# Oligarchs, institutional change, and firm valuation: Russian evidence

by

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*JEL: G3, G32, P26*

*Key words: oligarchs; subversion of institutions; political connections; ownership structure; cross-listing; investor protection*.

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# Oligarchs, institutional change, and firm valuation: Russian evidence

**Abstract**

The Russian equity market with its poorly functioning institutions has been plagued by the agency problem between the controlling shareholder and minority shareholders. We explore how the political regime change from Yeltsin to Putin has changed the valuation of oligarch-controlled firms relative to other firms. We expect that the reduction in political connectedness and the empowering of the state vis-à-vis the oligarchs have implications for the agency conflicts between oligarchs and minority shareholders. We find that during the Yeltsin era oligarch-run firms have lower valuations than other firms, whereas during the Putin regime such firms have higher valuations than other firms with other domestic controlling owners. The results suggest that the value from oligarchs' high ownership incentives did not accrue to minority shareholders before the oligarchs' influence on the government had declined.

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## 1. Introduction

Russian firms have experienced significant changes in their corporate governance structures since the collapse of the Soviet Union in 1991. The voucher privatization program enabled shareholdings by outsiders, managers as well as employees (e.g., Boycko et al., 1995). The privatization process, including the subsequent loans-for-shares auctions, gave rise to the so-called oligarchs with an influence over the Russian economy (Guriev and Rachinsky, 2005; Shleifer and Treisman, 2005). While it appears theoretically rather clear that private ownership concentration is needed to achieve efficient restructuring in former state-controlled firms (e.g., Shleifer and Vishny, 1997), authors disagree on the costs and benefits of the oligarchs in the Russian economy. Those emphasizing the positive role of oligarchs in Russia's economic recovery include Boone and Rodionov (2002), Aslund (2004), Guriev and Rachinsky (2005), and Shleifer and Treisman (2005), whereas those who view oligarchs as having weakened Russia's economy include Stiglitz (2002), and Goldman (2004). We try to reconcile these opposing views by positing that to understand the role of oligarchs one has to recognize their incentives and their relation to political institutions.

Theory points out that there are two key governance mechanisms that affect firm value. First, a higher ownership stake by the entrepreneur reduces the interest to expropriate minority shareholders (Jensen and Meckling, 1976). Second, increases in investor protection make expropriation of minority shareholders costlier (La Porta et al., 2000, 2002). In the 1990s, the oligarchs obtained significant private benefits from subverting economic and political institutions to their own benefit (Hellman, 1998;

Glaeser et al., 2003). The oligarchs also lobbied against legal reform because such reforms would have reduced the value of their private benefits of control (Sonin, 2003). We conjecture that the regime shift from Yeltsin to Putin helped separate big business from the Kremlin, and therefore the regime shift increased the cost of extracting private benefits and consequently increased the market values of oligarch-controlled firms.

Using a sample of 117 Russian listed firms for the period 1998 to 2003, we find that oligarch-controlled firms have lower firm valuations compared to firms with other types of controlling shareholders during Yeltsin's II period in power, but that such oligarch-controlled firms are associated with higher firm valuations during the Putin I administration. The results on the performance of the oligarch-controlled firms support the view that private owners with large control stakes need to be constrained through a higher separation between them and the state, so that they will opt for strategies to maximize shareholder value as opposed to the extraction of private benefits. We also find that an increase in the concentration of ownership rights by the largest shareholder is associated with higher firm valuations especially during the later years of the study. Firms that opted for cross-listings in more shareholder friendly regimes have been able to increase firm valuations during the Yeltsin era but not afterwards.

Our results fit rather well with some recent findings in other empirical studies. Guriev and Rachinsky (2005) find that Russian oligarch-controlled firms had significantly higher productivity growth in year 2002, but not during earlier years. Focusing on the 1990s, Filatotchev et al. (2001) find that ownership concentration is negatively related to firm performance. This result suggest that the entrenchment effect with ownership concentration overshadowed the incentive effects when institutions

where especially poor in Russia. Desai et al. (2005) show that the Russian firms in the extractive industries (oil and minerals) that were targeted by increased tax enforcement in the beginning of President Putin's first term experienced increases in stock values. This result suggests that increased law enforcement dampened minority shareholder expropriation. Recent evidence expands our understanding of how institutions affect the cost of diverting profits, and therefore the transfer of value from controlling shareholders to minority shareholders.

The paper proceeds as follows. Section 2 briefly reviews the literature on the evolution of oligarchs and presents theoretical predictions. Section 3 presents the sample, and descriptive statistics on corporate governance characteristics. Section 4 discusses the regression results. Section 5 concludes the paper.

## 2. Political regime change and the valuation of oligarch firms

In this section, we briefly discuss how the political influence of the oligarchs may be related to the cost of extracting private benefits and consequently to the valuation of their firms under the different political regimes. We then apply the framework to the Yukos affair.

### 2.1. Theoretical predictions

#### 2.1.1 Oligarchs and the state: ownership incentives and risk of collusion

Guriev and Rachinsky (2005) argue that Russian oligarchs[2] have played an important role in Russian capitalism and maintain that oligarchs can be more efficient than other domestic controlling owners because of (1) lower separation between ownership and control, (2) better access to capital, (3) better control of hold up problems, and (4) better protection against the "predatory" state. Moreover, Aslund (2005) notes that oligarchs often brought with them new management and replaced so-called red directors. The large private ownership stakes acquired by the oligarchs created significant incentives to improve firm performance (e.g., Jensen and Meckling, 1976; Shleifer and Treisman, 2005). Casual evidence provided by Shleifer and Treisman (2005) shows that the oligarchs also invested heavily in their firms. In more recent years, Guriev and Rachinsky (2005) show that the productivity growth in 2002 was higher in oligarch-controlled firms than in firms with private domestic controlling owners or the state in

[2] Aslund (2005, p. 6) defines an oligarch as "a very wealthy and politically well-connected businessman, a billionaire, or nearly so who is the main owner of a conglomerate and has close ties with the president".

control. However, there was also a risk of collusion between the Kremlin and the oligarchs especially during the 1990s. In theory, such collusion is less likely when the entrepreneur holds a larger share of the cash flow rights and shareholder protection is of better quality (e.g., Tirole, 2006). Next, we will discuss how the political influence of the oligarchs influenced minority shareholders through subversion of institutions, and how the regime change from Yeltsin to Putin affected such subversion.[3]

### 2.1.2 The cost of extracting private benefits during the Yeltsin era

During the Yeltsin era, oligarchs enjoyed significant private benefits from their political power. Due to the weak institutions in Russia after the mass privatization, the economic and political consolidation of control in the hands of oligarchs led to expropriation of minority shareholders on a large scale (Glaeser et al., 2003). The oligarchs used their power to dilute minority shareholders' interests with legal impunity in order to consolidate their control over firms (Glaeser et al., 2003). More generally, the political power of the oligarchs allowed their firms to subvert law enforcement and escaping punishment for breaching contracts. For political reasons, President Yeltsin agreed to the notorious "loans-for-shares" program in which some oligarchs got hold of some valuable natural resource companies in exchange for loans to the government (Shleifer and Treisman, 2005). The oligarchs also used their political power to stop legal reform in the 1990s because they got private benefits from doing so (Sonin, 2003;

[3] Glaeser and Shleifer (2003, p. 402) define both illegal and legal subversion of institutions. Whereas legal subversion includes obtaining favourable legislation, lobbying for appointments of friendly law enforcers, hiring top lawyers, or using delay tactics in case of suits, illegal subversion techniques include intimidating and bribing judges, regulators, or juries.

Glaeser et al., 2003; Hellman, 1998). Thus, to the extent that oligarchs could use their political contacts to reduce the cost of extracting private benefits during this era, we expect the oligarchs to share a lower fraction of the cash-flows with outside shareholders. In terms of valuation taken from the perspective of minority shareholders, the high political favoritism should decrease the valuation of oligarch-run firms *relative* to firms with other types of private owners during the period of high institutional subversion.

### 2.1.3 The cost of extracting private benefits during the Putin era

The Yeltsin-Putin regime change meant a reduction in, or even elimination of, the political influence of the oligarchs (Glaeser et al., 2003). President Putin wanted to strengthen the power of the state vis-à-vis the oligarchy and other institutions (e.g., Thompson, 2004). To do so, "much of what Mr Putin did in his first term was aimed at dismantling Mr Yeltsin's legacy" (The Economist, May 20, 2004). Glaeser et al. (2003, p. 214) note that Putin "immediately moved to pursue legal reform and to increase the police powers of the state", although it is not clear to what extent *law enforcement* actually took place under Putin's first period. Desai et al. (2005) argue that improved tax enforcement that followed Putin's election positively affects firm valuation. However, the oligarchs themselves did not start to lobby for improved rule of law before they had seen their influence over the government decline (Stiglitz, 2002). Hence, to the extent that the reduction in the political influence of the oligarchs during the Putin era increased their cost of extracting private benefits or tunneling, we expect that the oligarchs will share a larger fraction of the cash-flows with outside shareholders. Thus, the reduction in

political influence should increase the valuation of oligarch-run firms *relative* to firms with other types of private owners from the perspective of minority shareholders.

**2.2 Case study**

The Yukos-Khodorkovsky case can be used to describe the transformation of oligarch-controlled firms. Hoffman (2003) asked what *the forces of the oligarchs' transformation* were. Would the other oligarchs in addition to Khodorkovsky also mend their ways? Authors including Hoffman (2003), Boone and Rodionov (2002), Aslund and Boone (2002) argue that it was the uncontested nature of ownership that drove the change of the oligarchs' behavior. We argue that although the ownership stakes gave oligarchs significant incentives to increase firm performance, the regime change affected the agency problem between the oligarchs and the outside shareholders. In other words, both institutions and ownership helped transform the oligarchs. We use the Yukos-Khodorkovsky case to illustrate how the oligarchs and the Kremlin can interact.

Yukos was established in 1993 by the Russian government by integrating various state-owned production, refining, and distribution companies (Aron, 2003). Khodorkovsky's Menatep acquired control over Yukos through a loans-for-shares auction in 1995. When the state defaulted on the loan, Yukos became the property of Khodorkovsky and his partners. In return for the sweetheart deals, Khodorkovsky and other oligarchs supported election the of Yeltsin for a second presidential term. The oligarchs also gave their support to Yeltsin by using their television networks and the newspapers they controlled (Shleifer and Treisman, 2005).

Khodorkovsky's efforts to consolidate control in Yukos were associated with serious expropriation of minority shareholders interests.[4] According to Black et al. (2000), Yukos reported oil revenues of $8.60 per barrel for year 1996, what was about $4 below what they should have been, with the difference probably benefiting the controlling shareholders. Yukos purchased oil from its subsidiaries, which had large minority interests, at low prices, averaging about $7.5 per barrel, low enough so that these subsidiaries, with combined pretax profits at around 1 billion before Yukos had taken control, reported soon minimal profits or outright losses, and defaulted on their tax payments (Black et al., 2000). Lacking shareholder approval, these sales were an obvious violation of company law. It appears that Yukos could use its political influence to reduce the cost of minority shareholder expropriation.[5]

In 1998, Yukos proposed shareholder approval packages that included share issues to dilute minority shareholders, a multi-year agreement on transfer pricing to the benefit of Yukos' controlling shareholders, and asset transfers (assets stripping), all to the detriment of minority shareholders (Black et al., 2000). Minority shareholders opposed the proposals and were given the opportunity to sell their shares back to the company at prices that valued the three subsidiary companies with 13 billion barrels of proven oil reserves at $33million (Black et al., 2000). Yukos needed shareholder approval for the expropriation. Yukos owned only a simple majority of the shares in the subsidiaries, and needed 75% of the votes of the shareholders who participated in a shareholder meeting to authorize the minority shareholder expropriations. So, the day before the shareholder meetings of the subsidiaries, Yukos found a compliant judge to declare that the minority

[4] The expropriation example by Yukos's controlling shareholders is a summary of the Yukos case in Black et al. (2000).
[5] Black et al., (2000, p. 1748) discuss Khodorkovsky's government allies.

shareholders were acting in concert, an act that was regarded as a violation of the Antimonopoly law (Black et al., 2000). Therefore, the judge disqualified everybody except Yukos and its affiliated shareholders from voting, and all proposals past as Yukos's controlling shareholders had intended.

Putin's rise to power meant an increase in the cost of extracting private benefits from other stakeholders. To begin, it has been claimed that Putin offered the following pact to the oligarchs on July 28, 2000: as long as they stayed out of politics and paid taxes, Putin would respect their property rights (see, e.g., Thompson, 2004). This pact defined the relation between the president and the oligarchs during Putin's first term (2000-2004) (e.g., Guriev and Rachinksy, 2005). Arguably, the oligarchs' reduced political influence made it more difficult to subvert institutions legally and illegally. Desai et al. (2005) discuss how the improved tax enforcement during Putin's first term might have reduced diversion. In 2003, Khodorkovsky openly criticized the corruption in the Putin administration (Guriev and Rachinsky, 2005). Khodorkovsky also donated money to opposition parties during the 2003 parliamentary elections but refused to finance United Russia despite Kremlin's requests (Aron, 2003). There were also rumors that Khodorkovsky would run for presidency (Economist, May 19, 2005). Putin did not tolerate the opposition from Khodorkovsky and his partners. What followed was the arrest of Khodorkovsky and a transfer of Yukos's assets into state hands.

The Yukos-Khodorkovsky case witnessed a transformation of a former state-controlled firm into a firm practicing Western style corporate governance. Yukos was the first major firm producing international accounts in year 1999, and the first Russian oil company reporting quarterly financial statements with USGAAP (2001).

PriceWaterhouseCoopers audited the firm's 2002 annual report (Yukos's 2002 annual report). A majority of independent directors also represented shareholders on Yukos board (Moscow Times, October 2, 2003). Yukos became the first Russian oil company to pay dividends with payouts of $300 million in 2000, $500 million in 2001, and $700 million in 2002 (Aron, 2003). Yukos issued ADRs in 2001 (Renaissance Capital Company Handbook, 2003). Thus, Yukos became one of the most transparent companies in Russia. Yukos also made significant investments. For example, in 2002 Yukos invested $1.26 billion in property, plant, and equipment (Shleifer and Treisman, 2005). In year 2000, Yukos reported that it will move export from insider-controlled trading companies to major trading companies to increase transparency.[6] In general, an increase in the cost of stealing through lower political influence and the increased cash-flow incentives by the controlling shareholders appear to have driven the transformation of Yukos. Shleifer and Treisman (2005) note that the high performance of oligarch-run oil firms compared to other oil firms such as the state-controlled Lukoil, suggests that their high performance were attributable to better management and not only higher oil prices.

The Khodorkovsky case highlights the transformation of the oligarchs from expropriators into advocates of shareholder value. There are also many outcomes. Some of the oligarchs sold off early and got out. Others waited too long, as was the case with Khodorkovsky, and got jailed. However, the Khodorkovsky case shows the change in the interaction between oligarchs and the Kremlin.

[6] Nefte Compass, Dec 21, 2000.

## 3. Data

### *3.1 Sample*

We focus on the time period after the financial crisis that affected Russia in 1998. As a starting point, we select all firms in the UBS Brunswick Russian Equity guides (UBS guides) for the six-year period of 1998 to 2003. The UBS guides primarily include Russian firms traded on Russian exchanges but also a few Russian firms traded only in the U.S. All our accounting-based data come from the UBS guides. Table 1 describes the construction of the sample.

Information on ownership structures come from two sources: UBS guides and Skrin.ru. From the UBS guide 1999/2000 we collect ownership information reflecting the situation at year-end 1998. Lacking data on ownership for year-end 1999 and 2000, we gather ownership data for these year from Skrin.ru. Ownership data for year-end 2001, 2002, and 2003 come from UBS guides labeled 2002/03, 2003/04, and 2004/05, respectively.

Data on market valuations come from two sources: UBS guides and Thomson One Banker. Valuation data that measures the corporate governance characteristics in 1998 are those market capitalizations (based on mid prices on August 1, 1999) that are published in the "capital structure" section in the UBS guide 1999/00. To get valuation measures for years 1999 and 2000, we use year-end valuation data from Thomson One Banker for these years. Valuation data measuring corporate governance characteristics for years 2001, 2002, and 2003 come from UBS guides that report market capitalizations

at July 26, 2002, August 1, 2003, and August 6, 2004, respectively. Finally, our sample containing ownership data consists of 438 firm-year observations (Basic sample). As a result of the sample and variable selection, we end up with 117 firms and 327 firm-years for the sample that facilitates empirical analysis (sample used in the regressions). The main reason for losing observations in the latter sample is due to the limited coverage of market valuation data in the Thomson One Banker database.

*3.2 Variable descriptions*

The constructions of the variables are shown in Table 2. We measure valuation as market capitalization (ordinary share price times the number of outsanding shares) divided by the book value of shareholders equity. Market capitalizations as well as book values come from various editions of the Brunswick UBS Warburg Russian Equity Guides. For the years 1999 and 2000, these guides lack valuation data, so we use year-end market-to-book ratios from the Thomson ONE Banker database. To reduce the impact of extreme values, we winsorize valuation ratios at the 5th and 95th percentiles by setting extreme values to the 5th and 95th percentile values, respectively (but consider also alternative thresholds in section 4.3). In the robustness section, we also discuss results using the firm value / sales ratio and a simplification of Tobin's q as our valuation measure.

As our starting point for information on ownership structures, we use immediate ownership data published in the UBS equity guides and on Skrin.ru. We trace the ultimate owners of the listed firms in the sample using the immediate owner data we have

for all the 438 firm-year observations. We deal with unlisted firms in the following way. First, if an unlisted firm controls the sample firm, we use the lists of state holding companies and oligarch holding companies provided by the UBS equity guides and the Guriev and Rachinksy (2005) list, respectively, and report the type of the ultimate owner. If it is not mentioned on those lists, we call the ultimate owner "other private". We aim at reporting year-end ownership data. Whenever there are block trades mentioned in the "Business overview" section in the UBS equity guides, we take into account these block trades and adjust the changes to year-end figures. We also use a secondary source typically from the Internet to verify the timing of the change in control.

Having traced the ultimate owner, we assign the fraction of cash-flow rights to this ultimate controlling shareholder. Voting rights can exceed cash-flow rights primarily due to the use of pyramiding or due to differences in voting rights attached to different share classes. The variable for cash-flow ownership may overstate the amount of incentives because we have not been able to identify the ultimate owner in some cases. However, the owners behind unlisted firms are typically individuals with a controlling stake rather than dispersed owners (La Porta et al., 1999), and therefore the cash-flow incentives by the ultimate owner should be significant.

Sometimes the state directly controls the firm, sometimes it controls it trough the state-controlled holding company. We check the owners behind the unlisted state firms from UBS guides. We sum ownership stakes by the federal government and regional government.

If the firm's controlling shareholder is not the state and it has at least 20% of ownership or votes, we check if the private controlling shareholder is either directly an

oligarch or a holding company controlled by an oligarch or oligarchs, and if so, we classify the firm as oligarch-controlled that year. The information on private oligarchs comes primarily from Guriev and Rachinsky (2005), "Moscow Group of Seven" (1996), and Barnes (2003). The oligarch ranking in Guriev and Rachinsky (2005), as they note, is generally consistent with many other rankings for Yeltsin's second period and Putin's first term.[7] We assume that the ultimate owners behind the oligarch holding companies have been the same during the period studied.

If the firm's controlling shareholder is neither an oligarch nor the state, we use Internet sources to check the country of incorporation of the owner. Foreign owners are typically foreign multinationals. We do not trace the ultimate owner of the foreign owner but keep it as a separate owner type because foreign owners may perform their own governance role. If the firm has a controlling shareholder with at least 20% of ownership or votes and it is neither a foreign owner, a state or an oligarchs-controlled firm, we classify it as controlled by an "other private" owner. If the firm does not have any controlling shareholder with at least 20 % of votes, we classify it as widely held. These widely held firms are very few.

We separate between the Yeltsin and Putin era by analyzing the effects of the corporate governance variables during these two separate regimes. Yeltsin was in power of the Kremlin during the years 1991-1999. On New Year's Eve 1999, President Boris Yeltsin announced his resignation. By separating the periods under President Yeltsin and Putin, we are able to explore, in particular, whether the valuation of oligarch-controlled firms has changed during these two regimes. According to the Economist (2004) "much

[7] To be included in their list of the 22 largest Russian oligarchs, it is required that total annual sales revenues controlled by a particular group of shareholders are above $700 million or the total employment controlled by the group is above 20,000 people.

of what Mr Putin did in his first term was aimed at dismantling Mr Yeltsin's legacy". Vladimir Putin took office after the election of March 2000. During Putin's power in the Kremlin, the new Law on Joint-Stock companies also came into effect in year 2002 . In April 2002, the Federal Securities Commission (FSC) prepared a corporate governance code.[8]

To measure the effect of cross-listings as a governance mechanism on the valuation of the firm, we contruct a dummy variable equal to one if the firm has cross-listed its shares in an other country.[9] We include all types of cross-listings in this variable such as Reg S, 144a, OTC, and Exchange listings. The Rule 144a private placements programs do not require the firm to follow USGAAP and SEC rules, whereas the Level 1 ADRs trade as OTC issues with limited liquidity and require only limited SEC disclosure and no USGAAP compliance (Doidge et al., 2004). In contrast, the Level 2 and 3 ADRs listings require SEC disclosure and requires the firm to follow the exchange's own listing rules. The cross-listings are either American Depository Receipts (ADRs) or depository receipts issued in Europe. Nevertheless, since the depository receipts generally require improved disclosure quality from the firms and in some instances give minority shareholders some improved rights (depending on the level of the cross-listing), we expect a positive relation between cross-listings and firm valuations. In the robustness section, we discuss the effect of different levels of cross-listings separately.

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[8] It should be noted that all the corporate governance improvements were voluntary.

[9] Coffee (1999) and Stultz (1999) were among the first to suggest that foreign listings may function as a corporate governance mechanism, preventing managers from taking excessive private benefits. Through a foreign listing, the firm may become subject to more stringent regulatory rules, the investors may acquire the ability to exercise more effective legal actions such as class actions, and the exchange itself may commit the firm to more extensive and transparent reporting (Coffee, 1999). Besides Doidge et al. (2004), also e.g. Reese and Weisbach (2002) and Mitton (2002) provide evidence supporting the hypothesis of such bonding / legal bonding through ADRs.

We control for firm-specific and industry characteristics using several variables. Sales growth is used to measure growth opportunities. The variable is measured as the growth in revenues from the previous year. Leverage is defined as long-term debt / total assets. Firm size is measured as the logarithm of sales. We also control for industry effects by including dummy variables for industries and for year-specific effects by including year dummies where appropriate.

*3.3 Descriptive statistics*

Table 3 shows that the fraction of oligarch-run firms equals almost 23,5 % (77 / 327). The valuations were significantly lower in oligarch firms than in nonoligarch firms during the Yeltsin period, whereas this difference is reversed during the Putin period. Oligarch-controlled firms are significantly larger, have higher growth levels and ownership concentration. Oligarch-run firms also have significantly lower debt levels during the earlier period but approximately similar debt levels during the latter period. The frequency of cross-listings is about the same in oligarch and nonoligarch firms.

Table 4 presents descriptive statistics on controlling owners and cross-listings for the sample firms over the period 1998-2003. Panel A shows that the most common type of controlling owner is still the state which is in control, on average, in more than half of the sample firms. The fraction of listed companies controlled by oligarchs have increased from 8 % in 1999 to 34 % in 2003. Although not directly comparable figures, Guriev and Rachinsky (2005) show that oligarchs in 2003 controlled about 40 % of *sales* in their large sample study covering also unlisted firms. In year 1998, the fraction of oligarch-

controlled firms was 13 %. Thus, the fraction of oligarch-controlled firm have increased after the financial crisis in which a few of the oligarchs that dominated Yeltsin's Russia took a hit (Guriev and Rachinsky, 2005). Oligarchs appear to have taken over assets from the state in subsequent privatization deals and from other private owners.

Panel B of Table 4 displays the mean fraction of ownership rights held by the controlling shareholder over the studied years. The ownership rights held by the controlling shareholder have somewhat increased over the sample period, namely from 38 % to 54 %. Panel B also shows that ownership concentration is higher in oligarch-controlled firms as compared to firms with other types of controlling shareholders. For example in year 2003, the mean fraction of ownership rights controlled by oligarchs was about 65 %, whereas the corresponding figure for other firms was 48 %. For comparison, Guriev and Rachinsky (2005) report that oligarchs control 79 % whereas other owners control 74 % of the shares in their large sample study containing unlisted and listed firms. Panel C of Table 4 also shows that many firms introduced cross-listings of their shares in year 1999: the fraction of firms with cross-listings was 25 % in 1998 and 41% in 1999.

## 4. Regression results

### *4.1 Model*

Our main interest concerns the relation between the type of controlling shareholder and firm valuation for the whole period 1998-2003, and their interaction between the political regimes. The main model is an OLS regression with industry and year dummy

variables where appropriate. The *t*-statistics are calculated using the fully robust variance matrix estimator that controls for within-cluster (firm) correlation and heteroscedasticity. This specification relaxes the independence assumption required by the OLS estimator to being just independence between clusters (firms). Alternative model specifications, such as the firm-fixed effects and random effects models, are discussed in the robustness section. The regression model we estimate takes the following form:

$$\text{Firm valuation} = \alpha_0 + \beta_1 (\text{Control type}) + \beta_2 (\text{Ownership}) + \beta_3 (\text{Cross-listing}) + \beta_4 (\text{Control variables}) + \beta_5 (\text{Year dummies}) + \beta_6 (\text{Industry dummies}) + \varepsilon, \quad (1)$$

where

Firm valuation = market-to-book value;

Control type = we distinguish between control types: Oligarch, State, Other private, Foreign, and Widely held;

Ownership = the ownership rights held by the controlling shareholder;

Cross-listing = binary variable that equals one when the firm has cross-listed its shares abroad;

Control variables = annual sales growth, log(sales), long-term debt by total assets;

Year dummies = 1 for each year of our studied period;

Industry dummies = 1 for the industry class in our sample.

*4.2 Regression results*

In this section, we present the main regression results. The main question we ask is how the valuation of oligarch-controlled firms is affected by the political regime. First, we present the results of the relative valuation of oligarch-controlled firms during the Yeltsin regime. Second, we estimate the same regression models during the Putin administration. Thirdly, we run regressions for all years on a pooled sample substituting the year dummies with the Putin (vs Yeltsin) period dummy. Results from robustness tests are discussed in Section 4.3.

In Panel A of Table 5, we show that oligarch-controlled firms have lower valuations than firms with other types of controlling shareholders during the Yeltin era (column 1). The coefficient for the oligarch dummy equals –0.518 (significant at the 10% level) and implies that the valuation of oligarch-run firms is about 60 % lower than the valuation of firms with other types of large owners (oligarch coefficient (0.52) divided by the average valuation of nonoligarch firms without widely held firms (0.86)). In column 2 of Panel A, we show that the valuation of oligarch-controlled firms is 0.243 lower than firms with other domestic private controlling shareholders taken as the reference group (although not significant at conventional levels). Thus, the results for the Yeltsin period (1998-1999) support the predicition discussed in section 2 stating that powerful oligarchs under weak rule of law and high political involvement reduce the valuations of such firms relative other firms. The lower valuations of oligarch firms point to the agency problems between the oligarch and minority shareholders during the Yeltsin administration.

Panel B of Table 5 shows the valuation of oligarch-controlled firms during the Putin administration. Oligarch-controlled firms' valuations are significantly higher (at the 1% significance level) than those of firms with other domestic private and state owners (column 4). The coefficient for the dummy variable for oligarch control implies an increase in valuations by 0.58 relative to valuations of firms with comparable other private controlling shareholders (column 4). Hence, the relative valuation of oligarch-controlled firms has significantly improved over time with the regime shift. The results also favor the predicition in section 2 stating that the decreasing involvement of big business in Kremlin polititics and increased tax law enforcement should make the oligarchs focus more on value creation as opposed to extraction of private benefits of control. The results in Panels A and B of Table 5 indicate that the minority shareholders did not benefit from the high incentives by the oligarchs before Putin had increased the power of the state vis-à-vis the oligarchs.[10]

Panels C of table 5 also shows that the valuation of oligarch firms is significantly different between the two political regimes. The coefficient for the interaction between oligarch control and the Putin era dummy variables is equal to about 0.67 (columns 5 and 6 of Table 5) and is statistically significant at the 1 % level. The valuation difference is plausibly driven by the agency problem between the oligarch and minority shareholders. Thus, the valuation impact of oligarch control is significantly different between the Yeltsin II and Putin I periods. In addition, panel C of Table 5 shows that the valuation consequence of cross-listings is significantly different between the two political

[10] Related cross-country evidence is found by La Porta et al. (2002) who show that firm valuations are higher in countries that better constrain minority shareholder expropriation by controlling shareholders. Maury (2006) finds that active family owners are associated with higher firm valuations especially in countries with higher minority shareholder protection.

regimes. One explanation for the higher valuation of cross-listed firms during the earlier period but not the later period has to do with the general improvement in corporate governance practices in Russian firms over time, which may reduce the value of cross listings.

Panels A through C of Table 5 also show that the valuations of foreign-controlled firms are higher than firms with other types of owners during the Yeltsin era, and higher valuations than other privately and state-controlled firms but almost equal to oligarch-controlled firms during the Putin era. The coefficient equals about 0.87 for the whole period and is significant at the 1 % level (column 6 of Panel C). Thus, the results indicate that firms have benefited from foreign control possibly due to better access to capital and a general interest in value improvement as opposed to private benefits of control.

Table 5 also shows that the fraction of cash-flow rights held by the controlling shareholder (measuring the incentives) is positively related to firm valuation in line with the Jensen and Meckling (1976) condition, but only significantly so for the latter period.[11] The coefficient for the variable Ownership for the full sample equals 0.007 (column 6 in Panel C). The results on the cash-flow ownership variable compared to the *type* of controlling shareholder indicate that the owner types such as oligarchs are key to understanding the relation between big business and the political and legal regime.

The impact of cross-listings and firm valuations is also shown in Table 5. Prior research suggests that firms can opt for a more shareholder friendly legal regime by cross-listing its shares on markets which offer better shareholder protection (La Porta et al., 2000), and that such cross-listings should have a more positive effect on firm

[11] Bevan et al. (2001) find that the ownership structure is unrelated to firm performance, and Filatotchev et al. (2001) find that ownership concentration is negatively related to firm performance in Russian firms in the 1990s.

valuations, the lower the shareholder protection is in the country of incorporation (Doidge et al., 2004). The coefficient for any cross-listing abroad is positive and significant during the Yeltsin era (Panel A), but negative although insignificant for the Putin era (Panel B). The results for cross-listings are supportive of the argument that firms can use firm-level methods to compensate for an otherwise weak legal regime that characterized Russia especially during the 1990s. However, the benefits of cross-listing seem to have diminished during the Putin era when the domestic law enforcement had to some extent improved (Shleifer and Treisman, 2005; Desai et al., 2005).

The control variables that are positively related to firm valuation are sales growth and leverage (Table 5). The positive effect of sales growth is expected (though not significantly so during the Putin era). The strongly positive effect of leverage on firm valuation is similar to the results on leverage in Black et al. (2006), and suggest that firms with higher leverage are associated with better corporate governance as reflected by the higher valuation.[12] Firm size measured by the logarithm of sales is insignificantly related to valuation.

[12] Black et al. (2006) suggest that the positive relation between value and leverage in Russian listed firms can be due to the fact that well-connected firms have better access to debt financing.

*4.3 Robustness checks*

In this section, we discuss the robustness of the results with respect to a number of alternative variable and model specifications. In Table 6, we present the main results using alternative regression techniques. Table 7 displays results from the other robustness tests we have performed. In Panel A of Table 7, the coefficient for the oligarch control dummy is displayed for samples of firms using different reporting practices, alternative valuation measures, a subsample of oligarch firms that stay in the sample through out the whole time period, and industry checks. In Panel B of Table 7, we report coefficients for different levels of cross-listings.

The interpretation of the oligarch variable may be problematic due to a potential endogeneity problem, namely that oligarchs chose to privatize firms with the highest potential for value increase. As an alternative to the regression models in Table 5, we re-estimate the main results using a firm-fixed effects model that solely exploits the within dimension of the data (i.e., changes in variables within firms). The fixed effects regressions tend to confirm that within oligarch firms the regime change meant a significant value increase (at the 1 % level) as shown by the interaction variable 'Oligarch X Putin I' (columns 1 and 2 of Table 6). The other corporate governance variables are similar to those reported in Table 5. Another more specific argument against the exogeneity of the oligarch variable is that some oligarchs (gaining from their political contacts) chose to privatize assets with a high potential for value growth that materialized when oil and metal prizes recovered. To address this issue, we re-estimate the main results dropping firms that were privatized through the loans-for-shares auctions. The

effects of oligarch control (row 7 of Table 7) remain similar to those reported earlier for this reduced sample. We also employ a loans-for-shares auction dummy as an instrument for the oligarch control variable.[13] Using Heckman's two-step treatment effects regressions (though not displayed in a table), the instrumented oligarch variable shows a positive and significant effect on firm valuation especially for the Putin era.

As an alternative model to the OLS and firm fixed effects models, we re-estimate the results with the random effects model that combine information from within and between firms in an efficient way. The results, displayed in Panel B of Table 6, show that the random effects estimations are similar to the OLS results reported in Table 5 and lead to the same inferences. Thus, the results are not very sensitive to the regression estimation techniques used.

How sensitive are the results to the accounting method used to report the shareholders equity that is the denominator in the market-to-book measure? Using Russian Statutory Accounts, fixed-asset revaluations are credited directly to shareholders' funds, meaning that there can be significant increase in reported equity at each revaluation (Brunswick UBS Russian Equity Guides, 2003/04). We consider firm observations reported using international accounts (IAS or USGAAP) and Russian Statutory Accounts (RSA) in separate regression models. Rows 1 and 2 of Table 6 show the main regression models from Table 5 for IAS/USGAAP and RSA reporting, respectively. In Row 1 of Table 7, we estimate the Yeltsin versus Putin period for firms reporting only according to IAS/USGAAP. For this reduced sample specification, the results are in line with those showed for the whole sample, namely that oligarchs

[13] As Guriev and Rachinsky (2005) note, a more complete treatment of the endogeneity problem with oligarch control would require instruments related to the characteristic of the acquisition of each asset by its current owner.

outperform other owner types under Putin's rule but not under Yeltsin's rule. In sum, the results when the sample is split according to the accounting method support the main results discussed in section 4.2.

We explore the robustness of the results with respect to alternative valuation measure measures.[14] First, we use the firm value (market capitalization + (total assets – shareholders equity) divided by sales as an alternative dependent variable. The results in Row 3 of Table 7 show that the valuations of oligarchs-controlled firms are higher during the Putin's administration but not under the prior period. The coefficient for the cash-flow ownership variable (not displayed in the table) is positive although not statistically significant. Second, we use a proxy for the Tobin's q measure defined as the market value of the firm (measured as the market value of equity plus the book value of debt) divided by the book value of total assets. The results displayed in row 4 of Table 7 are similar to those using the market-to-book measure in Table 5. Taken together, the sign patterns for the variables ownership and oligarchs are generally the same using market-to-book, Tobin's q, and the firm value-to-sales measures of valuation.

One concern with the results of the changes in the valuation of oligarch-run firms is that the pattern arises due to, for example, the exit of "old" oligarchs and entrance of "new" oligarchs and therefore the results will not reflect primarily the impact of the institutional setting on the valuation of oligarch-run firms under the different policy regimes. We address this concern by analyzing a sample, in which we include oligarch-run firms that are included in the first and last year of the sample period, and exclude other oligarch firms (which reduces the sample by 52 firm-years). The results using this

[14] To reduce the impact of extreme values, we winsorize these valuation ratios at the 5th and 95th percentiles by setting extreme values to the 5th and 95th percentile values, respectively.

sample are displayed on row 5 in Table 7. The oligarch coefficients are similar to those reported in Table 5 and indicate that the political and legal institutions affect the valuation impact of oligarch control.

In Panel B of Table 7, we consider the impact of different levels of cross-listings on the market-to-book valuation. Rows 8 and 9 show that the positive effect of cross-listings is mainly driven by cross-listings of the OTC or Exchange trading type, and most strongly for level 1 (OTC trading) which is the most common type of cross-listing in the sample, rather by cross-listings of the type Reg S or 144a. Thus, the results give some support to the argument that firms that have opted for a stricter cross-listing enjoy higher valuations.

We also control for the impact of the employee and management holdings that largely resulted from the design of the voucher privatization in the firms by adding a variable measuring the aggregate ownership rights held by the employees and managers as reported by Brunswick UBS Equity Guides. Although not reported in a table, the coefficient for aggregated employee and management ownership is positive but insignificant. So, employee ownership does not seem to significantly affect valuations or alter the impact of other corporate governance variables.

To test the sensitivity of the results to the method of dealing with influential observations, we re-estimate the main regression models using two approaches, namely dropping market-to-book values over 6 and winsorizing valuations at the 1$^{st}$ and 99$^{th}$ percentiles, respectively, and find similar results to those reported in Table 5. Moreover, we estimate the main regressions models dropping observations with valuations in the 5$^{th}$ and 95$^{th}$ percentiles as well as with valuations in the 1$^{st}$ and 99$^{th}$ percentiles, respectively,

and the results hold. Therefore, the results are robust to the influence of (and treatment of) extreme values.

We also explored to what extent the results are driven by the rise in the valuations of firms in oil and related industries that are oligarch-controlled. The results displayed in row 6 of Table 7 show that the results for the valuation of oligarch firms obtained in Table 5 are similar when firms operating in the oil and gas industries are excluded.

Finally, we perform a number of additional robustness tests. We test for multicollinearity in the main models in Table 5 by calculating variance inflation factors (VIFs). The VIF values are below 3.88 and not significant. Thus, multicollinearity does not appear to be a problem in the regression models. Lastly, we re-estimate the models in Table 5 using errors-in-variables models to control for potential measurement errors in the variable ownership and find that the models tolerate a 10% measurement error in that variable. Hence, the ownership variable appears to be rather robust with respect to measurement errors.

## 5. Conclusion

In this paper, we explore the relative valuation of oligarch-controlled firms as compared to firms with other types of domestic private controlling owners and compared to any other controlling owners on a sample of listed Russian firms during the period 1998-2003. We focus on the question if and how the valuation of oligarch-controlled firms differ between the Yeltsin and the Putin era. Our main hypothesis is that the valuation of oligarch firms is lower during the Yeltsin era due to collusion between big

business and politics that was characteristic of this period, whereas we expect the relative valuation of oligarch firms to have increased during the Putin period due to higher separation between oligarchs and the state as well as due to improved tax law enforcement during this regime. Thus, our research approach is meant to uncover the valuation effect of the decreasing agency problem between the controlling oligarch owner and minority shareholders during the institutional transition in post-communist Russia.

We find that oligarch-controlled firms are significantly lower valued than firms with other types of controlling shareholders during the Yeltsin era, whereas oligarch-controlled firms are significantly higher valued during the Putin era. These results suggest that the expropriation of minority shareholders during the Yeltsin era was significantly reduced during the Putin era due to lower political involvement by business tycoons. Thus, while the cash-flow incentives of oligarch-run firms have been rather high during the sample period, the valuation benefits did not arise before the regime shift. In addition, we find that foreign-controlled firms and higher cash-flow rights in general are associated with higher valuations. Moreover, we find that cross-listed firms have higher valuation during the Yeltsin period but not during the Putin era.

Taken together, this paper argues that the role of the oligarchs in Russia's transformation can best be understood by focusing on the relation between the state and the oligarchs. Although the oligarchs' ownership incentives certainly have been significant, our paper shows, though indirectly, that the expropriation of minority shareholders was significant in the late 1990s, and that the regime change in year 2000 appears to have dampened such expropriation. More reseach on the relation between big

business and political regime shifts in transition economies is warranted to shed more light on these issues.

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**Table 1. Construction of the sample**

| | |
|---|---|
| | **Panel A: Construction of the basic sample with ownership data** |
| 505 | Firm years covered by the UBS Brunswick Guides (UBS guides) 1998-2003. |
| -67 | Ownership information incomplete to calculate ownership by largest individual shareholder in UBS guides or Skrin.ru. |
| 438 | Basic sample with ownership data for descriptive analysis (Table 4) |
| | **Panel B: Construction of sample for empirical analysis** |
| 438 | Basic sample |
| -37 | Accounting data missing to calculate control variables |
| -74 | Stock price data missing in Thomson ONE Banker to calculate firm valuation measures |
| 327 | Sample for empirical analysis with ownership and valuation data covering 117 different firms over the period 1998-2003. |

**Table 2. Definition of variables**

Descriptions of the main variables used in the analyses.

| | Variable | Description |
|---|---|---|
| 1 | Market / Book value | (Ordinary shares price times number of outstanding shares) / shareholders equity. *Source:* Brunswick UBS Warburg Russian Equity Guides 1999/00, 2002/03, 2003/04, 2004/05, and Thomson One Banker Financials (year-end 1999 and 2000). |
| 2 | Tobin's q | ((Ordinary shares price times number of outstanding shares) + (Total assets – shareholders equity) ) / Total assets. *Source:* see above. |
| 3 | Firm value / Sales | ((Ordinary shares price times number of outstanding shares) + (Total assets – shareholders equity) ) / Sales. *Source:* see above. |
| 4 | Oligarch | Equals one if a firm in a particular year is controlled by an oligarch or an holding company controlled by an oligarch with at least 20 % of the votes and zero otherwise. *Source:* Guriev and Rachinsky (2005), Barnes (2003), "Moscow Group of Seven" (1996), Brunswick UBS Warburg Russian Equity Guides, and Skrin.ru (years 1999 and 2000). |
| 5 | Nonoligarch private ownership | Equals one if a firm in a particular year is controlled by a private shareholder with at least 20 % of the votes who is not an oligarch and zero otherwise. *Sources:* see Ownership and Oligarch definitions. |
| 6 | State ownership | Equals one if the state if the controlling shareholder with at least 20% of the votes and zero otherwise. |
| 7 | Foreign ownership | Equals 1 if a foreign shareholder controls the firms with at least 20 % of the votes and zero otherwise. |
| 8 | Widely held | Equal one if the firm do not have a controlling shareholder with at least 20 % of the votes and zero otherwise. *Source:* Brunswick UBS Warburg Russian Equity Guides and Skrin.ru (years 1999 and 2000) |
| 9 | Cross-listing | Equals one if the firm has cross-listed its shares that year and zero otherwise. *Source:* Bank of New York, Deutsche Bank, Brunswick UBS Warburg. |
| 10 | Ownership | Cash flow rights held by the ultimate controlling shareholder with at least 20 % of the votes. Source: Direct ownership data from Brunswick UBS Warburg Russian Equity Guides and Skrin.ru (years 1999 and 2000), ultimate ownership data calculated using method in La Porta et al. 1999. |
| 11 | Loans-for-shares | Equals 1 of the firm was privatized through the loans-for-shares auctions, and zero otherwise. *Source:* Brunswick UBS Warburg Russian Equity Guide (2004/5, p. 8) |
| 12 | Log (Sales) | The natural logarithm of sales. *Source:* Brunswick UBS Warburg Russian Equity Guides. |
| 13 | Leverage | Long-term debt / total assets. *Source:* Brunswick UBS Warburg Russian Equity Guides. |
| 14 | Industry dummies | Industries are Auto, Consumer, Metals, Telecom, Power, Oil & Gas, and other. *Source:* Brunswick UBS Warburg Russian Equity Guides. |

## Table 3: Summary statistics

This table presents means, standard deviations, and tests of differences in means between oligarch-controlled and nonoligarch-controlled listed firms during President Yeltsin's second term and President Putin's first term. The sample consists of 327 firm-year observations form 117 Russian listed firms during 1998-2003. The variables are (1) Market-to-book ratio, ordinary share price times number of shares divided by shareholders equity; (2) Sales growth, the percentage change in sales year-on-year ; (3) Sales, the sales in million USD; (4) Leverage, Long-term debt divided by total assets; (5) Ownership, the fraction of cash-flow rights held by the firm's controlling shareholder; and (6) Cross-listing, equals 1 if the firm has cross-listed its shares abroad, and 0 otherwise. *, **, *** denote significance at the 10, 5, and 1 percent levels, respectively.

| | [a] | | | | [b] | | | | [c] | | | | Diff. in Means | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Full sample | | | | Yeltsin II | | | | Putin I | | | | | | | |
| | (1) | | (2) | | (3) | | (4) | | (5) | | (6) | | (3)-(4) | | (5)-(6) | |
| | Olig. | | Nonolig | | Olig. | | Nonolig. | | Olig. | | Nonolig. | | | | | |
| Variable | Mean | Std Dev | Mean | Std Dev | Mean | Std Dev | Mean | Std Dev | Mean | Std Dev | Mean | Std Dev | Diff. | *t*-stat | Diff. | *t*-stat |
| Market-to-Book | 1.31 | 1.03 | 1.00 | 0.98 | 0.46 | 0.58 | 0.85 | 0.91 | 1.49 | 1.02 | 1.08 | 1.01 | -0.39 | -1.50 | 0.41 | 2.75*** |
| Sales growth | 0.25 | 0.48 | 0.03 | 0.36 | 0.01 | 0.77 | -0.32 | 0.27 | 0.30 | 0.39 | 0.23 | 0.25 | 0.33 | 2.97*** | 0.07 | 1.64 |
| Sales (M USD) | 2058 | 2329 | 1384 | 3672 | 1776 | 1190 | 1143 | 2800 | 2115 | 2501 | 1515 | 4070 | 633 | 0.80 | 600 | 1.10 |
| Leverage | 0.07 | 0.08 | 0.08 | 0.12 | 0.04 | 0.05 | 0.07 | 0.12 | 0.07 | 0.08 | 0.09 | 0.12 | -0.03 | -0.87 | -0.02 | -0.99 |
| Ownership | 61.39 | 21.63 | 38.49 | 18.71 | 49.82 | 17.29 | 32.81 | 15.83 | 63.74 | 21.77 | 41.58 | 19.46 | 17.01 | 3.58*** | 22.16 | 7.45*** |
| Cross-listing | 0.45 | 0.50 | 0.42 | 0.50 | 0.31 | 0.48 | 0.32 | 0.47 | 0.48 | 0.50 | 0.48 | 0.50 | -0.01 | -0.08 | 0.00 | 0.04 |
| Firm years | 77 | | 250 | | 13 | | 88 | | 64 | | 162 | | | | | |

## Table 4. Descriptive statistics on ownership structures and cross-listings

This table displays the fraction of firms controlled by various owner types, the ownership rights by the controlling shareholder, and the fraction of firms with cross-listings for various fiscal years. The basic sample consists of 427 firm-year observations for Russian listed firms during 1998-2003. The variables are (1) Oligarch, equals 1 if a firm in a particular year is controlled by an oligarch or an holding company controlled by an oligarch with at least 20 % of the votes, and 0 otherwise; (2) Other private, equals 1 if a firm in a particular year is controlled by a private shareholder with at least 20 % of the votes who is not an oligarch, and 1 otherwise; (3) State, equals one if the state is the controlling shareholder with at least 20% of the votes and zero otherwise; (4) Foreign , equals 1 if a foreign shareholder controls the firms with at least 20 % of the votes, and 0 otherwise; (5) Widely held, equals 1 if the firm do not have a controlling shareholder with at least 20 % of the votes, and 0 otherwise; (6) Ownership, the fraction of cash-flow rights held by the firm's controlling shareholder; and (7) Cross-listing, equals 1 if the firm has cross-listed its shares abroad, and 0 otherwise.

| Panel A. | Yeltsin II | | Putin I | | | |
|---|---|---|---|---|---|---|
| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| Panel A. Fraction of firms by controlling owner type | | | | | | |
| Oligarch | 0.13 | 0.08 | 0.11 | 0.24 | 0.30 | 0.34 |
| Other private | 0.23 | 0.13 | 0.13 | 0.11 | 0.06 | 0.16 |
| State | 0.48 | 0.63 | 0.63 | 0.56 | 0.58 | 0.46 |
| Foreign | 0.08 | 0.03 | 0.03 | 0.07 | 0.05 | 0.03 |
| Widely held | 0.08 | 0.13 | 0.10 | 0.01 | 0.02 | 0.00 |
| Panel B. Ownership concentration by type | | | | | | |
| Ownership conc. | 37.93 | 38.58 | 39.81 | 46.95 | 48.84 | 53.76 |
| Own. conc. in oligarch firms | 49.70 | 62.64 | 60.03 | 64.3 | 62.96 | 64.8 |
| Own. conc. in non oligarch firms | 35.97 | 36.18 | 36.98 | 40.14 | 42.06 | 48.00 |
| Panel C. Cross-listing by owner type | | | | | | |
| Cross-listing | 0.25 | 0.41 | 0.43 | 0.50 | 0.50 | 0.36 |
| Cross-listing in oligarch firms | 0.27 | 0.60 | 0.57 | 0.47 | 0.45 | 0.43 |
| Cross-listing in non-oligarch firms | 0.25 | 0.39 | 0.41 | 0.51 | 0.52 | 0.32 |

## Table 5. Regressions of valuation on oligarch control, ownership structure and cross-listing under different political regimes

The table presents coefficient estimates and t-values (in parenthesis) from regressions of firm valuation on corporate governance variables for a sample of 117 listed Russian firms for the period 1998-2003. Panel A covers the last two years of President Yeltsin's second term 1998-1999, whereas Panel B covers President Putin's first term period for years 2000-2003, and Panel C covers the whole period. The dependent variable is the Market-to-book ratio calculated as the (ordinary shares price times number of outstanding shares) / shareholders equity. The independent variables are (1) Oligarch, equals 1 if a firm in a particular year is controlled by an oligarch or an holding company controlled by an oligarch with at least 20 % of the votes, and 0 otherwise; (2) State, equals one if the state is the controlling shareholder with at least 20% of the votes and zero otherwise; (3) Foreign , equals 1 if a foreign shareholder controls the firms with at least 20 % of the votes, and 0 otherwise; (4) Putin, equals 1 for firm-years covering the Putin era, and 0 otherwise; (5) Oligarch X Putin, an interaction variable between the Oligarch dummy and the Putin regime dummy; (6) Widely held, equals 1 if the firm do not have a controlling shareholder with at least 20 % of the votes, and 0 otherwise; (7) Oligarch X Putin, an interaction variable between the Oligarch dummy and the Putin regime dummy; (8) Cross-listing, equals 1 if the firm has cross-listed its shares abroad, and 0 otherwise; (9) Cross-listing X Putin, an interaction variable between the Cross-listing dummy and the Putin regime dummy; (10) Ownership, the fraction of cash-flow rights held by the firm's controlling shareholder; (11) Leverage, long-term debt divided by total assets; (12) Sales growth, the percentage change in sales year-on-year; (13) Log(sales), the logarithm of sales in million USD; (14) Industry dummies; and (15) Year dummies. The *t*-statistics that appear below the coefficient estimates are calculated from standard errors that control for firm-level clustering.

| | Yeltsin II Panel A | | Putin I Panel B | | Full sample Panel C | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Constant | 0.378 | 0.253 | 1.075 | 1.305 | 0.760 | 0.804 |
| | (0.82) | (0.55) | (2.02)** | (2.40)** | (2.04)** | (2.17)** |
| Oligarch controlling shareholder | -0.518 | -0.243 | 0.609 | 0.579 | -0.143 | -0.083 |
| | (1.95)* | (0.81) | (4.38)*** | (3.23)*** | (0.65) | (0.31) |
| State controlling shareholder | | 0.149 | | -0.154 | | -0.055 |
| | | (0.52) | | (0.59) | | (0.23) |
| Foreign controlling shareholder | | 1.078 | | 0.693 | | 0.866 |
| | | (3.41)*** | | (2.58)** | | (3.45)*** |
| Oligarch X Putin I | | | | | 0.670 | 0.676 |
| | | | | | (2.72)*** | (2.67)*** |
| Putin I | | | | | 0.097 | 0.173 |
| | | | | | (0.61) | (1.20) |
| Widely held firms | -0.138 | 0.157 | 0.695 | 0.909 | 0.085 | 0.278 |
| | (0.31) | (0.34) | (2.61)** | (3.49)*** | (0.31) | (0.90) |
| Cross-listing | 0.425 | 0.424 | -0.048 | -0.042 | 0.375 | 0.417 |
| | (2.93)*** | (3.05)*** | (0.32) | (0.27) | (1.94)* | (2.19)** |
| Cross-listing X Putin I | | | | | -0.472 | -0.512 |
| | | | | | (2.12)** | (2.24)** |
| Ownership | 0.009 | 0.009 | 0.007 | 0.006 | 0.007 | 0.007 |
| | (1.19) | (1.26) | (2.12)** | (1.67)* | (1.95)* | (1.86)* |
| Leverage | 1.156 | 1.466 | 3.817 | 3.801 | 3.269 | 3.257 |
| | (1.64) | (2.65)*** | (4.49)*** | (4.72)*** | (5.27)*** | (5.52)*** |
| Growth | 0.517 | 0.411 | 0.251 | 0.164 | 0.321 | 0.259 |
| | (2.74)*** | (2.48)** | (1.07) | (0.79) | (1.89)* | (1.72)* |

| | | | | | | |
|---|---|---|---|---|---|---|
| Log (sales) | 0.012 | -0.026 | -0.035 | -0.043 | -0.039 | -0.053 |
| | (0.11) | (0.24) | (0.52) | (0.65) | (0.73) | (0.95) |
| Industry dummies | Included | Included | Included | Included | Included | Included |
| Year dummies | Included | Included | Included | Included | Excluded | Excluded |
| Observations | 101 | 101 | 226 | 226 | 327 | 327 |
| R2 | 0.49 | 0.56 | 0.51 | 0.53 | 0.46 | 0.49 |

*, **, *** Significant at the 10, 5, and 1 percent levels, respectively.

**Table 6. Regressions of valuation on oligarch control, ownership structure and cross-listing under different political regimes using fixed effects and random effects regressions**

The table presents coefficient estimates and t-values (in parenthesis) from regressions of firm valuation on corporate governance variables for a sample of 117 listed Russian firms for the period 1998-2003. Panel A shows results obtained with a firm-fixed effects regression specification, whereas Panel B shows results using the random effects specification. The dependent variable is the Market-to-book ratio calculated as the (ordinary shares price times number of outstanding shares) / shareholders equity. The independent variables are (1) Oligarch, equals 1 if a firm in a particular year is controlled by an oligarch or an holding company controlled by an oligarch with at least 20 % of the votes, and 0 otherwise; (2) State, equals one if the state is the controlling shareholder with at least 20% of the votes and zero otherwise; (3) Foreign, equals 1 if a foreign shareholder controls the firms with at least 20 % of the votes, and 0 otherwise; (4) Putin, equals 1 for firm-years covering the Putin era, and 0 otherwise; (5) Oligarch X Putin, an interaction variable between the Oligarch dummy and the Putin regime dummy; (6) Widely held, equals 1 if the firm do not have a controlling shareholder with at least 20 % of the votes, and 0 otherwise; (7) Oligarch X Putin, an interaction variable between the Oligarch dummy and the Putin regime dummy; (8) Cross-listing, equals 1 if the firm has cross-listed its shares abroad, and 0 otherwise; (9) Cross-listing X Putin, an interaction variable between the Cross-listing dummy and the Putin regime dummy; (10) Ownership, the fraction of cash-flow rights held by the firm's controlling shareholder; (11) Leverage, long-term debt divided by total assets; (12) Sales growth, the percentage change in sales year-on-year; (13) Log(sales), the logarithm of sales in million USD; and (14) Industry dummies where appropriate.

| | Firm fixed effects Panel A | | Random effects Panel B | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Constant | 0.399 | 0.380 | 0.801 | 0.822 |
| | (0.60) | (0.55) | (2.05)** | (2.12)** |
| Oligarch controlling shareholder | -0.593 | -0.544 | -0.360 | -0.332 |
| | (2.24)** | (1.77)* | (1.65) | (1.40) |
| State controlling shareholder | | -0.203 | | -0.150 |
| | | (0.85) | | (0.81) |
| Foreign controlling shareholder | | 0.201 | | 0.356 |
| | | (0.57) | | (1.46) |
| Oligarch X Putin I | 0.769 | 0.749 | 0.720 | 0.717 |
| | (3.31)*** | (3.19)*** | (3.47)*** | (3.45)*** |
| Putin I | 0.141 | 0.144 | 0.196 | 0.204 |
| | (1.09) | (1.10) | (1.61) | (1.66) |
| Widely held firms | 0.731 | 0.675 | 0.344 | 0.336 |
| | (2.15)** | (1.94)* | (1.20) | (1.14) |
| Cross-listing | 0.488 | 0.483 | 0.384 | 0.380 |
| | (2.58)** | (2.55)** | (2.48)** | (2.46)** |
| Cross-listing X Putin I | -0.337 | -0.344 | -0.394 | -0.404 |
| | (1.99)** | (2.01)** | (2.54)** | (2.57)** |
| Ownership | 0.012 | 0.011 | 0.007 | 0.007 |
| | (3.26)*** | (3.03)*** | (2.30)** | (2.20)** |
| Leverage | -0.199 | -0.226 | 1.569 | 1.669 |
| | (0.36) | (0.41) | (3.62)*** | (3.86)*** |
| Growth | 0.190 | 0.188 | 0.190 | 0.185 |
| | (1.73)* | (1.70)* | (1.81)* | (1.75)* |
| Log (sales) | -0.014 | 0.009 | -0.041 | -0.035 |

| | | | | |
|---|---|---|---|---|
| | (0.14) | (0.09) | (0.73) | (0.62) |
| Industry dummies | Excluded | Excluded | Included | Included |
| Year dummies | Excluded | Excluded | Excluded | Excluded |
| Observations | 327 | 327 | 327 | 327 |
| R2 | 0.25 | 0.25 | 0.42 | 0.45 |

*, **, *** Significant at the 10, 5, and 1 percent levels, respectively.

## Table 7. Alternative specifications

The table presents coefficient estimates and t-values (in parenthesis) from regressions of market/book value on corporate governance variables for a sample of 117 listed Russian firms for the period 1998-2003. The table displays coefficients for the oligarch dummy (Panel A) and for the cross-listing dummy (Panel B) for regression models in Table 5 using alternative samples, variable definitions, and levels of cross-listings. Models (1) and (2) show the coefficients for the oligarch dummy as compared to all other types of controlling owners, whereas models (3)-(4) show the oligarch dummy compared to other domestic private owners. Panel A shows coefficients for the oligarch dummy for firms reporting according to international accounting rule (Row 1) and firms reporting according to RSA (Row 2). Row 3 shows the coefficients of the oligarch dummy using Firm value / sales as the dependent variable. Row 4 shows the coefficients of the oligarch dummy using Tobin's q (defined as Firm value / total assets) as the dependent variable. Row 5 shows the oligarch coefficients for a reduced sample of oligarch firms that are present the whole studied period. Row 6 shows the oligarch dummies for a sample of firms excluding oil and gas industries. In Panel B, the cross-listing dummy is split into REGs or 144a (Row 8) and OTC or Exchange (Row 9). In Rows 10-12, the cross-listing dummy in Table 5 is split into REGs or 144a, OTC, and Exchange, respectively. The *t*-statistics that appear below the coefficient estimates are calculated from standard errors that control for firm-level clustering.

| | | (1) | (2) | (3) | (4) |
|---|---|---|---|---|---|
| | | Yeltsin II | Putin I | Yeltsin II | Putin I |
| | Panel A. Coefficients for Oligarch dummy | | | | |
| 1 | Firms with international accounts | -0.614 | 0.489 | 0.554 | 0.374 |
| | | (-1.70)* | (3.09)*** | (0.83) | (1.23) |
| 2 | Firms with RSA reporting | -0.127 | 0.662 | -0.185 | 0.722 |
| | | (-0.35) | (1.90)* | (-0.49) | (2.06)** |
| 3 | Dependent variable: Firm value / Sales | -0.180 | 0.238 | -0.445 | 0.078 |
| | | (-0.59) | (1.61) | (-1.42) | (0.40) |
| 4 | Dependent variable: Tobin's q | -0.185 | 0.371 | -0.101 | 0.310 |
| | | (-1.33) | (5.03)*** | (-0.63) | (3.49)*** |
| 5 | Same oligarchs whole period | -0.500 | 0.664 | -0.151 | 0.580 |
| | | (-1.62) | (3.35)*** | (-0.43) | (2.48)** |
| 6 | Without oil and gas industry | -0.659 | 0.622 | -0.021 | 0.634 |
| | | (-3.21)*** | (3.77)*** | (-0.07) | (3.27)*** |
| 7 | Without firms involved in the loans-for-shares program | -0.392 | 0.490 | -0.080 | 0.550 |
| | | (2.22)* | (3.52)*** | (0.35) | (3.05)*** |
| | Panel B: Coefficients for relevant cross-listing dummies | | | | |
| 8 | Cross-listing of type REGs or 144a | -0.225 | 0.033 | -0.187 | 0.022 |
| | | (-0.72) | (0.13) | (-0.60) | (0.09) |
| 9 | Cross-listing of type OTC or Exchange | 0.566 | -0.095 | 0.555 | -0.080 |
| | | (3.09)*** | (-0.66) | (3.02)*** | (-0.56) |
| 10 | Cross-listing of type OTC | 0.636 | -0.116 | 0.651 | -0.093 |
| | | (3.65)*** | (-1.08) | (3.73)*** | (-0.87) |
| 11 | Cross-listing of type Exchange | 0.181 | 0.119 | 0.022 | 0.049 |
| | | (0.35) | (0.44) | (0.06) | (0.23) |
| 12 | Cross-listing of type REGs or 144a | -0.243 | 0.051 | -0.210 | 0.034 |
| | | (-0.74) | (0.20) | (-0.65) | (0.13) |

*, **, *** Significant at the 10, 5, and 1 percent levels, respectively