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# Concentrated ownership, market for corporate control, and corporate governance\*

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## Abstract

The paper studies corporate governance in non-listed firms. We analyze the effect of ownership concentration on the controlling owner's incentives to share with outside investors in the presence of a threat of takeover. A simple model predicts that up to a certain level, an increase in ownership concentration improves corporate governance (defined as the costs of diverting profits). Using a dataset on ownership and corporate governance in Russian non-listed industrial firms we find that this model is consistent with the data.

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# 1 Introduction

This paper studies corporate governance in non-listed companies in a non-OECD country. There are many reasons why most corporate governance research concentrates on listed companies. First, the listed companies are by definition much more transparent, the data are therefore readily available. But there is certainly another, more substantive issue: it is not clear whether the problem of corporate governance in non-listed companies exists at all. Indeed, one of the definitions of corporate governance is related to the collective action problem: the corporate governance mechanisms are designed to resolve conflict of interest between management, different categories of shareholders, creditors and other stakeholders (Becht et al., 2003). It may well be the case that in companies without liquid share market, there are so few stakeholders that the collective action problem is not worth studying. This may be true in rich countries where most assets are marketable; therefore only the truly private companies do not have liquid market for shares. However, most non-OECD stock markets only list tens of companies. In the meanwhile, global investors searching for diverse investment opportunities outside OECD increasingly go beyond the most liquid stocks and even invest in companies whose stock is traded over the counter. It is hard to provide a convincing argument why this trend should be reversed given the rapid globalization.

But even if corporate governance in non-listed companies in developing countries is an interesting problem, the solutions are very limited. The conventional corporate governance mechanisms include (Becht et al., 2003): (i) ownership concentration; (ii) market for corporate control; (iii) boards; (iv) executive compensation; (v) fiduciary duties and other litigation-based mechanisms. The less common list of solutions (Dyck and Zingales, 2003) adds (vi) tax enforcement, (vii) media, and (viii) product market competition. Even though the list is rather long, most developing countries face problems with all mechanisms but (i) and potentially (ii). Indeed, if corruption is high, democracy is not functioning well, interest groups capture economic policy (Glaeser et al., 2002) and shut down antitrust policy, independent media, and impersonal tax enforcement. If courts are corrupt, (v) should also be ruled out. Executive compensation requires functioning financial markets to produce observable signals of managerial performance, and boards (iii) often fail to perform even in the US (Maclean and Elkind, 2003). This is why we focus on ownership concentration and the market for corporate control and study to what extent these two mechanisms can improve protection of outside investors in countries with imperfect legal environment and underdeveloped markets. In the rich countries, takeovers are often considered as an instrument which is too blunt and disruptive (Berglöf and Burkart, 2003); takeovers are not necessarily efficient (Burkart, 1999). On the other hand, it may be the only instrument available to protect minority shareholders in non-OECD countries.

Russia provides an interesting testing ground for our analysis. We study large (but not the largest) Russian industrial firms. First, the ‘voucher’ privatization of 1990s created a dispersed shareholder base in tens of thousands of companies that are formally registered as public corporations. Certainly, virtually none of them has shares traded in Russia’s shallow stock market (which even in its best days featured less than a hundred stocks traded daily). Second, since 1999, the high resource prices provided largest Russian businesses with a unique opportunity to launch a takeover spree acquiring manufacturing assets at bargain prices. Third, the anti-takeover regulation in Russia is weak and is not enforced (especially against big businesses). These features create an interesting case for studying the role of ownership concentration and market for corporate control, as well as their interaction.

Another recent phenomenon in Russia is the surge of interest in corporate governance from incumbent

management of both listed and non-listed firms. The companies spend time, effort, and money on putting together Codes of Corporate Governance (usually using OECD or other blueprints), creating departments for shareholder affairs, introducing new accounting and disclosure systems, introducing independent directors and representatives of minority shareholders to their boards, and empowering the boards. We argue that it is not coincidence that the comprehensive improvement of corporate governance is happening concurrently with the takeover wave. For many companies, it is the contestability of control that creates incentives to improve their attitude to outside investors.

In order to understand whether corporate control market can indeed discipline management, we consider a very simple model where a controlling shareholder can choose the level of corporate governance (which is defined as the cost of diverting the profits). While corporate governance is costly to the incumbent owner, it increases the value of shares owned by dispersed shareholders and therefore reduces the probability of takeover. Once we solve the model we find that ownership concentration improves corporate governance as long as concentration is not too high; further increase in concentration worsen the corporate governance. The former effect is clear: the greater the controlling owner's stake, the less she gains from diverting the profits while the cost of diversion remains high due to contestability of control. However, if concentration is too high, deterring even the most competitive rivals becomes a less challenging task. Taken to its extreme, the argument is very simple: if the controlling owner has a sufficiently large share (e.g. 50%) she can fend off all takeover attempts.

To test the predictions, we study a representative sample of Russian industrial firms (Guriev et al., 2003). We find that ownership concentration positively affects corporate governance on average. However, once we turn to quadratic or piecewise-linear specifications, we do find that the positive relationship is constrained to ownership concentration below 50%. Once the largest shareholder controls more than 50%, the relationship between ownership concentration and corporate governance becomes negative or insignificant.

The paper proceeds as follows. In Section 2 we provide some background information about the corporate control market in Russia. In Section 3 we consider the model. In Section 4, we discuss data and report empirical results. Section 5 concludes.

## 2 Market for corporate control in Russia

The market for corporate control has long been recognized as a major mechanism for disciplining management (Manne, 1965, Becht et al., 2003). However, the takeovers are very costly both for the corporate value (the struggle for control usually redirects resources away from managing the company) and for the raiders (who have to overcome the free-rider problem, Grossman and Hart, 1980). Moreover, the hostile takeovers are relatively rarely used even in the Anglo-Saxon countries; in other countries first precedents occurred only recently. The OECD countries' regulation includes many potential anti-takeover devices. While there still remains an empirical question whether contestability of control is socially efficient (Burkart, 1999), the common view is that the anti-takeover regulation is excessive. However, the attempts to reduce barriers to takeovers are opposed by politicians and controlling owners (Berglöf and Burkart, 2003).

In Russia, however, the market for corporate control is very active. Among the corporate governance mechanisms listed in Becht et al. (2003), the vast majority of Russian firms can only rely upon ownership concentration and the market for corporate control. Courts are corrupt and inefficient, and their decisions

are not enforced. Stock market is very shallow: only 10-30 companies are traded daily, and both the free float and trading volumes are very low. The functioning boards are only beginning to emerge. Russian capitalism is very young so there is still an acute shortage of potential independent directors; all competent corporate managers are still actively involved in running their own companies.

## 2.1 The case for massive ownership reallocation

The demand for takeovers comes from the ownership structure in Russian industry that is largely a legacy of 1990s privatization. The mass (or ‘voucher’) privatization mostly left control of large and medium size firms in hands of insiders with a significant share belonging to workers and small outside blockholders (see data in Section 4). The ownership of the largest Russian companies (mostly involved in resource exports) has however been concentrated by so called ‘oligarchs’. As described in Boone and Rodionov (2002), 85% market value of the 64 largest listed companies is controlled by 8 private business groups.<sup>1</sup> These groups have purchased their original stakes in the loans-for-shares tenders, or through voucher privatization, and then consolidated ownership through diluting shares of the state or other private outside owners.

As predicted by the economic theory (Rajan and Zingales, 2003, Glaeser et al., 2002, Sonin, 2003), the imperfect legal environment, importance of political connections and lack of financial development create institutional economies of scale. The largest owners have substantial advantages over smaller owners in terms of political clout and access to finance. During the period of high resource prices since 1999, the ‘oligarchs’ have received large cash windfalls from their export revenues. The takeovers of large and medium size manufacturing firms have been the best way to invest these cash flows. The global slowdown has reduced attractiveness of investing abroad, while purchasing the assets in Russia has become increasingly profitable. Indeed, the competition for industrial assets in Russia is very limited. Other Russian owners lack cash, and leveraged buyouts are impossible because of underdeveloped financial intermediation. Foreign investment climate has been improving very slowly, especially given the delayed WTO accession (which may have been endogenous).

In some sense, the current takeover wave completes the Russian privatization by adjusting the inefficiencies of initial allocation of property rights. As envisioned by the designers of Russian privatization (Boycko et al., 1995), property is finally ending up in the hands of more efficient owners. The problem is that (a) the property redistribution through takeovers is quite costly and much slower than expected; (b) in the imperfect legal and financial system the new owners may be just better positioned to extract rents due to political connections and sheer size of their conglomerates rather than due to better specific human capital.

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<sup>1</sup>The concentration of ownership of listed firms in Russia is higher than even in Indonesia (Claessens et al., 2000). Also, in a study of ownership structure of 1300 largest industrial firms accounting for 81% of Russian industrial output, Guriiev and Rachinsky (2003) find the 23 largest business groups control about 35% Russian industry in terms of sales, which exceeds the share of all other private owners combined. The study was conducted in the summer of 2003 and therefore somewhat captured the outcomes of the takeover wave we discuss in this Section.

## 2.2 Regulation

The anti-takeover regulation in Russia is virtually non-existent. There is no dual class voting stock. The mandatory bid rule is formally present:<sup>2</sup> if a raider buys more than 30% voting stock, she has to offer all shareholders a buyout of their shares at the maximum of current market price and the six month average market price. However, the enforcement of the rule is problematic. For many companies the market price is hard to evaluate, especially given the lack of independent assessors. More importantly, the professional raiders can purchase small blocks separately in the name of different buyers so no single buyer should acquire more than 30% to complete the takeover.<sup>3</sup> The latter is especially common because of antitrust regulations. Russian antitrust law subjects all purchases of blocks of 20% or higher to disclosure and approval of antitrust authorities; this is why in most firms the controlling owner prefers to own a few smaller stakes than one large stake even after establishing full control.

This approach also allows to circumvent another anti-takeover provision. According to Russian law, the acquirer of 30% stake must inform the target firm at least 30 days in advance. By purchases several 15% stakes, the raider automatically makes this issue irrelevant so takeovers often come as a surprise to incumbent managers.

Many companies have used minority shareholders rights as poison pills but the effectiveness of this device depends on relative advantage in influencing courts. In this respect, the professional raiders (backed by their oligarch clients) usually outperform the incumbent managers (although there have been a few counterexamples, especially when incumbents managed to enlist the support of regional governments). The law includes the option for all shareholders to require a buyout of their shares at the market price in case of reorganization of the company. In many cases the raiders prefer to reduce bitterness and risks of further lawsuits and buy the incumbent's shares at a reasonable price even after successful takeover. Also, the raiders now prefer purchasing controlling stakes to fictitious bankruptcies that used to be the most common takeover mechanism in 1998-99 (Lambert-Mogiliansky et al., 2000); the latter involves higher legal risks, takes time and therefore destroys corporate value.<sup>4</sup>

## 2.3 The intermediaries in the corporate control market

The demand for takeovers has created an industry of professional intermediaries similar to famous US corporate raiders of the 1980s (Holmstrom and Kaplan, 2001).<sup>5</sup> Some of them are de facto subsidiaries of

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<sup>2</sup>The mandatory bid rule can be abolished by the corporate charter (quite in line with the economic analysis of Burkart, 1999).

<sup>3</sup>Another approach is related to the 'collateral loophole' which allows the professional raiders to take over even closely held corporations. Formally, raiders do not buy shares but extend loans against the shares used as collaterals. The law requires shareholders in closely held corporations to obtain approval of other shareholders when selling shares but they are free to use them as a collateral.

<sup>4</sup>As stated by a leading Russian raider: "Bankruptcy is a clumsy mechanism. It takes long time during which the value is being destroyed" (Vedomosti, 2002).

<sup>5</sup>Very much like their 1980s US counterparts, Russian raiders also face risks of criminal charges, especially when the regional authorities are opposing the takeovers. E.g., while taking over the Nevinnomyssk Oil Extraction Plant, Pavel Svirsky (the CEO of Sigma corporate control intermediary) was arrested on the charges of fraud at the request of Stavropol Region prosecutors. He was soon released. In May 2003, Yuri Luzhkov, the Mayor of Moscow has requested the General Prosecutor's Office to investigate the activities of Rosbuilding, the raiders who have acquired about 30 industrial plants in Moscow (Vedomosti, May 30, 2003). In the latter case, Rosbuilding raiders settled for donating USD 2 million for setting up a retraining center for laid-off workers (Mir Novostei, Sep 23, 2003).

large holdings (e.g. “Alfa Eco” for Alfa Group, and Russian Investors for Yukos); some have grown out of oligarchs’ corporate acquisition departments and now cater to the market (such as PromConsultInvest that first worked for Deripaska’s SibAl, then for MDM), and some have always worked as independent intermediaries like Veles Capital (formerly PACC Capital), Sigma, Vash Finansovyi Popechitel, Rosbuilding etc.

The professional raiders usually act either at the direct order of the potential buyers or at least already having in mind the potential buyers. Although the ultimate buyers usually provide the funds, during the takeover they prefer to keep their distance. As described by the raiders, their customers are the “big Russian businesses or former Russian citizens who want to repatriate their capital” (Vestnik NAUFOR, 2002). The raiders also tend to keep low profile (to minimize the costs related to the free-rider problem). This is quite in line with economics of the corporate control market: the takeover announcement would drive the share prices up (Grossman and Hart, 1980). The takeover targets are usually not listed or at least not actively traded in the stock exchange, hence quiet purchases can be arranged over the counter.<sup>6</sup> The raiders usually charge about 2-10% of the value at stake (Vedomosti, 2002).

The raiders succeed in taking over the companies where the value is high but is not shared pro rata with outside shareholders. In this case, the benefits of control are high: the value of controlling stake is high while the prices of individual shares are close to zero. In case of Rosbuilding, the difference was often as large as 5000 per cent.<sup>7</sup> The most prominent raider in the food industry, Pavel Svirsky (Sigma’s CEO) said: “We are interested in firms where rights of outside creditors and minority shareholders are abused.... The first wave owners consider their property being natural, inalienable, and do not care about rewarding the minority shareholders ... they do not share profits proportionally” (Kompania, 2003). The raider that has built at least two oligarch empires, Nikolai Yarovoi (CEO of PromConsultInvest) agrees: “The minority shareholders get abused systematically. The only chance for them to fight back is the takeover.... If the corporations distributed the profits pro rata, the tension in corporate control market would disappear.” (Vedomosti, 2002).

## 3 Model

### 3.1 Setting

There are three agents in the model: a controlling shareholder M, dispersed outside shareholders S, and a raider R.

The controlling shareholder M is either an incumbent manager or an outside blockholder whose stake is sufficiently large to monitor the management. M initially owns  $\alpha$  shares of the company. As long as M is in control, the value of the firm is  $V = 1$ . The private (non-pecuniary) benefits of control are  $B$ . The dispersed shareholders have  $\beta \leq 1 - \alpha$  shares and receive no private benefits. There is no liquid market for individual shares. The remaining  $1 - \alpha - \beta$  shares are held by non-controlling blockholders who are less

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<sup>6</sup>The CEO of Vash Finansovyi Popechitel (“Your Financial Guardian”) said: “we do not care about liquidity, we are interested in controlling stakes” (Vestnik NAUFOR, 2002).

<sup>7</sup>The Rosbuilding raiders have acquired about 30 industrial plants in Moscow to close them down and use their prime urban land for alternative (more economically rational) purposes than industrial production. One of the authors has been involved in consulting a minority shareholder of company targeted by Rosbuilding.

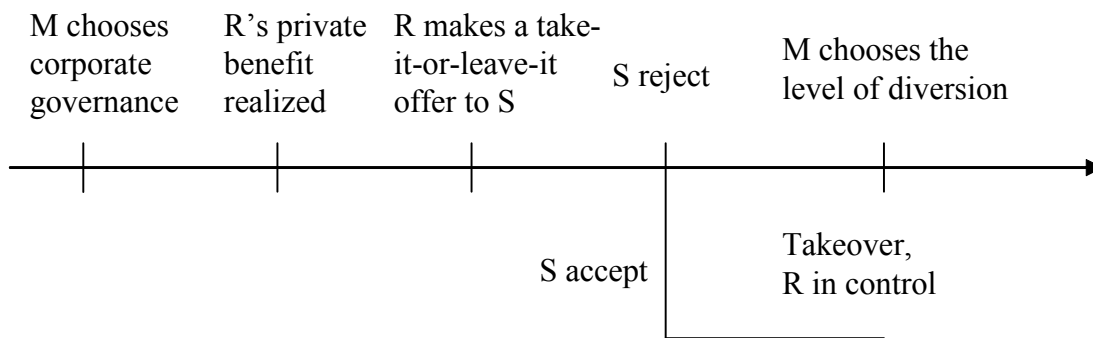


Figure 1:

likely to sell to the raider. These could be stakeholders (e.g. state, or customers) who also receive certain benefits from owning a block, but whose stake is not large enough to obtain control.

The controlling shareholder chooses the level of profit diversion  $s$ . Diversion is interpreted as a transfer of value of the firm into M's private pocket (e.g. through transfer pricing or asset stripping). Diversion is costly, and the cost depends on the level of corporate governance  $c$ . The better the corporate governance, the costlier it is to divert funds; higher  $c$  includes better accounting, disclosure, representation of minority shareholders on the board etc. The cost of diversion is  $C(s) = cs^2/2$ .

The outside shareholders are passive and can only vote with their feet when there is a takeover bid. The takeover is arranged quietly so each shareholder can only observe an offer regarding her own stake and does not act strategically. We therefore do not consider the free-rider problem studied in Grossman and Hart (1980).

The raider is a large investor whose private benefits of control  $b$  are not known ex ante. At the time of choosing the level of corporate governance, the parties only observe the distribution function  $F(b)$ . In what follows, we will assume that  $b$  is uniformly distributed on  $[0, \bar{b}]$ . If the raider is in control, the value of the firm is  $v$ . The total R's willingness to pay for the  $\beta$  shares is therefore  $b + \beta v$ .

The timing is as follows.

- The controlling shareholder (costlessly) chooses the level of corporate governance  $c$ .
- The private benefit of the raider  $b$  is realized and publicly observed.
- The raider makes an offer  $P$  per share to each of  $\beta$  dispersed shareholders. Each minority shareholder decides whether or not to accept it.
- If there is no takeover, the controlling shareholder chooses the level of diversion  $s$ .
- Payoffs are realized.

If there is no takeover, the controlling shareholder's payoff is

$$B + (1 - s)\alpha V + sV - C(s), \tag{1}$$



the dispersed shareholders receive  $\beta(1-s)V$ . The raider gets nothing.

If the takeover bid is successful, the dispersed shareholders receive the payment  $\beta P$ , while the raider gets  $b + \beta v - \beta P$ , and the incumbent gets  $\alpha v$ .

Notice that we assume that corporate governance decisions are credible. Once it is improved, it is not possible to take it back. This is explained by the fact that once transparency is established and minority shareholders' representatives are empowered, they will no longer let the incumbents to reverse the corporate governance improvements. The only changes in corporate governance that would be feasible at this stage are further improvements, but these take time and cannot be accomplished immediately.

We have assumed that takeover negotiations are efficient, all bargaining costs are ruled out; also in case of takeover, diversion does not take place.

The two assumptions are made for simplicity's sake. Otherwise, the costs of diversion and bargaining would have to be incorporated into  $b$  and  $v$ . Post-takeover pro rata sharing of  $v$  is driven by the fact that takeover consolidates the dispersed owners' shares and therefore removes the free-rider problem in monitoring the management. It can also be understood as a buyout of M's stake by R.

The model is essentially static. Both  $V$  and  $v$  are exogenous. We focus on the disciplinary role of takeovers with regard to sharing the pie with outside investors rather than with regard to providing incentives for increasing the size of the pie. Studying a moral hazard setting where the manager can underinvest is a natural extension of the model; the analysis should be similar to Scharfstein (1988) or Stein (1988).

## 3.2 Concentration of ownership and corporate governance in equilibrium

We shall solve the model via backward induction.

### 3.2.1 Diversion

If the takeover attempt has failed, the level of profit diversion maximizes (1), therefore

$$s^*(c) = \min \left\{ 1, \frac{1-\alpha}{c}V \right\} \quad (2)$$

If the corporate governance is too low  $c < (1-\alpha)V$ , then M fully expropriates the shareholders, and  $s^*(c) = 1$ . The threshold  $(1-\alpha)V$  is the minimum level of corporate governance that assures positive price of outside equity under M's control.

### 3.2.2 Takeover

The takeover takes place if and only if  $b + \beta v > \beta(1-s)V$ . The actual tender price depends on the specifics of the bargaining process, but for the purposes of our analysis it is not important.

In other words, the takeover occurs whenever the private benefits of the raider are sufficiently high  $b > \beta[(1-s)V - v]$ . Therefore, at the time of choosing the level of corporate governance, the controlling shareholder expects to remain in control with probability  $F(\beta[(1-s)V - v])$ . In particular, if corporate governance is below the minimum threshold level  $c < (1-\alpha)V$  so that all profits are stolen  $s = s^*(c) = 1$ , the probability of remaining in control is trivial. This demonstrates the major tradeoff of the model: corporate governance is a pure cost for M ex post, however, it helps to satisfy the outside investors' ex

interim participation constraint; therefore M is more likely to stay in control and keep the private benefits  $B$ .

### 3.2.3 Choice of corporate governance

The level of corporate governance  $a$  solves

$$\max_c (B + (1 - s^*(c))\alpha V + sV - C(s^*(c)) - \alpha v) F(\beta [(1 - s^*(c))V - v]).$$

Assuming that  $b$  is uniformly distributed on  $[0, \bar{b}]$ , we derive the following optimization problem for M

$$\max_c \left[ B + \alpha(V - v) + \frac{(1 - \alpha)^2 V^2}{2c} \right] \min \left\{ 1, \left[ V - v - \frac{1 - \alpha}{c} V^2 \right] \frac{\beta}{\bar{b}} \right\}$$

subject to  $c \geq 1 - \alpha$ .<sup>8</sup>

The first order condition is as follows (constraint  $c \geq 1 - \alpha$  is not binding):

$$c^* = \min \left\{ \frac{2(1 - \alpha)^2 V^2}{(1 - 3\alpha)(V - v) - 2B}, \frac{(1 - \alpha) V^2}{V - v - \bar{b}/\beta} \right\} \quad (3)$$

The level of corporate governance increases with concentration of ownership whenever  $\alpha \leq \hat{\alpha} = \frac{2\bar{b}/\beta - 2B - (V - v)}{2\bar{b}/\beta + (V - v)}$ .

In this case,  $c^* = \frac{2(1 - \alpha)^2}{(1 - 3\alpha)(V - v) - 2B}$ , better corporate governance reduces the risk of takeover, and for uniform distribution of raider's private benefits and quadratic costs, this effect always dominates the effect of higher cost of corporate governance.

Once  $\alpha > \hat{\alpha}$ , further increase in concentration of ownership results in worse corporate governance:  $a^* = \frac{1 - \alpha}{V - v - \bar{b}/\beta}$ . There is no risk of takeover even by the most competitive raiders  $b = \bar{b}$ . Hence, further increase of corporate governance is not needed, however, M has to keep it at the level that deters the most competitive raiders and assures that the outside shareholder receive a sufficient share of value:  $(1 - s)\beta = \bar{b}$ . Since an increase in the controlling shareholder's share reduces incentives to divert profits (for a given level of corporate governance), for the level of diversion to remain constant, corporate governance has to decrease with  $\alpha$ .

*Comparative statics.* If the raider is more competitive (e.g. if  $v$  goes up or  $\bar{b}$ ), the range of incumbent's stakes for which the corporate governance is increasing in  $\alpha$ , broadens. Indeed,  $\hat{\alpha}$  increases in both  $v$  and  $\bar{b}$ . The intuition is straightforward: takeover becomes more likely.

*A robustness check.* Let us study a particular case without non-controlling blockholders, and all non-controlling shares are up for sale:  $\beta = 1 - \alpha$ . Then the formula (3) turns into

$$c^* = (1 - \alpha)^2 V^2 \min \left\{ \frac{2}{(1 - 3\alpha)(V - v) - 2B}, \frac{1}{(1 - \alpha)(V - v) - \bar{b}} \right\}$$

The relationship between ownership structure and corporate governance is similar. If concentration of ownership is low  $\alpha \leq 2(\bar{b} - B) - 1$ , corporate governance improves with ownership concentration. Once  $\alpha > \hat{\alpha}$ , further increase in concentration may worsen corporate governance. Formally, the relationship is weakened by a countervailing effect: the higher stake of the controlling shareholder, the fewer shares are

<sup>8</sup>If  $c < (1 - \alpha)$ ,  $s^*(c) = 1$ , the probability of takeover is 1, and the controlling shareholder gets 0.

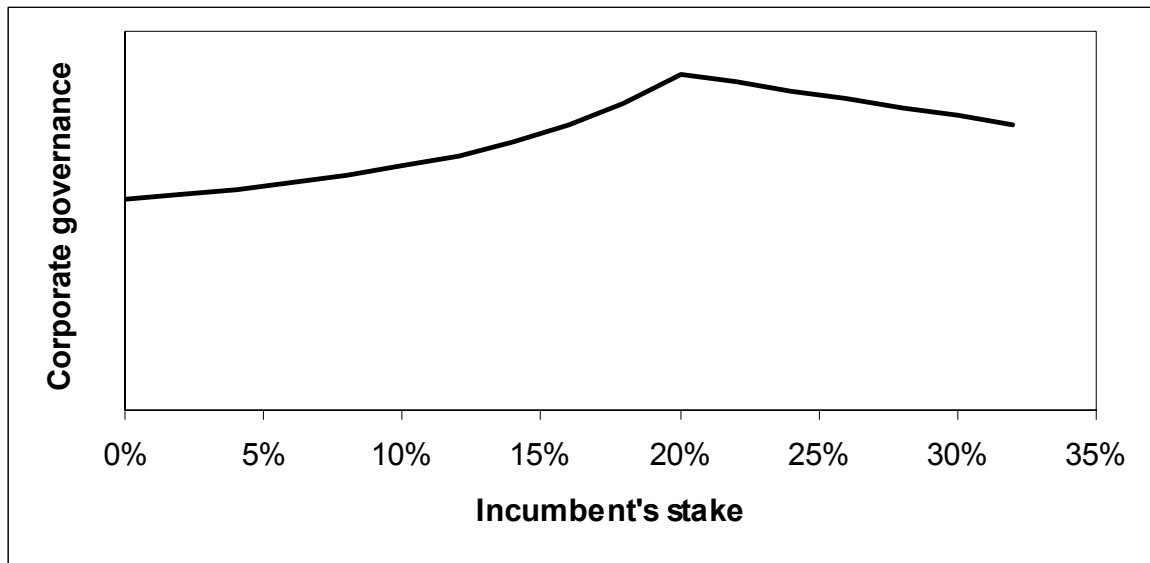


Figure 2: A numerical example. The graph shows  $c^*(\alpha)$  for  $\beta = 0.5$ ,  $B = 0$ ,  $\bar{b} = 0.3$ ,  $V = 1$ ,  $v = 0.2$ . The peak is located at  $\hat{\alpha} = 0.2$ .

up for sale, hence the easier it is for the raider to buyout all the dispersed shares. However, we do not model the fact that under smaller  $\beta$ , buying out the dispersed shareholders may not result in change of control (e.g if  $\alpha > 1/2$ ); the present choice of functional forms (quadratic  $C(s)$  and uniform  $F(b)$ ) does not allow any  $\hat{\alpha} > 1/3$ . Once this is properly modelled, the initial effect would be reinforced.

Another caveat is the absence of welfare analysis. We do not study the efficiency of takeovers because the current model misses several important parts of the story such as the welfare of non-controlling blockholders, S's incentives to invest ex ante, M's incentives for specific investment etc. This is an interesting topic for further research. Apparently, the takeover has to be inefficient with certain positive probability. Indeed, the effect of ownership concentration on corporate governance is not trivial only when the threat of takeover is neither certain, nor trivial. Through sharing with outsiders, the incumbent should be able to affect the probability of takeover.

## 4 Evidence

### 4.1 The sample

The study uses a survey of top managers of about one thousand industrial enterprises conducted by the Business Surveys Laboratory of the Institute for the Economy in Transition (IET). IET has developed and maintained a panel of top managers of industrial enterprises as part of monthly business surveys, which have been conducted since 1992 with the methodological support of the European Commission, Eurostat and OECD. The IET panel represents 22% of employment in the Russian industry. Chief executives account for 35% of the respondents, vice-presidents (including CFOs) – for another 57% of the sample. The sample is representative of Russian industry in terms of sectors, regions, and size (the benchmark is

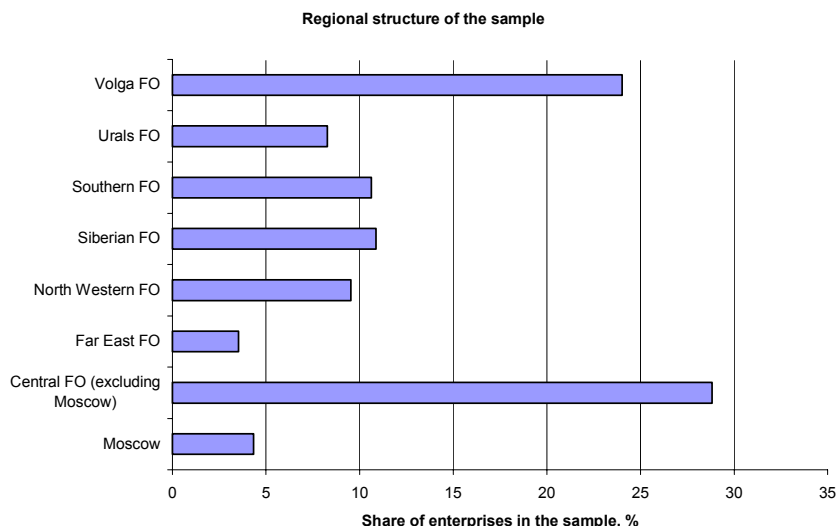


Figure 3: The graph presents the distribution of firms by regions. FO stands for Federal District (Federalnyi Okrug)

the Goskomstat’s Registry of Industrial Enterprises). The questionnaires are sent out and collected by mail. Figures (3)-(5) show the distribution of firms by regions, industries and size.

Like most Russian enterprises, the companies in the sample do not have access to the stock market. There are no blue chip companies in the sample; none is on the Russian Trading System’s (RTS) quotation lists of the first or even second tier. Only 30 companies (3% of the sample) are quoted in RTS, with shares of only 13 of them having been traded in 20 deals exceeding \$100,000.

## 4.2 Ownership

The confidential relations between IET and the respondents allowed us to ask sensitive questions on corporate ownership. Being aware of the complex structures of interlocked ownership intermediaries (many of which are often registered offshore) we have asked “what share of voting equity is *really* controlled (i) by the management; (ii) by the largest outsider shareholder; (iii) by all shareholders who hold less than 5% each.”

Table 6 presents data on the ownership structure. The privatization legacies are clearly important. While virtually all firms in our sample are not listed, the small shareholders hold substantial stakes (24 per cent on average). The ownership is concentrated (in the median firm, the largest shareholder controls 30%), but it is less concentrated than in most European countries. In order to compare the concentration of ownership in Russia to the one in OECD and CEE countries, we construct the cumulative distribution function of the largest shareholder’s stake (the maximum of the managerial stake and of the largest outsider’s stake). The c.d.f. is shown in the Figure 7. Once one compares it to Barca and Becht (2001) and Berfloh and Pajuste (2003), it turns out that Russia is similar to Spain and Sweden (among OECD countries) and to Hungary (among CEE countries). Although in Russia ownership is much more concentrated than in the

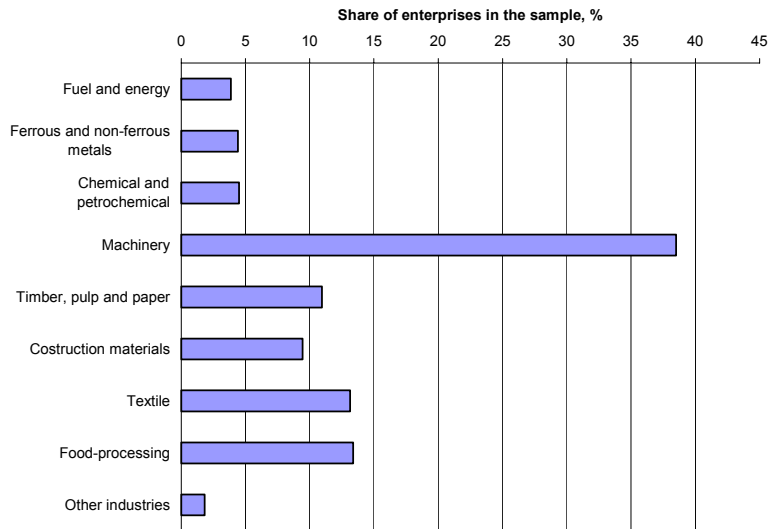


Figure 4: The graph presents the distribution of firms by 2-digit OKONKh industries.

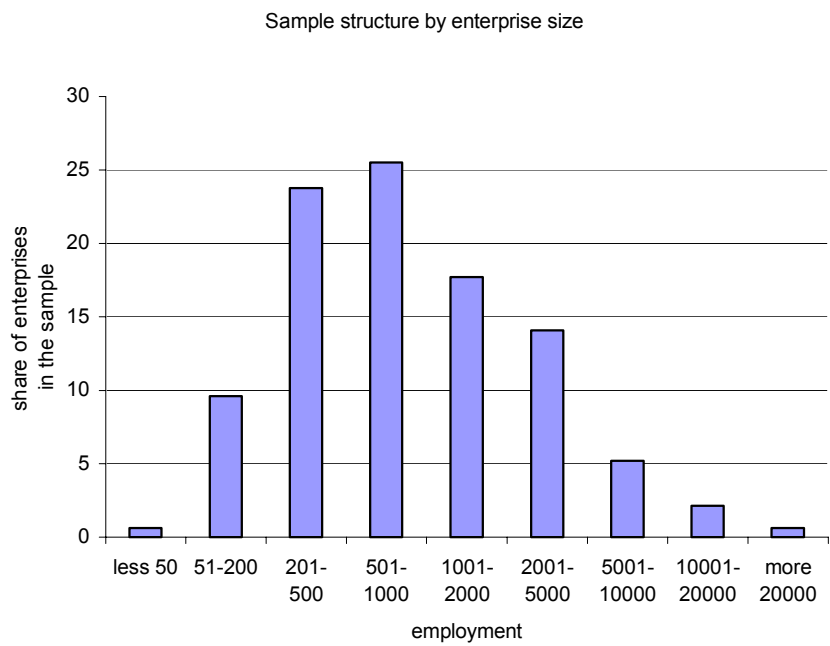


Figure 5: The graph presents the distribution of firms by size categories.

<b>Shareholder category</b>	Mean, %	Median, %	Standard deviation, %	Number of observations
Management	19.3	6	26.1	641
Largest outside shareholder	23.9	15	27.4	642
All small shareholders controlling less than 5% of shares	23.6	12	28.3	581
<b>Only for enterprises where this category is present</b>				
Management	27.7	16	27.2	448
Largest outside shareholder	39.9	38	24.8	384
All small shareholders controlling less than 5% of shares	37.0	30	27.5	370

Figure 6: The table reports summary statistics of ownership structure for more than 600 firms in the IET survey

UK or the US, or Slovenia, it is still much less concentrated than in Germany, Italy and most transition countries.

The relationship between ownership structure and size is of special interest. Since the size of enterprises in our sample varies considerably, it can be assumed that the ownership structure of large enterprises is substantially different from that of small ones. Also, one could expect that the larger the enterprise, the less concentrated the ownership structure; given the underdeveloped financial markets, purchasing a large stake in a large company is very costly. On the other hand, weak protection of minority shareholder rights may produce an opposite effect: the larger the enterprise, the greater private benefits of control enjoyed by managers and large shareholders, the greater benefits large shareholders can derive from infringing the rights of small shareholders.

As Figure 8 shows, both effects take place. First, due to interaction of these countervailing effects there is no correlation between size (employment) and the share of small shareholders. Second, the share of the largest outside shareholder does increase with the size of an enterprise, while the management's stake declines. The relationship is the same between ownership structure and another indicator of size - the sales. If one enterprise is 10 times larger than another, then the average managerial share is 3.5% smaller, while the share of the largest outside owner is 4.3% larger. There is no correlation between sales and the share of small shareholders.

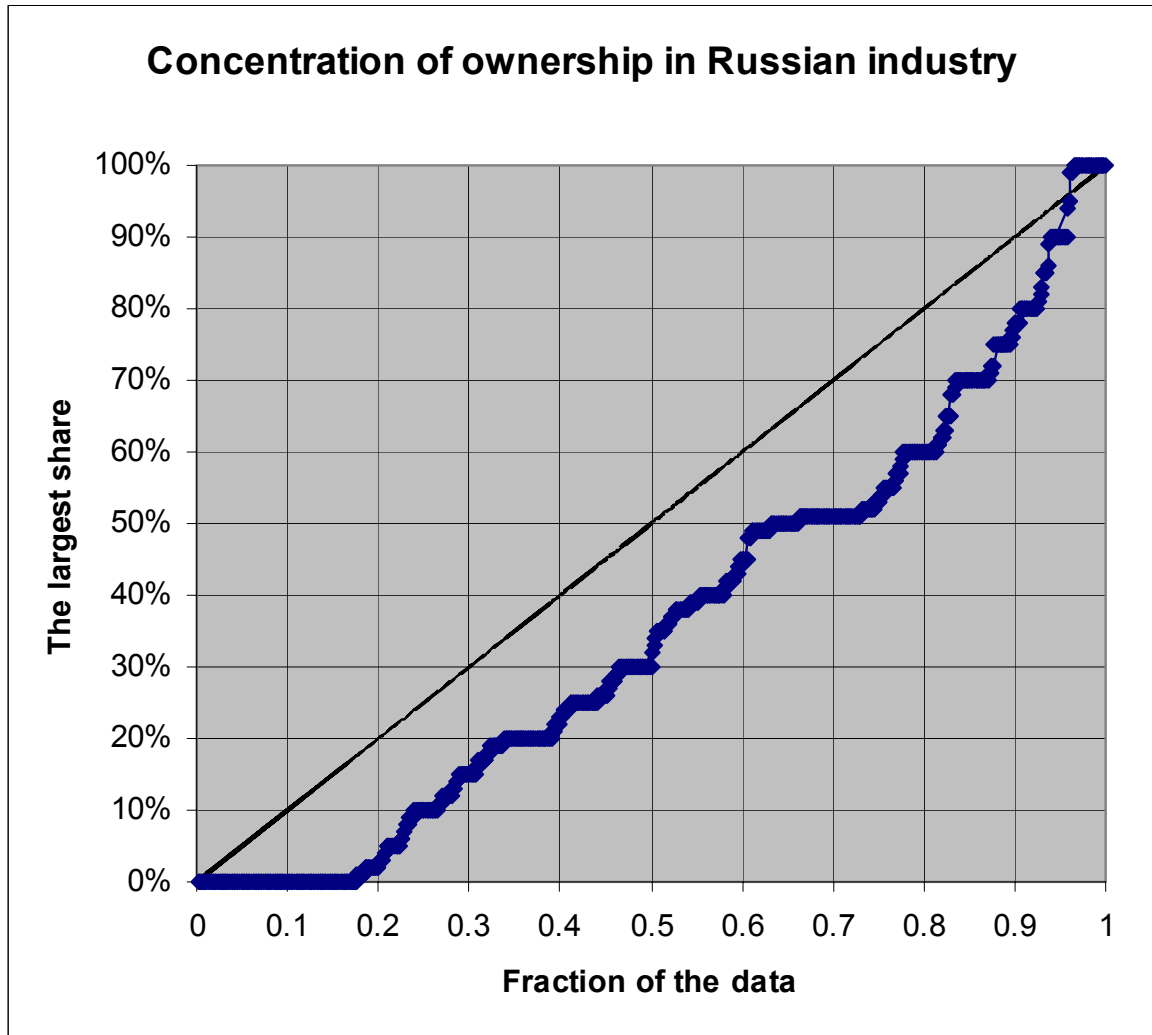


Figure 7: Cumulative distribution function of the largest shareholder's stake in the company in Russia (based on 679 firms).

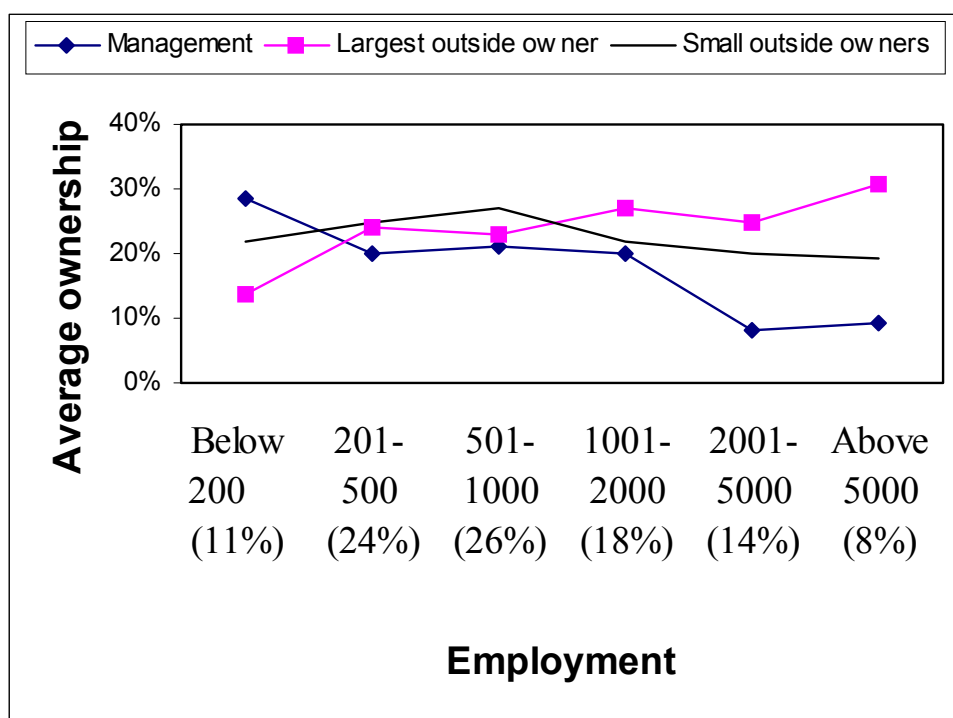


Figure 8: Average stake by size categories. The percentages in parentheses show the share of the size category in the sample.

### 4.3 Corporate governance

Given the imperfect legal system in Russia, many improvements in corporate governance are introduced by companies on the voluntary basis. The survey included six questions related to corporate governance:

1. Do you use INTERNATIONAL ACCOUNTING STANDARDS (US GAAP/IAS)?
2. Does your company have a DEPARTMENT FOR SHAREHOLDERS AFFAIRS?
3. Do you provide AGENDA of all shareholder meetings to all of your shareholders?
4. Are there INDEPENDENT DIRECTORS on the Board of Directors of your company?
5. Are there REPRESENTATIVES OF MINORITY SHAREHOLDERS on the board of directors of your company?
6. Is your company's registry of shareholders kept by an INDEPENDENT REGISTRAR?

Providing agenda of shareholder meeting to all shareholders is stipulated by Russian corporate law. According to the Federal Law on Securities Markets, if the number of holders of the company's securities (including all types of shares and bonds) exceeds 500, company is obliged to keep its shareholder registry with an independent registrar. International accounting standards are required only for listed firms when they are included in first level listing. However, the enforcement imperfections make compliance with all six provisions voluntary.



	Yes	No	No response
Accounting	10%	83%	8%
Shareholders dept	48%	51%	1%
Agenda for AGM	89%	9%	2%
Independent directors	42%	53%	5%
Minority representatives	21%	69%	10%
Independent registrar	75%	22%	3%

Figure 9: Corporate governance in 672 Russian joint-stock companies.

Component	Eigenvalue	Share of explained variation	Eigenvectors			
			1	2	3	
1	2.10	0.35	Question 1	0.15	0.97	0.14
2	0.98	0.51	Question 2	0.41	0.10	-0.33
3	0.89	0.66	Question 3	0.51	-0.09	-0.36
4	0.81	0.80	Question 4	0.39	-0.18	0.57
5	0.71	0.91	Question 5	0.39	-0.09	0.58
6	0.51	1.00	Question 6	0.49	-0.07	-0.29

Figure 10: Principal component analysis of corporate governance.

There is a substantial variation in specific components of the quality of corporate governance (Figure 9). An overwhelming majority of companies notify shareholders of the shareholders meeting in a timely manner, but only about half of them have an independent registrar. Only a few companies maintain international accounts and have minority shareholders represented on the board of directors.

The components of corporate governance are positively and significantly correlated. Which of the six questions best describes the quality of corporate governance? Can a scalar index showing relative performance of companies as regards corporate governance be constructed? We checked if one can build a linear order of the corporate governance components, whether positive answer to one question implies positive questions to others. We have gone through all possible orders; the best linear order is as follows: international accounting standards  $\Rightarrow$  representatives of minority shareholders  $\Rightarrow$  independent directors  $\Rightarrow$  shareholder department  $\Rightarrow$  agenda of the annual meeting  $\Rightarrow$  independent registrar (i.e. if the company has IAS accounts, then it also has representatives of minority investors on the board etc). However, even this ordering holds for only 60% firms in the sample.

To build a scalar index of corporate governance, we used the principal component method. Table 10 shows eigenvalues and eigenvectors. The first component explains 35 per cent of total variation, which exceeds significantly the explanatory power of the second and third components (16 and 15 per cent, respectively). The first principal component includes all six questions with similar weights; only the weights of answers to the third (agenda) and sixth (independent registrar) questions are somewhat larger. The second component, on the contrary, is essentially comprised of the first question (international accounting standards) only. The third component includes the fourth and fifth questions with larger weight.

In what follows, we use the first principal component as the index of corporate governance. The Corporate Governance Index is distributed in the range from -2.37 to 3.07 with a standard deviation of 1.45; the mean is normalized to zero.

#### 4.4 Empirical analysis

In order to test the effect of the ownership concentration on corporate governance, we regress the corporate governance index on the stake of the largest shareholder  $\alpha$ . We only include joint-stock companies, and control for size (proxied by log annual sales), industry (2-digit industry dummies) and regions (federal district dummies plus a dummy for the Moscow City).

Table 11 presents the results. First, we run a linear specification and find that ownership concentration (measured by the largest stake  $\alpha$ ) has a positive effect on corporate governance. However, it turns out that this effect is non-linear. Once we run a quadratic specification (including both  $\alpha$  and  $\alpha^2$ ) we find that ownership concentration improves corporate governance as long as it is not too high, then the effect is negative. The peak is located exactly at  $\hat{\alpha} = 4.61/(2 * 4.62) \simeq 0.50$ . To test this, we run another quadratic specification (replacing  $\alpha^2$  with  $(\alpha - 0.50)^2$ ): it turns out that indeed,  $\hat{\alpha} = 0.50$  is the peak of corporate governance with regard to ownership concentration; once  $(\alpha - 0.50)^2$  is included, the coefficient at the linear term  $\alpha$  becomes insignificant. We also run two piecewise linear specifications testing for a kink at  $\alpha = 0.50$ . First, we include  $\alpha$  and  $\max\{0, \alpha - 0.5\}$ ; then we include  $\alpha$  and  $\min\{0, \alpha - 0.5\}$  (for the brevity's sake, the latter is not reported). The results are again intuitive: up to  $\alpha = 0.5$  increasing ownership concentration improves corporate governance (with the slope coefficient of 2.18) but further ownership concentration worsens the corporate governance (slope coefficient  $-1.81$ ). Both coefficients are

significantly different from zero and from each other.

We also run the regressions for subsamples of  $\alpha < 0.5$  and  $\alpha > 0.5$ . The results are similar: ownership concentration improves corporate governance for  $\alpha < 0.5$ ; the effect of further concentration is negative (although insignificant).

The subsample regression results are consistent with Figure 12 where we present the relationship between ownership concentration and corporate governance. Controlling for size, industry and regional characteristics we do see that the corporate governance does increase with ownership concentration until the largest shareholder controls 50% stock. Further increase in concentration results in a decrease in corporate governance after which the relationship is non-existent.

The discrete drop in corporate governance after  $\alpha$  crosses the 50% threshold is also a straightforward implication of the contestability of corporate control (which is discussed but modelled explicitly in Section 3). Indeed, if  $\alpha > 0.5$ , the takeover is highly unlikely (although even majority shareholders can lose corporate control battles if the courts are captured by the rival). To test for this effect, we have added a step function  $1(\alpha > 0.5)$  to the piecewise linear regressions. The estimates are reported in the last column of Table 11. The results are fully consistent with the takeover threat story, the corporate governance increases with  $\alpha$  as long as  $\alpha \leq 0.5$  (the slope coefficient 2.93 is positive, large and significant). After ownership concentration crosses the 0.5 threshold, the corporate governance drops by 0.59 (which is both economically and statistically significant). Further increase in ownership concentration decreases the level of corporate governance decline; however, the slope coefficient is small  $2.93 - 3.78 = -0.86$  and is not statistically significant.

In order to check robustness of the results, we have also run regressions controlling for share of exports in sales, and for the financial position of the firm (proxied by the stock of liquid assets in the beginning of the year as a share of annual sales), we also added closely held corporations, and controlled for the share of dispersed investors. We have also separated the concentration of ownership in hands of management and outsiders. The results are reported in Table 13 in the Appendix. The coefficients at the management's stake have the right sign but are marginally significant or non-significant, while the coefficients for the largest outside shareholder's stake keep the right sign, order of magnitude and significance.

*Corporate governance and performance.* The model is static and only studies how the corporate value is shared rather than created. It is not clear at all how ownership concentration and corporate governance should affect performance in this environment. Unfortunately, we only have performance data for 2001; in all specifications every performance indicator (such as industry-adjusted growth in output, labor productivity, growth in labor productivity, increase in fixed assets, profit margins) turned out independent of both ownership structure and corporate governance. In Guriev et al., 2003, we have also studied the effect of ownership and corporate governance on 2002 investment and found that while on average corporate governance does not affect investment, it does have a positive impact on investment in firms with higher share of dispersed owners, and a negative effect in firms with more concentrated ownership.

	linear	quadratic	quadratic	piecewise linear	subsample $\alpha < 0.5$	subsample $\alpha > 0.5$	piecewise linear plus stepwise
log sales	0.24***	0.22***	0.22***	0.22***	0.25***	0.18**	0.23***
	-0.05	-0.05	-0.05	-0.05	-0.05	-0.09	-0.05
$\alpha$	0.81***	4.61***	-0.01	2.18***	3.41***	-0.64	2.93***
	-0.28	-0.85	-0.32	-0.43	-0.56	-0.79	-0.57
$\alpha^2$		-4.62***					
		-0.98					
$(\alpha - 0.5)^2$			-4.62***				
			-0.98				
$(\alpha - 0.5)$ , if $\alpha > 0.5$				-3.99***			-3.78***
				-0.98			-0.98
1, if $\alpha > 0.5$							-0.59**
							-0.24
Observations	317	317	317	317	199	118	317
R-squared	0.23	0.30	0.30	0.27	0.37	0.31	0.29

Robust standard errors in parentheses; regional and industry dummies included.  
\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Figure 11: OLS regressions for the Corporate Governance Index.  $\alpha$  is the share of the largest shareholder. State-owned firms and closely-held corporations are not included.

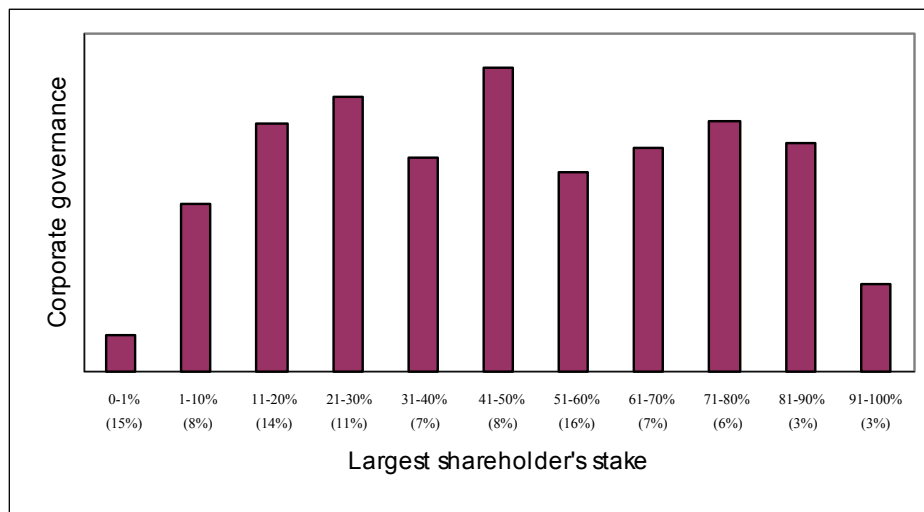


Figure 12: Corporate governance as a function of ownership concentration after controlling for industry and regional specifics and size. Numbers in parentheses show the fraction of the sample for the respective levels of ownership concentration.

## 5 Concluding remarks

In this paper, we have considered the interaction of ownership concentration and the takeover threat in their effect on corporate governance of non-listed firms. We have established, both theoretically and empirically, a non-linear relationship between ownership and corporate governance in the presence of corporate control market. Up to a certain limit, ownership concentration positively affects corporate governance. After the limit, the relationship disappears or even becomes negative. In Russian industry, the threshold turned out to be exactly at the level of 50% which reinforces the importance of corporate control market.

The model suggests that in the environment where other corporate governance mechanisms fail to discipline the management, the market for corporate control can indeed protect the investors. This implies that before the legal and competitive environment is improved substantially, developing countries should seriously consider the option of not copying rich countries' anti-takeover regulation. As costly and disruptive the takeovers are, in many cases they are the only instrument available to the investors to protect their interests.

Our empirical results establish the importance of corporate control market in Russia. The next step is to study to what extent the threat of takeover provides incentives not only for sharing the value with outsiders but also for maximizing the value. In future research we will study the implications of contestability of control both for static efficiency and for dynamic welfare analysis that would take into account the effect on cost of capital and on incentives for specific investments within the firm.

## APPENDIX

	exports and liquidity	including closely held	controlling for small shareholders	insiders vs outsiders	insiders vs outsiders
Log sales	0.26***	0.28***	0.28***	0.28***	0.23***
	-0.06	-0.05	-0.05	-0.06	-0.06
Exports/sales	0.3	0.27	0.36	0.47	0.38
	-0.39	-0.37	-0.43	-0.44	-0.44
Cash balance/sales	-3.69	-3.59*	-3.66*	-3.73	-3.3
	-2.33	-2.11	-2.04	-2.32	-2.15
$\alpha$	3.18***	2.83***	2.79***		
	-0.99	-0.84	-0.89		
$\alpha^2$	-3.04***	-2.84***	-2.61**		
	-1.13	-0.95	-1.01		
Closely held dummy		-0.38**	-0.47**	-0.40*	-0.27
		-0.19	-0.22	-0.21	-0.21
Share of all small			0.59*		
			-0.3		
Share of insiders				0.55*	1.29
				-0.33	-0.95
Shares of insiders squared					-0.96
					-1.28
Share of largest outsider				0.67**	3.47***
				-0.31	-0.89
Share of largest outsider squared					-3.57***
					-1.08
Observations	220	267	224	237	237
R-squared	0.28	0.26	0.3	0.24	0.29

Robust standard errors in parentheses; regional and industry dummies included.

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Figure 13: OLS regressions for corporate governance index.

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