. 2009;64(4):1697-1727. https://doi.org/10.1111/j.1540-6261.2009.01477.x
16. Gompers P.A., Ishii J., Metrick A. Extreme governance: An analysis of dual-class firms in

the United States. *Review of Financial Studies*. 2010;23(3):1051-1088. https://doi.org/10.1093/rfs/hhp024

17. Lee K.W. Corporate voluntary disclosure and the separation of cash flow rights from control rights. *Review of Quantitative Finance and Accounting*. 2007;28(4):393-416. https://doi.org/10.1007/s11156-007-0020-4
18. Li T., Zaiats N. Information environment and earnings management of dual-class firms around the world. *Journal of Banking & Finance*. 2017;74:1-23. https://doi.org/10.1016/j.jbankfin.2016.09.009
19. Palas R., Solomon D. The Quality of Earnings Information in Dual-Class Firms: Persistence and Predictability. *Journal of Law, Finance, and Accounting*. 2022;7(1):127-164. https://doi.org/10.1561/108.00000059
20. Amoako-Adu B., Baulkaran V., Smith B.F. Dual-class discount, and the channels of extraction of private benefits. *Advances in Financial Economics*. 2014;16:165-218. https://doi.org/10.1108/S1569-3732(2013)0000016006
21. Nguyen V.T., Xu L. The impact of dual-class structure on earnings management activities. *Journal of Business Finance & Accounting*. 2010;37(3-4):456-485. https://doi.org/10.1111/j.1468-5957.2010.02203.x
22. Cao X., Leng T., Goh J., et al. The innovation effect of dual-class shares: New evidence from US firms. *Economic Modelling*. 2020;91:347-357. https://doi.org/10.1016/j.econmod.2020.06.017
23. Adams R., Ferreira D. One share-one vote: The empirical evidence. *Review of Finance*. 2008;12(1):51-91. https://doi.org/10.1093/rof/rfn003
24. Li X., Jiao Y., Yu M.T., et al. Founders and the decision of Chinese dual-class IPOs in the US. *Pacific-Basin Finance Journal*. 2019;57(C):101017. https://doi.org/10.1016/j.pacfin.2018.04.009
25. Nüesch S. Dual-class shares, external financing needs, and firm performance. *Journal of Management & Governance*. 2016;20:525-551. https://doi.org/10.1007/s10997-015-9313-5
26. Baulkaran V. Management entrenchment and the valuation discount of dual-class firms. *The Quarterly Review of Economics and Finance*. 2014;54(1):70-81. https://doi.org/10.1016/j.qref.2013.08.001
27. McGuire S.T., Wang D., Wilson R.J. Dual-class ownership and tax avoidance. *The Accounting Review*. 2014;89(4):1487-1516. https://doi.org/10.2308/accr-50718
28. Irani R.M., Oesch D. Monitoring and corporate disclosure: Evidence from a natural experiment. *Journal of Financial Economics*. 2013;109(2):398-418. https://doi.org/10.1016/j.jfineco.2013.02.021
29. Solomon D., Palas R., Baranes A. The quality of information provided by dual-class firms. *American Business Law Journal*. 2020;57(3):443-486. https://doi.org/10.1111/ablj.12167
30. Palas R., Solomon D., Gafni D., et al. Does wedge size matter? Financial reporting quality and effective regulation of dual-class firms. *Finance Research Letters*. 2023;54:103774. https://doi.org/10.1016/j.frl.2023.103774
31. Aggarwal D., Eldar O., Hochberg Y.V., et al. The rise of dual-class stock IPOs. *Journal of Financial Economics*. 2022;144(1):122-153. https://doi.org/10.1016/j.jfineco.2021.12.012
32. Muravyev A., Berezinets I., Ilina Y. The structure of corporate boards and private benefits of control: Evidence from the Russian stock exchange. *International Review of Financial Analysis*. 2014;34:247-261. https://doi.org/10.1016/j.irfa.2014.03.008
33. Muravyev A., Telyatnikov N. Dual Class Stock Companies: Global Experience and Russian Practice. *Journal of Applied Economic Research*. 2024; 23(3):801-832. https://doi.org/10.15826/vestnik.2024.23.3.032
34. Hare P., Muravyev A. Privatization in Russia, In: Parker D., Saal D., eds. *International Handbook on Privatization*. Edward Elgar Publishing; 2003. https://doi.org/10.4337/9781781950951
35. Lim L. Dual-class versus single-class firms: information asymmetry. *Review of Quantitative Finance and Accounting*. 2016;46:763-791. https://doi.org/10.1007/s11156-014-0485-x
36. Banerjee S., Estrin S., Pal S. Corporate disclosure, compliance and consequences: evidence from Russia. *European Journal of Finance*. 2022;28(17):1770–1802. https://doi.org/10.1080/1351847X.2021.2007972
37. Grosman A. Mitigating financing constraints on investment: Ownership and transparency in Russia. *Journal of East European Management Studies*. 2022;27(3):434–461. https://doi.org/10.5771/0949-6181-2022-3-434
38. Muravyev A. Board Monitoring and Corporate Disclosure: The Role of the Institutional Environment and Firm-Level Governance. *Journal of Accounting in Emerging Economies*. 2024; forthcoming, https://doi.org/10.1108/JAEE-08-2023-0221
39. Berezinets I., Muravyev A. Disclosure and corporate governance: Evidence from Russian companies. *Russian Management Journal*. 2024; 22(2):193-222. https://doi.org/10.21638/spbu18.2024.203
40. Arena C., Bozzolan S., Imperatore C. The trade-off between mandatory and voluntary disclosure: Evidence from oil companies' risk reporting. *Journal*

Of Accounting, Auditing & Finance. 2021;38(4):986-1008. https://doi.org/10.1177/0148558X211025250

41. Muravyev A. Investor protection and the value of shares: Evidence from statutory rules governing variations of shareholders' class rights in an emerging market. *The Journal of Law, Economics, & Organization*. 2013;29(6):1344-1383. https://doi.org/10.1093/jleo/ews001
42. Cotter J., Lokman N., Najah M.M. Voluntary disclosure research: Which theory is relevant? *Journal of Theoretical Accounting Research.* 2011;6(2):77-95. https://doi.org/10.2139/ssrn.3470466
43. Zamil I.A., Ramakrishnan S., Jamal N.M., et al. Drivers of corporate voluntary disclosure: a systematic review. *Journal of Financial Reporting and Accounting.* 2023;21(2):232-267. https://doi.org/10.1108/JFRA-04-2021-0110
44. Tinaikar S. Voluntary disclosure and ownership structure: An analysis of dual-class firms. *Journal of Management & Governance.* 2014;18:373-417. https://doi.org/10.1007/s10997-012-9229-2
45. Lakhal F. Voluntary earnings disclosures and corporate governance: Evidence from France. *Review of Accounting and Finance*. 2005;4(3):64-85. https://doi.org/10.1108/eb043431
46. Garcia-Meca E., Sanchez-Ballesta J.P. The association of board independence and ownership concentration with voluntary disclosure: A meta-analysis. *European Accounting Review.* 2010;19(3):603-627. https://doi.org/10.1080/09638180.2010.496979
47. Morck R., Shleifer A., Vishny R.W. Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics.* 1988;20:293-315. https://doi.org/10.1016/0304-405X(88)90048-7
48. Forst A., Hettler B., Barniv R.R. Insider ownership and financial analysts' information environment: Evidence from dual-class firms. *Journal of Accounting, Auditing & Finance*. 2019;34(1):30-53. https://doi.org/10.1177/0148558X16670048
49. Alotaibi K.O., Hussainey K. Determinants of CSR disclosure quantity and quality: Evidence from non-financial listed firms in Saudi Arabia. *International Journal of Disclosure and Governance*. 2016;13(4):364-393. https://doi.org/10.1057/jdg.2016.2
50. Lan Y., Wang L., Zhang X. Determinants and features of voluntary disclosure in the Chinese stock market. *China Journal of Accounting Research*. 2013;6(4):265-285. https://doi.org/10.1016/j.cjar.2013.04.001
51. Amran A., Devi S.S. The impact of government and foreign affiliate influence on corporate social reporting: The case of Malaysia. *Managerial Auditing Journal.* 2008; 23(4):386-404. https://doi.org/10.1108/02686900810864327
52. Bona-Sánchez C., Perez-Aleman J., Santana-Martin D.J. Sustainability disclosure, dominant owners and earnings informativeness. *Research in International Business and Finance*. 2017;39(A):625-639. https://doi.org/10.1016/j.ribaf.2016.07.020
53. Bangert J., Myers L.A., Schmardebeck R. Disproportionate insider control and the informativeness of stock returns about future earnings. *SSRN Electronic Journal.* 2021. https://doi.org/10.2139/ssrn.3837651
54. Lobanova O., Barua A., Mishra S., et al. Earnings informativeness in dual-class firms: An empirical investigation of the earnings quality and the information environment. *Review of Accounting and Finance*. 2019;18(3):399-431. https://doi.org/10.1108/RAF-09-2017-0178
55. Lins K.V. Equity ownership and firm value in emerging markets. *Journal of Financial and Quantitative Analysis*. 2003;38(1):159-184. https://doi.org/10.2307/4126768
56. Hoi C.K., Robin A. Agency conflicts, controlling owner proximity, and firm value: An analysis of dual-class firms in the United States. *Corporate Governance: An International Review*. 2010;18(2):124-135. https://doi.org/10.1111/j.1467-8683.2010.00783.x
57. Cieslak K., Hamberg M., Vural D. Executive compensation disclosure, ownership concentration and dual-class firms: An analysis of Swedish data. *Journal of International Accounting, Auditing and Taxation*. 2021;45:100429. https://doi.org/10.1016/j.intaccaudtax.2021.100429
58. Standard & Poor's. Russian Transparency and Disclosure survey 2003: Positive changes in practices of Russian companies. *Standard & Poor's Governance Services*. 2003.
59. Patel S.A., Balic A., Bwakira L. Measuring transparency and disclosure at firm-level in emerging markets. *Emerging markets review*. 2002;3(4):325–337. https://doi.org/10.1016/S1566-0141(02)00040-7
60. Patel S.A., Dallas G.S. Transparency and disclosure: Overview of methodology and study results – United States. *SEIN Corporate Governance & Accountability eJournal*. 2002: 167766282. https://doi.org/10.2139/ssrn.422800
61. Liu Y., Valenti A., Chen Y.J. Corporate governance and information transparency in Taiwan's public firms: The moderating effect of family ownership. *Journal of Management & Organization*. 2016;22(5):662–679. https://doi.org/10.1017/jmo.2015.56
62. Black B.S., Love I., Rachinsky A. Corporate governance indices and firms' market values: Time series evidence from Russia. *Emerging Markets*

Review. 2006;7(4):361-379. https://doi.org/10.1016/j.ememar.2006.09.004

63. Enikolopov R., Petrova M., Stepanov S. Firm value in crisis: Effects of firm-level transparency and country-level institutions. *Journal of Banking & Finance*. 2014;46:72–84. https://doi.org/10.1016/j.jbankfin.2014.04.028
64. Muravyev A. Boards of directors in Russian publicly traded companies in 1998–2014: Structure, dynamics and performance effects. *Economic Systems*. 2017;41(1):5-25. https://doi.org/10.1016/j.ecosys.2016.12.001
65. Chernykh L. Ultimate ownership and control in Russia. *Journal of Financial Economics*. 2008;88(1):169-192. https://doi.org/10.1016/j.jfineco.2007.05.005
66. Iwasaki I., Mizobata S., Muravyev A. Ownership dynamics and firm performance in an emerging economy: a meta-analysis of the Russian literature. *Post-Communist Economies*. 2018;30(3):290-333. https://doi.org/10.1080/14631377.2018.1442036
67. Bueno G., Marcon R., Pruner-da-Silva A.L., et al. The role of the board in voluntary disclosure. *Corporate Governance: The International Journal of Business in Society*. 2018;18(5):886-910. https://doi.org/10.1108/CG-09-2017-0205
68. Gisbert A., Navallas B. The association between voluntary disclosure and corporate governance in the presence of severe agency conflicts. *Advances in Accounting*. 2013; 29(2):286-298. https://doi.org/10.1016/j.adiac.2013.07.001
69. Michelon G., Bozzolan S., Beretta S. Board monitoring and internal control system disclosure in different regulatory environments. *Journal of Applied Accounting Research*. 2015;16(1):138-164. https://doi.org/10.1108/JAAR-03-2012-0018
70. Glaum M., Schmidt P., Street D.L., et al. Compliance with IFRS 3-and IAS 36-required disclosures across 17 European countries: Company-and country-level determinants. *Accounting and Business Research*. 2013;43(3):163-204. https://doi.org/10.1080/00014788.2012.711131
71. Vural D. Disclosure practices by family firms: Evidence from Swedish publicly listed firms. *Accounting in Europe*. 2018;15(3):347-373. https://doi.org/10.1080/17449480.2018.1479531
72. Jensen M.C. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review*. 1986;76(2):323-329.
73. Samaha K., Khlif H., Hussainey K. The impact of board and audit committee characteristics on voluntary disclosure: A meta-analysis. *Journal of International Accounting, Auditing and Taxation*. 2015;24:13-28. https://doi.org/10.1016/j.intaccaudtax.2014.11.001
74. Garanina T., Kim O. The relationship between CSR disclosure and accounting conservatism: The role of state ownership. *Journal of International Accounting, Auditing and Taxation*. 2023;50:100522. https://doi.org/10.1016/j.intaccaudtax.2023.100522
75. Kaiser B. RHAUSMAN: Stata module to perform a (cluster-) robust Hausman test. *Statistical Software Components*. 2015:117820761.
76. Estrin S., Hanousek J., Kočenda E., et al. The effects of privatization and ownership in transition economies. *Journal of Economic Literature*. 2009;47(3):699-728. https://doi.org/10.1257/jel.47.3.699
77. Black B., Kraakman R., Tarassova A. Russian privitization and corporate governance: What went wrong. *Stanford Law Review.* 1999;52(6):1731-1808. https://doi.org/10.2307/1229501
78. Cuervo-Cazurra A., Li C. State ownership and internationalization: The advantage and disadvantage of stateness. *Journal of World Business*. 2021;56(1):101112. https://doi.org/10.1016/j.jwb.2020.101112
79. Aggarwal R., Erel I., Ferreira M., et al. Does governance travel around the world? Evidence from institutional investors. *Journal of financial economics*. 2011;100(1):154-181. https://doi.org/10.1016/j.jfineco.2010.10.018
80. Liang J.W., Lin M.F., Chin C.L. Does foreign institutional ownership motivate firms in an emerging market to increase voluntary disclosure? Evidence from Taiwan. *Review of Quantitative Finance and Accounting*. 2012;39:55-76. https://doi.org/10.1007/s11156-011-0245-0
81. Mueller D.C., Peev E. Corporate governance and investment in Central and Eastern Europe. *Journal of Comparative Economics*. 2007;35(2):414-437. https://doi.org/10.1016/j.jce.2007.02.001
82. Lim S., Matolcsy Z., Chow D. The association between board composition and different types of voluntary disclosure. *European Accounting Review*. 2007;16(3):555-583. https://doi.org/10.1080/09638180701507155

Appendix/Supplementary material

A1. The Standard & Poor's Transparency and Disclosure survey in Russia

The Russian transparency and disclosure survey was launched by Standard & Poor's in 2002 to supplement the data on 13 Russian companies that were included in the S&P/IFCI 1200 (Emerging Markets) index. The survey used only publicly available information (from annual reports, corporate websites as well as reports to the regulator) and, therefore, a company's transparency score is different from its corporate governance score and cannot be interpreted as a measure of governance standards. The transparency score is just one of the key factors affecting a firm's attractiveness to investors and an important element of corporate governance.

The survey was run from 2002 to 2010. The number of firms studied varied from 42 in 2002 to 90 in 2010. These were mostly Russian blue-chips from the non-financial sector. The majority of them were traded on the Russian stock market or simultaneously in Russia and abroad. Only a handful of firms were only traded abroad (those registered abroad, but whose operations were predominantly in Russia).

The main criteria used by S&P to select the firms for the study were the size and liquidity of stocks. Some companies with relatively illiquid stocks but fluid markets for corporate bonds were also included in the early waves of the study[13].

S&P compiled an overall transparency and disclosure index as well as three sub-indices based on information about individual disclosures, whose number fluctuated somewhat between the waves due to methodological refinements[14]. The three sub-indices were:

- T&D ownership structure and shareholders rights;
- T&D financial and operational information;
- T&D board and management structure.

The methods of data collection and processing were similar across the waves of the study, albeit a minor change in the methodology occurred in 2004.

Because some of the items were irrelevant for certain companies (for example, single-class stock companies cannot disclose the rights attached to preferred (non-voting) shares), these items were excluded from the calculation of the overall index and its sub-indices for the respective companies with the appropriate adjustment of the weights for the remaining items.

[13] In particular, the 2004 companion book indicates that the survey includes "17 companies in the S&P/IFCG Index, as well as 33 of the other largest companies in Russia (List 1). We also included 10 companies with illiquid or closely held stocks, which have their ruble-denominated bonds first-tier listed on the Moscow Interbank Currency Exchange".

[14] In particular, the 2004 companion to the S&P data specifies, "As noted above, as a result of methodological adjustments, the direct comparison of scores from 2003 and 2004 surveys is not robust in the scientific sense".

A2. Additional information about the identification of key governance variables

1. Direct vs. indirect government ownership

These are identified in several steps. First, we look for matches between government structures and agencies that can have ownership stakes in firms according to Russian law (e.g., the Ministry of State Property, the Russian Federal Property Fund, regional governments and their agencies) and the list of shareholders of the companies sampled. Adding up the stakes of these entities in a given firm produces a measure of direct government ownership. Second, we look for matches between the main state-controlled holdings such as RAO UES, Svyazinvest and Gazprom and the list of shareholders in the companies sampled. Any matches add to our measure of indirect government ownership. Finally, we check the remaining shareholders in the sampled companies for their connection with the state via other firms. A shareholder is considered state-related (and its stake in the firm is added to indirect government ownership) if government structures and agencies have at least a 25% stake in it.

For all intermediate links between the state and the shareholders of the firms sampled, we keep the 25% threshold. However, the measure of indirect government ownership is based on the final link between the shareholder and the company. For example, if the state owns 45% of company A, company A owns 30% of company B, which in turn owns 49% of company C included in our sample, indirect government ownership in company C is estimated at the level of 49%.

2. Offshore vs. non-offshore foreign ownership

Foreign ownership is identified from the names of shareholders and their addresses. In the SKRIN database, the names and addresses of foreign shareholders are normally given in Latin letters, as compared to Cyrillic letters for national shareholders. Foreign legal entities also have specific abbreviations such as Ltd., GmbH, AS, AB, etc. For example, the largest shareholder of company Mechel (MTLR) in 2010 was "Dalewave Limited" registered at "Themistokli Dervi, 3, Julia House, P.C. 1066, Nicosia, Cyprus" – all this is written in Latin letters. We take advantage of this feature of the data to screen foreign shareholders. We additionally check for the country name in the address, which allows us to identify the country of origin for the main shareholders. An interesting fact that emerges from this exercise is that most foreign shareholders are legal entities registered in Cyprus (e.g., among the largest shareholders, 81.3% are Russian legal and physical persons, 10.2% are shareholders with addresses in Cyprus, 1.9% – in the US, 1.7% – in Sweden and 1.3% – in the Netherlands). We identify offshore jurisdictions based on the IMF study "Offshore Financial Centers: IMF Background Paper" (International Monetary Fund. 23 June 2000).

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