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## Political influence, firm performance and survival

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Vladimir Sokolov and Laura Solanko

## Political influence, firm performance and survival



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Vladimir Sokolov and Laura Solanko

## Political influence, firm performance and survival

### Abstract

We examine how regional-level political influence affects firm financial performance and survival. Combining representative survey data on mid-sized manufacturing firms in Russia with official registry data, we find that politically influential firms exhibit higher profitability and retain larger financial investments than non-influential firms. At the same time, we find no association between regional political influence and access to bank lending. Most importantly, our empirical analysis suggests that the benefits of influence may be transient. Influential firms experienced significantly lower growth during our 2004–2010 sample period than non-influential firms. Moreover, influential firms had a significantly higher probability of going bankrupt after the 2008 global financial crisis than non-influential firms.

JEL codes: D22; D72; G38.

Key words: political influence, firm performance, firm survival, government quality, Russia.

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# 1 Introduction

The effects of political connections on firm performance have received great interest in recent corporate finance and political economy literature. Theory suggests that when firms deliver political benefits to politicians, politicians respond by providing subsidies to firms (Shleifer and Vishny, 1994).

The empirical literature highlights evidence that political connections increase firm profitability through various channels. For example, political connections may help firms secure changes in the regulatory environment (Li et al., 2008; Bunkanwanicha and Wiwattanakantang, 2009), ease access to bank financing (Cull et al., 2015; Claessens et al., 2008; Fan et al., 2007), or gain lucrative access to public procurement contracts (Amore and Bennedsen, 2013; Goldman et al., 2013).

However, there is also growing evidence that political connections may erode firm efficiency through such effects replacing professionals with cronies in board positions (Fan et al., 2007) or tunneling assets out of the firm to political beneficiaries (Mironov and Zhuravskaya, 2016).

What seems to be absent from much of this discussion is evidence on the sustainability of political influence over the longer term in a manner that enhances firm performance. Do favorable political contacts support firm growth and performance over time? Or could, in fact, reliance on political connections become a burden – or even an existential threat – to a firm in the event of regime change or a large exogenous shock to the economy?

In this article, we contribute to better understanding of these issues by examining the performance of a sample of non-strategic, but politically influential, firms in a single country, Russia. While most of the existing literature focuses on a few large listed firms, we work with a broad set of firms that are typically neither too big to fail nor of strategic national importance. Further, instead of the familiar proxies for political influence such as government ownership or politicians serving on corporate boards (e.g. Chen et al., 2014; Cull et al., 2015; Li et al., 2008; Lu, 2011), we consider survey responses from senior executives on their ability to influence local and regional legislative decision-making in Russia.

We derive our measure of firm political influence from a representative survey of large and mid-sized industrial enterprises in Russia, allowing us to match surveyed firms with official financial data and trace firm performance over our 2004–2010 observation period. This lets us contrast financial performance of influential and non-influential firms during both the boom period of 2004–2007 and the Great Recession and its immediate aftermath (2008–2010).

We start our analysis with an examination of whether regional political influence has a positive effect on firm profitability. Controlling for observable firm characteristics, we show that firms that have regional-level influence are significantly more profitable than other firms.

Next, given Russia's heterogeneous regional business environments, we ask how regional institutional characteristics shape the way private businesses operate. Notably, there is almost no positive relation between regional political influence and firm profitability in regions with the highest levels of economic freedom.

We then ask whether the higher profitability of influential enterprises translated into higher growth rates over the medium term or improved the firm's prospects of surviving the Great Recession. The results are surprising. Again, controlling for observable firm characteristics, we find growth rates of firm revenue were significantly *lower* among influential firms, which suggests that profits that accrue for influential firms are not necessarily used to foster firm growth, and may instead be tunneled out to controlling shareholders or to other well-connected parties.

Several recent studies (e.g. Ma et al., 2013; Su et al., 2014) document a significant positive relationship between political connections of firms and incentives of shareholders to maximize private benefits and tunnel resources out of the firm. Using detailed microdata at the transactions level, Mironov and Zhuravskaya (2016) show that firms in Russia often tunnel cash to politicians around the time of regional elections to lock in procurement contracts. This finding suggests that politically influential firms are more likely to be involved in asset-tunneling activities than non-influential firms. To test this hypothesis, we use financial investments as a proxy variable for tunneling as in Jiang et al. (2010) and Ma et al. (2013) for China. Over our sample period, we find that politically influential firms accumulated significantly higher financial investments than non-influential firms. The evidence again points to extensive tunneling by firms politically influential at the regional level.

In the second stage of our analysis, we present cross-sectional evidence on growth rates of performance variables during the pre-crisis 2003–2008 period. We find that influential firms exhibited significantly lower sales growth than non-influential firms. Growth of other performance variables, however, was not significantly different between these two groups.

Finally, we investigate how political influence relates to the long-term performance of firms by looking at the probability of liquidation through bankruptcy following a large exogenous shock. The global financial crisis of 2008 and subsequent oil price collapse resulted in a sudden, unforeseen slump in Russian economic growth. Russian GDP contracted 8 % in 2009 resulting in a wave of corporate bankruptcies in 2009 and 2010. To cope with the collapse, the government

created massive support packages to a sharply defined list of federally important enterprises (Davydova and Sokolov, 2014). To the best of our knowledge, this paper is among the first to examine separately the relation between political influence and firm performance during the periods of boom and bust

Against this background, we examine whether influential, but non-strategic, firms fared better when faced with this sudden shock to the overall business environment. A natural hypothesis is that firms that have influence over regional political decision-making are better positioned to shield themselves from liquidation. We test this hypothesis by merging our data with registry data on firm liquidations. We find a strong positive association of political influence with the likelihood that a firm would be liquidated during the 2009–2010 period.

Our findings add to the literature on costs and benefits of firm political connections and call into question the long-term benefits of nurturing close ties with regional decision-makers. Our main finding is the negative association between firm political influence and various measures of long-term viability of firms such as growth and ability to survive a large exogenous shock. . This also suggests that the business model of influential firms may be quite different from the model used by non-influential firms.

Our results support the hypothesis that influential firms are more vulnerable to sudden, exogenous shocks when access to government support suddenly dries up. Due to the nature of the survey data available, we refrain from making strong conclusions on the causal mechanisms between political connections and firm growth, but the results strongly indicate that further research in this area is warranted.

The remainder of the paper is organized as follows. Section 2 briefly reviews the institutional environment where firms operate, and section 3 explains the data used. Section 4 describes the empirical relations between firm political connections and firm performance, while the section 5 presents our major findings on political connections and firm growth and survival. Section 6 documents robustness tests and section 7 concludes.

## 2 Institutional environment

Russia offers an excellent natural testing ground for studying how political connections affect firm performance. Connections matter for business and the rule of law is weak.

Institutionally, Russia is a federation consisting of the federal government and 80 subjects of federation, i.e. regions. Over roughly the past twenty-five years, the Russian Federation has traveled a long path from a unitary state, through extreme decentralization, to becoming a



highly centralized, federation. Broadly speaking, the past twenty years can be divided into two periods; haphazard and spontaneous fiscal and political decentralization in the 1990s and recentralization in the 2000s. The evolution of Russia's fiscal federalist arrangements has been actively researched and documented in numerous studies including Da Silva et al (2009), Desai (2003), Sonin (2010) and Zhuravskaya (2010).

Russian regions are heterogeneous in almost every aspect of development. The differences in e.g. size, per capita income, in public health, wages, industrial structure and tax revenues are huge. Formal revenue autonomy is negligible while also expenditure autonomy remains very limited. This minimal formal autonomy notwithstanding, Russian regions have considerable powers in implementation of federal and regional legislation. Despite fairly uniform rules and regulations on social expenditure items, actual outcomes differ widely. Over the past twenty years, regions have proven successful in influencing both tax bases and effective rates e.g. by affecting regional tax collection, tolerating tax arrears and giving preferential treatment through regional regulations (Yakovlev, 2006; Slinko et al., 2005; Guriev et al., 2010).

Unlike China, Russia has not explicitly committed to one-party rule, and despite continuing government involvement in the economy, is generally not ideologically inclined toward state ownership. During the 2001–2003 survey period highlighted here, Russian regions enjoyed considerable independence with respect to implementation of federal-level decisions, as well as the possibility of adopting regional-level laws and regulations. Thus, the ability to influence decisions at the regional level could greatly reshape the business environment (e.g. treatment of tax arrears, access to public procurement deals, land zoning decisions, corporate tax rates, and bidding on land rights). Our data here allow us to focus on influential and non-influential firms in a country with considerable differences in economic institutions across regions. To the best of our knowledge, no existing study has attempted to control simultaneously for firm-level determinants, political connections, and regional economic institutions.

Furthermore, we contribute to the discussion on how differences in institutional environments affect the relationship between a firm's political influence and its performance. Fan et al. (2011) provide a survey of key institutional factors that influence business organizations and managerial behavior. Chen et al. (2014) develop this idea further and find that local government quality across Chinese provinces shapes corporate cash-holding decisions. Do et al. (2013) show that the value of political connections of firms located in different US states varies with the institutional characteristics of those states.

One would expect that the large variation in institutional and business environments across Russian regions affects the intensity of the relationship between political influence and

corporate financial performance. Indeed, the notion that political connections are more important to firms in the presence of a weak market infrastructure and weak rule of law is confirmed by our findings. Conversely, the impact of political influence on firm profitability almost completely vanishes in regions with robust institutions. We will thus argue that political influence of firms matters most for performance in weak institutional environments.

## 3 Data and variables used

### 3.1 Survey data

Quantifying the political connectedness or influence of firms on political decision-making is a non-trivial task. All firms need to cooperate with public administration and all are affected by political decisions.

Many studies proxy political connections with factors as direct state ownership in the enterprise (Chen et al., 2014; Cull et al., 2015), state appointment of corporate officers and board members (Boubakri et al., 2012 and 2013), or party membership of senior management (Li et al., 2008; Lu, 2011). A clear drawback of these proxies is that they assume that all state-owned enterprises may enjoy a group preference and are thus equally well-connected and equally powerful in lobbying for their causes. In a similar vein, these proxies by design assume all party members or former politicians are equally succesful in lobby for benefits to their current employer firm.

The alternative is to ask managers to assess their own firm's influence on political decision-making. We therefore believe that bringing in survey data on firm perceptions of political influence can make a significant addition to the literature. Using survey information directly asking about firm's perceptions on their political influence also allows us to control for the direct effect of state ownership on firm performance.

In deriving our key measure of political influence, we use the HSE-CEFIR-BOFIT survey conducted among medium-sized Russian industrial enterprises during April–June 2003.<sup>1</sup> The survey covered 402 large and medium-sized industrial enterprises in 29 regions in Russia. Apart from energy production and minerals extraction, which were excluded by design, our sample is representative of the industrial distribution in Russia based on 2-digit ISIC codes. The survey focuses on the role of enterprises in providing social services and local infrastructure. Small firms that employed fewer than 400 employees were excluded from the sample frame. Most firms in the sample employed between 500 and 5,000 employees in the survey year. The survey includes

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<sup>1</sup> HSE-CEFIR-BOFIT stands for Helsinki School of Economics – Center for Economic and Financial Research (Moscow) – Bank of Finland Institute for Economies in Transition.

many questions on firm involvement in the provision of a wide variety of social services, assessments of public infrastructure items, generation of heat and electricity, as well as regulation and competition. For a detailed discussion of the survey design and implementation, see Haaparanta et al. (2003) and Lazareva and Juurikkala (2012).

General managers of surveyed firms were asked to assess the extent to which their companies exerted influence over regional laws and regulations relevant to their business. The question (in Russian) was:

*In this question, we ask about legal and regulatory actions approved at the regional level that in some way govern the way your company operates.*

*In your view, to what extent does your company influence the process of formulating and approving such actions?*

Table 1 reports the distribution of the responses to the question from surveyed general managers. Almost a third of the respondents saw their company having a degree of influence on regional laws and regulations. This is a surprisingly high share, given that we focus on non-strategic firms outside the mineral extraction sector.

We use the responses to construct a discrete variable, *Influence*, that takes the value zero if the respondent perceived his or her company having absolutely no influence on regional decision-making, and one otherwise.<sup>2</sup> Our proxy for firm political influence is the general manager's perception of his or her firm's influence. The survey data do not capture specific evidence that the firm is a true beneficiary of political influence, or that the firm enjoys direct access to top regional politicians,. It is clearly a perception indicator, but one that provides interesting insights into the interplay between firm performance and local institutions.

Table 1 Summary table of political influence of firms at the regional level

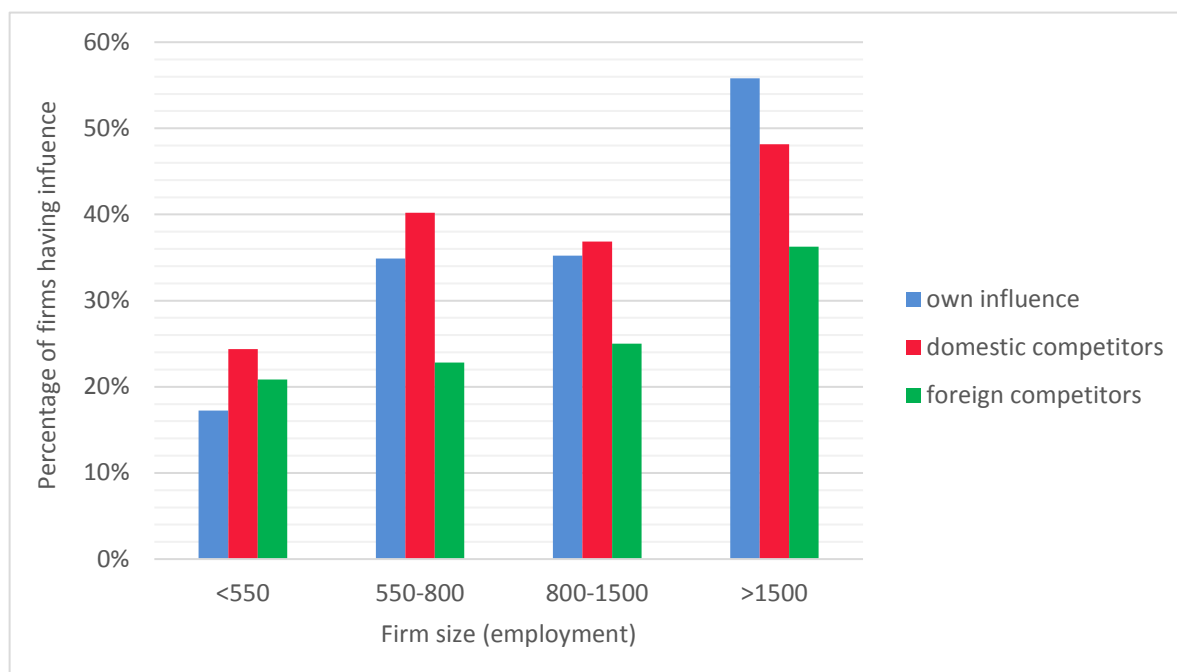
Survey responses of firms	No. of firms
Company has absolutely no influence	246
Company has minor influence	106
Company has major influence	31
No response	19
Total	402

Survey responses of general managers reported in the Table 1 are used to construct a discrete variable, *Survey influence*, that takes the value zero if the company has absolutely no influence, and one otherwise. We treat *No response* as a missing value. We experimented with samples where we assigned no response answers to influence and no influence categories, but it did not materially change the results.

<sup>2</sup> We treat *No response* as a missing value. We experimented with samples where we assigned no response answers to influence and no influence categories. This did not materially change our empirical results.

Surveyed general managers were also asked if their domestic and foreign competitors had influence over regional decision-making. Clearly, the responses as to the firm's influence and competitors' influence are positively correlated, allowing us to infer that some environments are more susceptible to close links between business and politics (Haaparanta et al., 2003). As seen from Figure 1, *Influence* is positively correlated with the firm's total employment figure. Larger firms are more likely to have a say in regional political decision-making, but having influence is not confined to the largest firms. A nontrivial share of mid-sized enterprises also claimed to have influence in regional decision-making. Notably, having influence was not a special feature of any particular industrial sector. At the 2-digit level, the share of influential firms varies between 22 % and 47 % per industry group (see Table A1 in the Appendix). We therefore assume that influence is shaped by firm characteristics, local and regional institutional features, as well as other links such as inherited structures and personal connections that are unlikely to fluctuate much over time.

Figure 1 Survey influence dummy by firm size categories



Source: HSE-CEFIR-BOFIT survey

The survey data allow us to identify state-controlled firms. We classify a firm as state-controlled if the surveyed manager indicates that the state either owns more than 50 % of the company shares or the state is the single largest shareholder. There are 46 state-controlled firms in our sample under this definition. The rest are classed as controlled by domestic private owners. This information on firm ownership allows us to control for a direct effect of state control on firm

political influence. An immediate observation from our data is that state ownership and *Influence* are only weakly correlated. Only 16 state-owned firms in our sample had any influence on regional laws and regulations. Thus, direct state ownership does not automatically lead to high influence and tight connections with regional officials.

### 3.2 Firm-level financial variables

Because the survey collected no detailed financial data on the surveyed firms and we are interested in growth of the surveyed firms, the survey data need to be merged with firm-level financial data. To construct key firm-level accounting variables, we obtain firm-level financial data from two sources: Ruslana-Bureau van Dijk and Spark-Interfax. Both datasets use official registry data collected by Rosstat, but have different sets of missing observations. We use Ruslana as our main dataset and complement missing observations in the Ruslana dataset with observations from Spark where available.

Following previous literature on firm performance, we focus on a small set of standard accounting variables: return on assets (ROA), net cash holdings-to-assets (cash), total financial investments-to-assets ratio (financial investments), total debt-to-assets (leverage), total net assets, and net working capital (*NWC*). Table A2 in the Appendix provides a detailed description of the variables and data sources used. To remove outliers, we winsorize all firm-level financial variables at the top and bottom 1 %. We merge the survey data with the registry data by the official classification numbers of firms, obtaining an unbalanced panel data made up of 1,886 firm-year observations for 355 firms over the period 2003–2008.

As additional controls, we use two proxies constructed from the survey data. General managers were asked several questions about access to finance. We use the answers from two of these questions to construct two dummy variables describing: 1) whether the respondent firm needed bank credit during the three years prior to the survey (*No credit needed*), and 2) whether the respondent firm used bank credit to finance investments at any time during the pre-survey period 2000–2002 (*Credit for investment*). The *No credit needed* dummy variable reveals the surveyed firms' financial constraints. The *Credit for investment* dummy indicates firm investment opportunities. We use these dummies as additional control variables in combination with the balance sheet data on firms' financial performance.

This period was characterized by macroeconomic stability and unprecedented economic growth in Russia. Average annual GDP growth exceeded 7.1 % as prudent macroeconomic pol-

icies and historically high oil prices fueled economic growth. The favorable environment notwithstanding, volatility in firm-level performance was high as evidenced by the summary statistics in Table 2.

Table 2 Descriptive statistics and correlation matrix

<b>Panel A: Descriptive statistics</b>								
	N	Mean	Std. dev.	Min	p25	p50	p75	Max
<i><u>HSE-BOFIT survey variables</u></i>								
Influence	383	0.358	0.480	0	0	0	1	1
State owned	401	0.107	0.310	0	0	0	0	1
No credit needed	401	0.085	0.279	0	0	0	0	1
Credit for investment	401	0.105	0.217	0	0	0	0.1	1
Firm-level characteristics								
ROA	1994	0.104	0.216	−0.447	0.001	0.095	0.211	0.691
Revenue growth	1972	0.071	0.357	−1.262	−0.026	0.117	0.246	1.023
Total assets growth	1991	0.105	0.257	−0.843	−0.018	0.091	0.221	0.941
Total financial invest. ratio	1621	0.065	0.104	0	0.001	0.018	0.084	0.516
Net assets (RUB million)	1997	1302.65	3873.26	15.82	126.54	296.25	807.13	30113
NWC	1977	−0.024	0.590	−3.173	−0.113	0.103	0.263	0.696
Leverage	2005	0.235	0.276	0.000	0.020	0.146	0.364	1.496
<i><u>Region-level characteristics</u></i>								
Carnegie regional market freedom index	39	3.308	0.694	2	3	5	39	5

<b>Panel B: Correlation coefficients</b>										
	Influence	State	No credit needed	Credit for invest.	ROA	Revenue growth	Asset growth	Fin. Inv.	Lever.	Net assets
State	0.030									
No credit needed	−0.029	<b>0.155</b>								
Credit for invest.	0.043	<b>−0.084</b>	<b>−0.159</b>							
ROA	<b>0.107</b>	−0.041	<b>0.112</b>	<b>0.076</b>						
Revenue growth	−0.022	−0.048	0.014	0.042	<b>0.402</b>					
Total assets growth	−0.048	<b>−0.059</b>	0.028	<b>0.058</b>	<b>0.339</b>	<b>0.397</b>				
Total financial investment	<b>−0.101</b>	−0.014	<b>0.089</b>	−0.044	<b>0.2</b>	−0.034	<b>0.069</b>			
Leverage	−0.042	<b>−0.151</b>	<b>−0.147</b>	<b>0.140</b>	<b>−0.235</b>	−0.053	<b>0.060</b>	0.045		
Net assets	<b>0.135</b>	0.014	−0.028	0.045	<b>0.297</b>	<b>0.122</b>	<b>0.086</b>	<b>0.339</b>	<b>0.086</b>	
NWC	<b>0.080</b>	0.006	<b>0.093</b>	0.023	<b>0.549</b>	<b>0.359</b>	<b>0.286</b>	<b>0.071</b>	<b>−0.337</b>	<b>0.105</b>

Panel A reports the summary statistics for the surveyed firms. The sample comprises 1,897 firm-year observations from 39 regions over the 2003–2008 period. Panel B reports Pearson's correlation coefficients. Boldface indicates significance at the 1% level.

Table 2 reports summary statistics and correlation analysis. Table 3 presents univariate tests that help identify the characteristics where influential and non-influential firms differ. The mean difference t-tests and median difference z-tests reject the null that ROA, firm size, financial investments, assets growth, and net working capital of influential and non-influential firms are the same during the sample period. On average, influential firms are about two times larger, 1.5 times more profitable, more liquid, and report higher financial investments than non-influential firms. Even so, influential firms exhibit significantly lower growth.

Table 3 Univariate tests by political influence

	Means		Diff. test t-test	Medians		Diff. test Wilcoxon z-test
	Influential (137 firms)	Non- influential (246 firms)		Influential (137 firms)	Non- influential (246 firms)	
	(1)	(2)	(3)	(4)	(5)	(6)
ROA	0.132	0.084	−4.712***	0.11	0.08	−4.077***
Revenue growth	0.061	0.077	0.971	0.12	0.11	0.915
Total assets growth	0.089	0.114	2.071**	0.08	0.1	1.819*
Total financial invest. ratio	0.079	0.057	−4.076***	0.029	0.012	−5.202***
Net assets	1973	859	−6.197***	382	229	−9.338***
NWC	0.030	−0.06	−3.466***	0.12	0.09	−2.053**
Leverage	0.222	0.245	1.753*	0.15	0.15	0.483
State (0/1)	0.117	0.098	−1.444	0	0	0
No credit needed (0/1)	0.073	0.089	1.365	0	0	0
Credit for invest. (0/1)	0.107	0.107	0.111	0	0	0

This table reports measures of central tendency of the firm-level variables for politically influential and non-influential subsamples. The full sample includes 1,904 firm-year observations during the 2003–2008 period. The difference tests report t-test (Wilcoxon rank-sum z-test) values for the difference in means (medians) between connected and non-connected firms. Significance levels of 0.1, 0.05, and 0.001 are denoted by \*, \*\*, and \*\*\* respectively.

The second part of our study relies on the cross-sectional analysis where we explore the relationship between growth rates of our performance variables with the political influence of firms. The summary statistics for growth rates over the pre-crisis period and correlation tables with the initial values of the proposed explanatory variables are presented in Table 4.

Table 4 Summary statistics of growth

<b>Panel A</b>	mean	sd	min	med	max	n
<i><u>Dependent variables</u></i>						
%Δ ROA	0.19	9.211	−52.32	−0.268	88.41	355
%Δ Total revenue	0.855	1.338	−0.933	0.602	3.934	355
Δ Leverage	0.111	0.232	−0.202	0.031	0.695	356
Δ Total financial investment ratio	0.043	0.126	−0.328	0.001	0.361	321
<i><u>Independent variables</u></i>						
ROA 2003	0.1	0.208	−0.447	0.086	0.642	355
Log total assets 2003	19.59	1.454	16.65	19.47	24.12	356
Leverage 2003	0.174	0.213	0	0.109	1.067	356

Panel B reports Pearson's correlation coefficients where boldface indicates at the 1% significance level.

<b>Panel B</b>	Influence	%Δ ROA	%ΔRev.	Δ Lever.	Δ Total fin. inv.	State	ROA	Assets
%Δ ROA	−0.023							
%Δ Total revenue	−0.029	−0.013						
Δ Leverage	−0.05	0.05	−0.07					
Δ Total fin. inv.	0.031	0.047	0.085	0.08				
State owned	0.021	−0.024	−0.022	−0.08	−0.016			
ROA 2003	0.110	−0.032	<b>0.291</b>	−0.05	0.065	−0.025		
Log assets 2003	<b>0.218</b>	0.004	<b>0.471</b>	0.06	0.12	0.083	<b>0.372</b>	
Leverage 2003	−0.025	0.023	0.070	−0.05	−0.057	<b>−0.141</b>	<b>−0.211</b>	0.128

Panel A reports the summary statistics for the growth rates of the surveyed firms. %Δ represents the growth rate of a variable during 2003–2008 period where growth rates are calculated as the ratio of the difference between the last and first observations of the variables to initial value of the variables.

### 3.3 Regional institutional characteristics

To proxy for regional institutional characteristics, we follow Bruno et al. (2013) and use the democracy index for Russian regions developed by Nikolai Petrov and the Carnegie Endowment for International Peace<sup>3</sup>. The Carnegie democracy index follows the logic of the cross-country index composed by Freedom House and uses expert opinions for each Russian region on a number of indicators, including openness, political pluralism, media independence, freedom of elections, and market freedom (Petrov, 2004). We average values of this index for each region for 1999–2003 to assess pre-determined institutional characteristics of the regions where our sample firms are located.

<sup>3</sup> [http://carnegieendowment.org/files/CP\\_Petrov\\_Rus\\_2013.pdf](http://carnegieendowment.org/files/CP_Petrov_Rus_2013.pdf)



Our study uses the 1999–2003 averages of the *Market freedom* sub-index included in the Carnegie index of democracy. The higher the values of the composite *democracy index* and the *market freedom* sub-index, the more democratic or economically free the region is in the view of Carnegie experts. As in Do et al. (2013), who use a Heritage Foundation index to measure the level of regulations across US states, we categorize Russian regions into two groups based on the medians of the Carnegie indices. The variable *Market freedom* takes the value one (i.e. good institutional environment) if the region’s score on the corresponding market freedom index is above the sample median, and zero otherwise (i.e. weak institutional environment).

## 4 Political influence and firm performance: annual data

### 4.1 Methodology

In a transition economy such as Russia, firms face numerous institutional obstacles. Firms that exercise political influence at the regional level are expected to perform differently than non-influential firms. Based on these considerations, we estimate the following baseline pooled OLS empirical model with time -  $t$ , industry -  $j$ , and region -  $k$  fixed effects:

$$Y_{ijkt} = \alpha + \beta_1 \cdot Infl_i + \beta_2 \cdot Infl_i \cdot Market\ freedom_k + \delta \cdot X_{it-1} + \theta_k + \tau_t + \gamma_j + \varepsilon_{ijkt}, \quad (1)$$

where  $Y_{ijkt}$  represents various performance measures for the firm -  $i$ : profitability, growth, leverage, and tunneling. Following the literature, profitability is defined in terms of return on assets. Firm growth is the annual growth rate of total revenue. Leverage is defined as total debt-to assets. Tunneling is proxied by the financial investments ratio.

$Infl_i$  is our survey-based measure of firm political influence.  $Market\ freedom_i$  is a dummy variable that takes value one of a firm located in a region classified as pursuing free market policies by the Carnegie Foundation, and zero otherwise.

Vector  $X_{it-1}$  is the complete set of firm-level control variables lagged by one period,  $\alpha$  is the constant term,  $\theta_k$  is a regional fixed effect that accounts for time-invariant institutional differences across Russian regions,  $\tau_t$  is a time fixed effect that absorbs common macroeconomic shocks to all firms,  $\gamma_j$  the industry fixed effects, and  $\varepsilon_{ijkt}$  is the error term. We assume that firm political influence is highly persistent, so firms that saw themselves as influential at the time of the survey remain so, making firm fixed effects unattainable in the analysis. We make this assumption based on the fact that Russian regions inherited the industrial structure from the Soviet period and regional authorities exercised the so-called “provincial protectionism” in order to

shield the regional firms from the federal government as described in Sonin (2010). In this environment even if the firms' executives or regional politicians are replaced the firms would retain their regional political influence due to the pre-determined nature of their social value for the region where they are located.

All regression specifications are estimated using robust standard errors clustered by firm to control for possible residual correlation across time for a given firm.

Caution is warranted when interpreting these results. Although we control for a maximum number of fixed effects and firm-level variables, reverse causality cannot be ruled out. The possibility that some firms have influence on regional decision-making because they are more profitable may cause bias in the estimates. For this reason, we prefer to stress association rather than causal links in our analysis.

We report the estimation results without the interaction term in columns (1)–(4) of Table 5 and focus on the interpretation of the main effect of political influence on firm performance. Columns (5)–(8) of the same table report the estimation of the full-fledged specification with the interaction term. This analysis allows us to contrast the performance of firms that exercise political influence and are located in regions that pursue liberal economic policies ("good" regions) against politically influential firms located in non-market free regions ("bad" regions).

## 4.2 Political influence and profitability

We begin by estimating a benchmark model when controlling for a set of standard firm-level control variables: firm size, leverage, net working capital, revenue growth, as well as indicator variables for state ownership and financial constraints. The results reported in column (1) of Table 5 show that there is a clear positive association between firm political influence and profitability. After controlling for all relevant covariates, the coefficient on *Influence* indicates that influential firms on average have a 5 % higher ROA than non-influential firms. The effect is statistically highly significant and economically meaningful.

As one would expect, the estimated coefficients on the control variables show that larger firms, firms with high net working capital, and higher revenue growth tend to be more profitable. An interesting finding, however, is that state-controlled firms are no more profitable than other firms after controlling for political influence. In other words, state ownership *per se* does not have a direct effect on firm profitability in our sample. This is an additional justification for our choice of proxy for firm political influence. Using state ownership would not correctly reveal the links between firm profitability and political influence.

Table 5 Political influence at the regional level and firm performance

Dependent variable	ROA	Revenue growth	Leverage	Total fin. invest. ratio	ROA	Revenue growth	Leverage	Total fin. invest. ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Influence	0.046*** (2.595)	−0.047** (−2.339)	−0.007 (−0.287)	0.020** (2.165)	0.088*** (3.543)	−0.010 (−0.388)	0.015 (0.494)	0.022* (1.843)
Infl.* market freedom					−0.083** (−2.391)	−0.070* (−1.877)	−0.042 (−0.940)	−0.003 (−0.164)
State owned	−0.038 (−1.261)	−0.069 (−1.170)	−0.099** (−2.485)	−0.011 (−0.523)	−0.042 (−1.475)	−0.074 (−1.247)	−0.101** (−2.549)	−0.011 (−0.530)
Log net assets	0.026*** (3.618)	0.037*** (3.534)	0.063*** (6.150)	0.006 (1.251)	0.027*** (3.723)	0.039*** (3.628)	0.063*** (6.261)	0.006 (1.247)
Leverage	−0.107*** (−3.736)	0.134** (2.058)		0.025 (1.023)	−0.110*** (−3.847)	0.130** (2.008)		0.025 (1.014)
ROA		0.002*** (3.030)	−0.002*** (−4.652)	0.001*** (3.121)		0.002*** (2.900)	−0.002*** (−4.736)	0.001*** (3.108)
NWC	0.133*** (6.652)	0.167*** (4.320)	−0.198*** (−5.052)	−0.007 (−0.676)	0.132*** (6.657)	0.168*** (4.331)	−0.196*** (−5.057)	−0.007 (−0.666)
Revenue growth	0.035** (2.490)		0.011 (0.797)	−0.02*** (−3.533)	0.033** (2.480)		0.011 (0.758)	−0.020*** (−3.550)
No credit needed	0.033 (1.066)	−0.033 (−0.906)	−0.073** (−2.298)	0.017 (0.886)	0.038 (1.239)	−0.029 (−0.803)	−0.070** (−2.184)	0.017 (0.895)
Credit for invest.	0.026 (1.541)	−0.008 (−0.389)	0.062*** (2.882)	−0.010 (−1.048)	0.026 (1.554)	−0.009 (−0.394)	0.062*** (2.875)	−0.010 (−1.047)
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.397	0.213	0.382	0.258	0.403	0.215	0.383	0.259
Observations	1,848	1,853	1,849	1,595	1,848	1,853	1,849	1,595

This table reports pooled OLS estimation results of firm corporate performance on a survey-based measure of firms' political influence at the regional level. *Influence* is a dummy variable that takes the value one if the surveyed firm reported in 2003 that it had political influence at the regional level, and zero otherwise. *Market freedom* is a dummy variable that takes value one if the value of the Carnegie regional market freedom index exceeds the sample median, and zero otherwise. Fixed effects represent a set of dummy variables for each industry (2-digit ISIC Rev. 4 code), year, and region. Standard errors are clustered at the firm level.

*Notes:* All control firm-level variables are lagged by one year. Beneath each coefficient is the t-statistic. Significance levels of 0.1, 0.05, and 0.001 are denoted by\*, \*\*, and \*\*\* respectively.

In line with previous literature, the finding in column (5) of Table 5 suggests that the possibility to influence regional legislation enhances firm profits, but the effect is quite small in “good” regions. This indicates that in weak institutional environments where laws and legislators are for sale, influential firms can significantly benefit from this situation. In a healthy institutional environment, however, influential firms are only slightly more profitable than other firms. In other

words, an influential firm in a “good” region is less likely to influence laws or regulations that directly benefit its business.

Our analysis shows that influence leads to better performance only in institutionally weak regions, so what in fact are influential firms in institutionally strong regions influencing? They regard themselves as influential in regional decision-making, but do not seem to gain direct benefits from their influence. At this juncture, we turn to the deep literature on collective action groups in Russia. Notably, business associations and their constituent members based in institutionally strong regions are more likely to lobby for common goods such as improved property protections (Pyle and Solanko, 2013). Our finding may indicate that influential firms in regions with strong institutions prefer to influence collectively via broad-based business associations and lobby for benefits that do not specifically affect their own firm’s performance (Govorun et al., 2015).

### 4.3 Political influence and revenue growth

As an alternative measure of firm performance we look at the relation between firm political influence and annual revenue growth. As reported in column (2) of Table 5, the estimation results show that firms that exercise political influence at the regional level exhibit lower growth than their non-influential peers. This finding, consistent with Fan et al. (2007), suggests that even if influential firms enjoy higher profitability, they may be plagued by agency costs or mismanagement that outweigh reported profits and subvert growth. We will examine one possible channel of mismanagement in the following subsection 4.5.

As can be seen from column (6), the specification with the interaction term does not yield the significant result for the estimate of the coefficient  $\beta_1$  in our baseline specification, while the coefficient  $\beta_2$  on the interaction term is negative and only marginally significant. Taken together these results confirm a negative relation between firm political influence and firm’s annual revenue growth. However, when controlling for the type of a region, the negative association is significant only in good regions. In institutionally weak regions influential firms have been better in achieving growth levels not significantly different from their non-influential peers.

### 4.4 Political influence and leverage

Firms that can influence on regional legislation are most likely well-connected in many other ways. For example, we might expect them to enjoy good access to bank loans. Indeed, several studies highlight access to finance as a channel through political connections of firms translate

into higher profits or higher firm value. Wang (2015) observes that listed firms with politically connected directors have higher leverage. Yeh et al. (2013) further finds that political connections are positively correlated with access to preferential bank loans.

Previous studies tend to focus on listed firms that are by nature larger and more dependent on external finance than the average firm. Our advantage is a sample that is representative of the full range industrial enterprises, potentially giving a clearer picture of the total population of firms. Perhaps due to this difference in sample focus, we find that influential firms on average do not have significantly higher total debt ratios.

Overall, bank debt plays a minor role in financing investments in Russia. Most firms, especially non-listed firms, pay for projects through retained earnings or rely on intragroup borrowing, trade credits, and government subsidies for external financing. Long-term lending (over 12 month) is particularly difficult to come by through the official banking sector. Short-term and long-term financing play a quite distinct roles in corporate funding, with access to long-term loans often a precondition for investments or significant R&D undertakings (Berglöf and Lehmann, 2009).

The estimated coefficients on the dummy variables *Influence* are statistically insignificant, as shown in columns (3) and (7) of the Table 5. Contrary to previous literature, we find no evidence on influential firms having easier access to bank loans. Further, we find no positive relation between state ownership and leverage. Instead, most state-owned firms have significantly lower leverage than private firms in our sample. This surprising finding highlights that the results on preferential access to credit for SOEs found in the existing literature may not be universal. Our results overall indicate that politically influential firms are no more likely to have preferential access to bank credit than non-influential firms.

## 4.5 Political influence and tunneling

Mironov and Zhuravskaya (2016) show that firms obtaining procurement contracts from regional governments often tunnel funds back to the politicians that authorized the contracts. It is quite likely that some firms in our survey that saw themselves as politically influential at the regional level were also involved in such arrangements. To test this conjecture, we need an accounting variable that proxies corporate tunneling activities. We follow the literature on asset tunneling in China (Jian et al., 2010; Ma et al., 2013) where financial loans by firms are used as a proxy for channeling firm resources to connected parties.

We thus collect total financial investments by firms in our sample and construct our tunneling proxy, *Total financial investment ratio*.<sup>4</sup> As in China, anecdotal evidence suggests that Russian firms often use loans to other firms as a means of tunneling resources out of the firm. Obviously, financial investments may also have fully legitimate basis, so this is necessarily a noisy proxy. Nevertheless, when combined with the analysis of firm liquidations in the next section, we see that the initial *Total financial investment ratio* is highly significantly and positively related to the probability that a firm went bankrupt during the pre-crisis 2004–2008 period. It therefore appears most financial investments were never paid back and contributed to firm liquidations. Thus, we argue this variable is a reasonably good proxy for asset tunneling in Russia over the sample period.

The coefficients on political influence in columns (4) and (8) of Table 5 indicate that influential firms reported significantly higher shares of financial investments relative to non-influential firms, which suggests higher levels of tunneling activity in these firms. The interaction term on regional market freedom dummy in column (8) is insignificant, meaning that firms located in “good” regions did not exhibit tunneling behavior different from influential firms located in “bad” regions.

Combining these findings with the first set of our results, which showed that influential firms report higher ROA and slower revenue growth than non-influential firms, we conclude that influential firms did not use the higher profits they reported for investment and firm expansion, but instead appear to have channeled a portion of their profits to owners or connected politicians.

## 5 Political influence and firm performance in the longer term: cross-sectional results

### 5.1 Political influence and firm growth

Having established the panel data evidence in levels of the performance variables, we now move to the second part of our analysis. Do influential firms enjoy higher growth over the long term than non-influential firms? Are influential firms better shielded from unexpected negative shocks?

To answer the first question, we use the approach laid out in Fan et al. (2007) and examine growth in return on assets, the growth rate of total revenue, changes in leverage and financial investments ratios over the period 2003–2008. Our starting point is determined by the year

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<sup>4</sup> Under Russian accounting standards, financial investments belong to non-current assets and include securities holdings, stakes in other entities, loans to other firms, and bank deposits.

of the HSE-BOFIT survey. The end point is the beginning of the sudden economic contraction in Russia caused by Great Financial Crisis.

Following the logic of previous analysis, firm growth is regressed on a similar set of initial values of control variables as in equation (1).

$$\% \Delta Y_{ik}^{2003-2008} = \alpha + \beta_1 \cdot Infl_i + \beta_2 \cdot Infl_i \cdot Market\ freedom_k + \delta \cdot X_i^{2003} + \theta_k + \varepsilon_{ik}, \quad (2)$$

where  $\% \Delta Y_{ik}^{2003-2008}$  represents growth rate or change of the variable during the 2003–2008 period. The growth rate is calculated as the difference between the last and first observations of the variable scaled by its initial value, while change of the variable is simply the difference between the last and first observations.

$\alpha$  is the constant term,  $Infl_i$  is our measure of firm political influence, vector  $X_i^{2003}$  is the complete set of firm-level control variables at the beginning of the period,  $\theta_k$  is the region fixed effect, and  $\varepsilon_{ik}$  is the error term.<sup>5</sup> The model is estimated via pooled OLS with regional fixed effects. The robust standard errors are clustered by region to account for serial correlation across firms within the region.

First, we report the cross-sectional results on growth and political influence without conditioning on the level of the regional market freedom. As visible from the estimated coefficients in the first row of columns (1)–(4) of Table 6, pre-crisis period growth in ROA and change in leverage and financial investments ratios are the same for influential and non-influential firms. While influential firms were more profitable and invested more into financial assets, as we found in the previous section, their profits or financial investments did not grow any faster than for firms on average. Looking at column (2) of Table 6, however, we see that there is a clear and statistically significant negative relation between political influence and firm revenue growth over the whole period. This finding is consistent the panel evidence on annual growth rates reported in Table 5. Influential firms seem to grow less, not more, than non-influential firms.

<sup>5</sup> The time fixed effect is naturally suppressed in this specification. Given the sample size constraint, we do not simultaneously include regional and industry fixed effects. We choose to report the specification with regional fixed effects, because political influence of firms is exercised at the regional level. In any case, the specification with industry fixed effects only yields qualitatively similar estimation results. These results are available on request.

Table 6 Political influence and growth of financial ratios over the sample period

Dependent variable	%Δ ROA	%Δ Tot. revenue	Δ Lever.	Δ Total fin. invest. ratio	%Δ ROA	%Δ Total revenue	Δ Leverage	Δ Total fin. invest. ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Influence	0.121 (0.086)	-0.239** (-2.20)	-0.030 (-1.28)	-0.007 (-0.305)	-1.053 (-1.423)	-0.093 (-0.474)	-0.058* (-1.89)	0.002 (0.079)
Infl.* Market freedom					2.280 (0.860)	-0.281 (-1.25)	0.046 (0.82)	-0.016 (-0.335)
State owned	-0.847 (-0.797)	-0.067 (-0.171)	-0.095** (-2.06)	-0.006 (-0.178)	-0.748 (-0.661)	-0.082 (-0.382)	-0.093** (-1.99)	-0.006 (-0.181)
ROA 2003		0.753** (2.224)	-0.109 (-1.59)	0.020 (0.323)		0.708** (2.01)	-0.101 (-1.43)	0.017 (0.249)
Log total assets 2003	0.035 (0.166)	0.378*** (5.413)	0.03*** (3.49)	0.009 (1.303)	0.027 (0.120)	0.382*** (5.511)	0.029*** (3.47)	0.010 (1.275)
Leverage 2003	1.478 (0.405)	-0.102 (-0.312)	-0.099 (-0.92)	-0.040 (-0.939)	1.445 (0.394)	-0.11 (-0.33)	-0.098 (-0.9)	-0.040 (-0.931)
No credit needed	-0.518 (-0.840)	-0.226 (-0.861)	-0.024 (-0.57)	-0.045 (-1.057)	-0.561 (-0.803)	-0.214 (-0.834)	-0.026 (-0.64)	-0.045 (-1.045)
Credit for invest.	-0.599 (-0.397)	0.166 (1.21)	-0.006 (-0.27)	-0.020 (-1.604)	-0.599 (-0.392)	0.168 (1.214)	-0.007 (-0.29)	-0.020 (-1.561)
Region effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.072	0.371	0.033	0.13	0.075	0.373	0.365	0.13
Observations	355	355	355	307	355	355	355	307

This table reports OLS estimation results of firms' growth on a survey-based measure of firms' political influence at the regional level. %Δ represents the growth rate of a variable during 2003–2008 period where growth rates are calculated as the ratio of the difference between the last and first observations of the variables to initial value of the variables. *Influence* is a dummy variable that takes value one if in 2003 the surveyed firm reported that it has political influence at the regional level and zero otherwise. Standard error clustered at the regional level. Beneath each coefficient is the t-statistics. Significance levels of 0.1, 0.05 and 0.001 are denoted by \*, \*\*, and \*\*\*, respectively.

Columns (5)–(8) of Table 6 show that none of the interaction terms with *Market freedom* are significant in the cross-sectional growth regression analysis. This means that growth rates of the performance variables during the pre-crisis period were the same for influential firms across “good” and “bad” regions.

## 5.2 Political influence and firm survival

The collapse of global financial markets together and drop in crude oil prices in the late autumn of 2008 produced a significant external shock to the Russian economy. Russian GDP contracted by 8 % in 2009, more than any other G-20 economy. The Moscow exchange's main stock index fell 80 % from its pre-crisis peak. Many companies went bankrupt or had to rely on state support to survive.

We trace all firm liquidations in our sample and assign the value one to all firms that were liquidated after filing of a bankruptcy petition with the court. Panel A of Table 7 reports the



frequency of corporate bankruptcies by year. Panels B reports the distribution of pre-crisis 2004–2008 bankruptcies across influential and non-influential firms. Panel C reports the same distribution during the crisis period of 2009–2010.

Table 7 Liquidation of firms due to bankruptcy

<b>A. Frequency of firm liquidations</b>			
Year	Number of liquidations	Percent	Cum.
2004	5	5.62	5.62
2005	10	11.24	16.85
2006	13	14.61	31.46
2007	13	14.61	46.07
2008	12	13.48	59.55
2009	11	12.36	71.91
2010	25	28.09	100
Total	89	100	

<b>B. Influential firms and pre-crisis liquidations</b>			
	Influential=0	Influential=1	Total
Liquidated 2004–08=0	203	118	321
Liquidated 2004–08=1	37	16	53
Total	240	134	374

<b>C. Influential firms and crisis period liquidations</b>			
	Influential=0	Influential=1	Total
Liquidated 2009–10=0	225	113	338
Liquidated 2009–10=1	15	21	36
Total	240	134	374

The surprising finding from the simple summary statistics in Table 7C is that influential firms were more likely to be liquidated than non-influential firms in the crisis period of 2009–2010.

A simple probit model on probability of a firm's liquidation supports this finding.<sup>6</sup> We first regress a dummy *Liquidated 2004–2010*, which assigns a value of one to all firm liquidation events during the 2004–2010 period on the familiar set of firm level control variables measured at the time of the survey. As expected, the most profitable and largest firms were less likely to go bankrupt. There also seems to be a negative but insignificant relation between the probability of going bankrupt and state ownership of a firm.

<sup>6</sup> We do not include industry or region fixed effects into our specification. Many observations get dropped during the probit estimation procedure due to perfect collinearity.

Table 8 Political influence and liquidation of firms

Dependent variable	Whole period liquidation				Crisis period liquidation				Pre-Crisis-period liquidation			
	Liquidated 2004–10=1				Liquidated 2009–10=1				Liquidated 2004–08=1			
	Estimated coefficient	Predicted prob.	Estimated coefficient	Predicted prob.	Estimated coefficient	Predicted prob.	Estimated coefficient	Predicted prob.	Estimated coefficient	Predicted prob.	Estimated coefficient.	Predicted prob.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Influence	0.534*** (3.565)	0.132*** (3.93)	0.424* (1.939)	0.098** (2.01)	0.729*** (3.629)	0.132*** (3.72)	0.706*** (2.721)	0.122*** (2.68)	0.134 (0.783)	0.02 (0.8)	–0.085 (–0.415)	–0.012 (–0.41)
Market freedom			–0.702*** (–2.713)	–0.163** (–2.39)			–0.540 (–1.595)	–0.088 (–1.5)			–0.690** (–2.558)	–0.097** (–2.31)
Infl. *Market freed			0.209 (0.756)	0.049 (0.72)			0.009 (0.021)	–0.001 (0.02)			0.508 (1.278)	0.083 (1.12)
State owned	–0.603 (–1.473)	–0.144 (–1.5)	–0.594 (–1.283)	–0.135 (–1.3)	–0.797* (–1.692)	–0.132* (–1.8)	–0.886* (–1.842)	–0.142* (–1.91)	–0.534 (–0.812)	–0.079 (–0.83)	–0.491 (–0.707)	–0.069 (–0.72)
Total net assets 2003	–0.254*** (–3.605)	–0.06*** (–3.28)	–0.244*** (–3.100)	–0.05*** (–2.99)	–0.099 (–1.413)	–0.016 (–1.38)	–0.078 (–1.100)	–0.012 (–1.09)	–0.365*** (–3.625)	–0.05*** (–3.25)	–0.379*** (–3.376)	–0.05*** (–3.19)
Total fin. invest. 2003	1.837 (1.623)	0.441* (1.73)	2.049* (1.872)	0.464** (2.00)	–0.892 (–0.706)	–0.148 (–0.67)	–0.779 (–0.611)	–0.124 (–0.59)	3.517*** (3.007)	0.518*** (3.16)	3.824*** (3.470)	0.539*** (3.76)
ROA 2003	–2.752*** (–3.345)	–0.66*** (–4.33)	–2.773*** (–3.525)	–0.63*** (–4.36)	–2.170* (–1.838)	–0.36** (–2.07)	–2.245* (–1.950)	–0.36** (–2.16)	–3.014*** (–3.911)	–0.44*** (–4.46)	–2.915*** (–3.968)	–0.411*** (–4.53)
Cash 2003	–2.698 (–1.259)	–0.647 (–1.25)	–2.667 (–1.202)	–0.605 (–1.19)	–1.095 (–0.405)	–0.182 (–0.4)	–0.753 (–0.254)	–0.12 (–0.25)	–3.799 (–1.138)	–0.559 (–1.14)	–4.067 (–1.229)	–0.574 (–1.23)
Leverage 2003	0.214 (0.642)	0.051 (0.64)	0.287 (0.835)	–0.065 (0.83)	0.352 (0.750)	0.058 (0.74)	0.320 (0.658)	0.051 (0.66)	–0.255 (–0.543)	–0.037 (–0.54)	–0.193 (–0.398)	–0.027 (0.4)
No credit needed	0.289 (0.699)	0.069 (0.7)	0.273 (0.636)	0.062 (0.64)	0.484 (1.252)	0.08 (1.27)	0.515 (1.363)	0.082 (1.35)	–0.462 (–0.739)	–0.067 (–0.74)	–0.686 (–1.033)	–0.087 (–1.04)
Credit for invest.	0.175 (0.511)	0.042 (0.51)	0.283 (0.805)	0.064 (0.79)	0.217 (0.522)	0.036 (0.52)	0.269 (0.631)	0.043 (0.62)	0.037 (0.092)	0.005 (0.09)	0.146 (0.354)	0.021 (0.35)
Constant	Yes		Yes		Yes		Yes		Yes		Yes	
Pseudo R <sup>2</sup>	0.195		0.231		0.129		0.159		0.274		0.301	
No. of liquidations	89		89		36		36		53		53	
Observations	331		331		291		291		331		331	

This table reports estimated coefficients and predicted probabilities of the probit model where we regress incidences of firm liquidations on the survey-based measure of firm political influence. *Liquidated 2009–10* is a dummy variable that takes the value one if the firm was liquidated in the 2009–2010 period, and zero otherwise. *Liquidated 2004–08* is a dummy variable that takes the value one if the firm was liquidated in the 2004–2008 period, and zero otherwise. *Liquidated 2004–10* is a dummy variable that takes the value one if the firm was liquidated in the 2004–2010 period, and zero otherwise. Columns (1), (3), (5), (7), (9), (11) report probit model-estimated coefficients. Columns (2), (4), (6), (8), (10), (12) report predicted probability for all predictors at their means. Standard errors are clustered at the regional level, and z-statistics are in parentheses.

Two findings deserve special attention. First, political influence at the regional level is positively associated to probability of bankruptcy. This result is somewhat unexpected since political connections of influential firms should help such firms get government help after a negative economic shock.

Second, the probability of a firm's liquidation is positively related to financial investments of firms. This suggests that these investments were made for unproductive reasons or tunneled out of the firm. This finding is in line with Iwasaki (2014) who documents that better corporate governance enhanced firm survival during the initial phase of economic crisis in Russia.

Columns (3)–(4) of Table 8 report results of the probit model with regional *Market freedom* dummy and interaction term of *Market freedom* with firm political influence. Overall, firms located in “good” regions are less likely to be liquidated than firms in “bad” regions. The interaction term is insignificant meaning that the probability that influential firms in “good” regions will be liquidated is the same as the probability for influential firms in “bad” regions.

Columns (5)–(8) report the results for crisis-period liquidations where we regress the probability of firm liquidation during the crisis 2009–2010 period on the initial characteristics of firms. We find a positive and highly significant relation between political influence and the probability of firm liquidation during the acute phase of the financial crisis.

This result suggests that the firms most vulnerable to an external shock were those that initially enjoyed political influence, but found themselves cut off in the wake of the shock. One possible for this shutting out of many otherwise connected firms was that during 2009–2010 policymakers were concerned with saving Russia's “strategic enterprises,” leaving no resources left to help out well-connected mid-sized firms. Davydova and Sokolov (2014), in their investigation of the consequences of the Russian government's massive 2009 bailout program, find that the program was largely directed at saving huge “strategic” enterprises we have deliberately left out of our sample. If all “non-strategic” firms were suddenly deprived of political support, the politically well-connected were likely to feel the most pain.

A possible interpretation is that the influential firms had built a business model that depended on continued benefits from close contacts with regional decision-makers. When those benefits dried up, influential firms found themselves more vulnerable to market shocks. In contrast, non-influential peers relied less on benefits from political contacts, and as a rule were in better shape to weather the market storm.

The regional *Market freedom* dummy in columns (7)–(8) is insignificant. Thus, firms in “good” regions were not significantly less likely to be liquidated than firms in “bad” regions

during the crisis period. The interaction term shows no significant difference along the cross-regional dimension.

Finally, we show how the initial characteristics of firms relate to the probability of liquidation during the pre-crisis 2004–2008 period. The insignificant estimates of the political *Influence* dummy demonstrate that firm political connections in normal time are unrelated to liquidation. Firm size and profitability are also related to the liquidation probability as expected. Interestingly, the strongest factor positively related to the probability of a firm's liquidation in the pre-crisis years of rapid macroeconomic growth is the financial investment ratio. This bolsters our view of this variable as a useful proxy for asset tunneling.

## 6 Robustness checks – excluding state owned enterprises

Much of the literature cited in the introduction of this study uses majority state ownership in a firm as a proxy for a firm's political connectedness. The above analysis was conducted on the sample of surveyed firms that includes state-owned enterprises. We control for their presence with a dummy variable that takes a value of one if the state holds more than 50 % of the firm's shares, and zero otherwise. Our estimation results reveal that state ownership and the survey-based measure of political influence are imperfectly related.

In our robustness checks, we drop all state-owned firms from our sample and focus on a sub-sample consisting exclusively of privately held firms. We replicate all our panel data results for this sub-sample in Table 9. Due to space considerations, we only report the estimated coefficients for our *Influence* dummy and the interaction term. Brief inspection of the table shows that our findings largely remain unchanged, but the statistical significance of the coefficients declines due to higher standard errors.

Tables 10 and 11 respectively report the cross-sectional growth and probit results after exclusion of state-owned firms. Again, our main messages remain unchanged – politically influential firms displayed lower growth and were more likely to be liquidated during the crisis period than non-influential firms.

In summary, our robustness checks show that our main results on the relationship between political influence and firm performance also hold for the sub-sample of private firms.

Table 9 Political influence at the regional level and firm performance after exclusion of state firms

Dependent variable	ROA	Revenue growth	Leverage	Total fin. invest. ratio	ROA	Revenue growth	Leverage	Total fin. invest. ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Influence	0.039** (2.214)	-0.050** (-2.403)	-0.007 (-0.309)	0.017* (1.725)	0.071*** (2.791)	-0.015 (-0.548)	-0.001 (-0.018)	0.016 (1.312)
Infl.* market freedom					-0.061* (-1.701)	-0.068* (-1.748)	-0.013 (-0.288)	0.002 (0.099)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.408	0.223	0.405	0.264	0.411	0.224	0.406	0.264
Observations	1,718	1,721	1,719	1,502	1,718	1,721	1,719	1,502

This table reports pooled OLS estimation results of firm corporate performance on a survey-based measure of firms' political influence at the regional level for a subsample of private firms only. *Influence* is a dummy variable that takes value one if in 2003 the surveyed firm reported that it has political influence at the regional level and zero otherwise. *Market freedom* is a dummy variable that takes value one if the value of the Carnegie regional market freedom index is above its sample median and zero otherwise. All control variables used in Table 4 are included but not reported. Fixed effects represent a set of dummy variables for each industry (2-digit ISIC Rev. 4 code), year, and region. Standard errors are clustered at the firm level.

*Notes:* All control firm-level variables are lagged by one year. Beneath each coefficient is the t-statistic. Significance levels of 0.1, 0.05, and 0.001 are denoted by \*, \*\*, and \*\*\*, respectively.

Table 10 Political influence and growth of financial ratios over the sample period – state-controlled firms excluded

Dependent variable	%Δ ROA	%Δ Total revenue	Δ Lever-age	Δ Total fin. invest.	%Δ roa	%Δ Total revenue	Δ Lever-age	Δ Total fin. invest.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Influence	0.181 (0.113)	−0.214* (−1.710)	−0.041 (−1.502)	−0.008 (−0.315)	−1.144 (−1.221)	−0.159 (−0.744)	−0.049 (−1.461)	−0.001 (−0.020)
Infl.* market freedom					2.635 (0.885)	−0.109 (−0.417)	0.017 (0.299)	−0.013 (−0.253)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.082	0.404	0.150	0.145	0.086	0.405	0.150	0.145
Observations	326	326	326	288	326	326	326	288

This table reports OLS estimation results of firm growth on a survey-based measure of political influence of firms at the regional level for a subsample of private firms only. %Δ represents the growth rate of a variable during the 2003–2008 period. Growth rates are calculated as the ratio of the difference between the last and first observations of the variables to initial value of the variables. *Influence* is a dummy variable that takes value one if surveyed firm reported that it had political influence in 2003 the regional level, and zero otherwise. All control variables used in Table 6 are included, but not reported. Standard error clustered at the regional level. Beneath each coefficient is the t-statistic. Significance levels of 0.1, 0.05, and 0.001 are denoted by \*, \*\*, and \*\*\*, respectively.

Table 11 Political influence and liquidation of firms after exclusion of state firms

Dependent variable	Whole period liquidation		Crisis period liquidation		Pre-Crisis-period liquidation	
	Liquidated 2004–10=1		Liquidated 2009–10=1		Liquidated 2004–08=1	
	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.
	(1)	(2)	(3)	(4)	(5)	(6)
Influence	0.129*** (3.39)	0.083* (1.6)	0.132*** (3.45)	0.115** (2.35)	0.017 (0.58)	−0.019 (−0.61)
Market freedom		−0.186*** (−2.64)		−0.096 (−1.55)		−0.111*** (−2.57)
Infl. *market freedom		0.082 (1.09)		0.015 (0.2)		0.105 (1.29)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R <sup>2</sup>	0.189	0.231	0.117	0.147	0.283	0.318
No. of liquidations	85	85	35	35	50	50
Observations	307	307	269	269	307	307

This table reports estimated coefficients and predicted probabilities of the probit model where we regress incidences of firm liquidations on the survey-based measure of the political influence of firms for a subsample of private firms only. *Liquidated 2009–10* is a dummy variable that takes the value one if the firm was liquidated in the 2009–2010 period, and zero otherwise. *Liquidated 2004–08* is a dummy variable that takes the value one if the firm was liquidated in the 2004–2008 period, and zero otherwise. *Liquidated 2004–10* is a dummy variable that takes the value one if the firm was liquidated in the 2004–2010 period, and zero otherwise. All columns report predicted probability for all predictors at their means. Standard errors are clustered at the regional level and z-statistics are in parentheses.

## 7 Conclusions

The data used in this study were particularly appropriate for analyzing the impacts of political influence on firm performance. We focused on mid-sized manufacturing firms, excluding Russia's largest stock-listed corporations, which are likely to have influence on political decision-making if only because of their size. The firms in our sample are more representative the general economic landscape, allowing for a balanced view of corporate political connections.

Moreover, by focusing on a single country, we avoid the usual caveats of cross-country analysis. Russia's regional diversity still allows us to control for differences in local economic institutions. At the time of our analysis, state-owned enterprises were few and the state did not directly control most of the banking system.

Instead of using proxies derived from the share of state ownership or from the number of government-affiliated senior managers in the company, we employ direct survey information on firm political influence. This allows us to control for the effect on state ownership in the analysis to check if political influence and state ownership go hand in hand.

Our results confirm many of the findings in the previous literature and provide several new insights. For example, we find that mid-sized influential firms tend to have higher profitability than their non-influential peers. However, this finding needs to be conditioned on regional-level characteristics. The effect of political influence is much larger in regions with poor institutions, whereas in better regions the effect is negligible. This finding implies that the political influence of firms is more benign and less likely to affect the performance of the influential firm directly in strong institutional environments. Evidence from earlier studies shows that business lobbying via multi-sector associations is likely to promote public goods (e.g. protection of property rights), instead of entry restrictions or other measures that favor incumbents. Our findings thus support the notion that firm political influence in strong institutional environments tends to be exercised collectively through broad-based business associations or groups.

We have also provided evidence on the negative association between political influence and firm growth. Defying the intuitive expectation, non-strategic, non-listed, regionally influential firms experienced lower growth on average than their non-influential peers. This may be linked to the propensity of influential firms to tunnel part of their profits to influential shareholders or connected politicians. We further showed that influential firms tend to have higher financial investment ratios (a common measure for non-core activities and a proxy for tunneling).

Finally, and perhaps most importantly, we find that firms which were influential at the time of the survey in 2003 had a higher probability to be liquidated in the aftermath of the 2008–

2009 financial crisis. Political connections made firms more, not less, likely to fail when the period of rapid economic growth suddenly ended.

Taken together, these findings suggest that influential firms may rely on a business model that makes them vulnerable to sudden, exogenous changes in the business environment. Naturally, these novel findings should be taken only as tentative evidence of the negative consequences of political connections at the firm level. Further research is most definitely warranted.



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## Appendix

Table A1 Distribution of influential firms across industries

	Industry codes at 2-digit (ISIC Rev. 3)	Industry descriptions	Number of influential firms	Total number of firms	% of influential firms
1	2, 5, 10, 11, 14	Forestry, fishing, mining, quarrying	6	21	0.285714
2	15, 16	Manufacture of food and tobacco	17	54	0.314815
3	17, 18, 19	Manufacture of textiles, apparel, leather	10	37	0.27027
4	20, 21, 22	Manufacture of wood, paper, publishing	6	22	0.272727
5	23, 23, 25	Manufacture of coke, petroleum, chemicals, rubber plastics	14	30	0.466667
6	26	Manufacture of non-metallic mineral products	12	36	0.333333
7	27, 28	Manufacture of basic and fabricated metals	14	33	0.424242
8	29	Manufacture of machinery and equipment	19	47	0.404255
9	30, 31, 32, 33	Manufacture of machinery: office, electrical, radio, medical	17	37	0.459459
10	34, 35	Manufacture of motor vehicles and other transport	10	26	0.384615
11	36, 37	Other manufacturing	6	13	0.461538
12	40 – 91	Electricity, construction, transporta- tion, hotels	6	27	0.222222
Total			137	383	0.357702

The fourth column reports the number of influential firms in each industry group. The fifth column reports the number of sample firms within each industry. Industry groups are assigned by the first 2-digits of ISIC Rev. 3 primary codes.

Table A2 Variables definitions and data sources

Variable	Definition	Source
<i><u>Dependent variables</u></i>		
ROA	End-of-year return on assets	Ruslana/SPARK
Revenue growth	Annual growth rate of revenue during 2003–2008	Ruslana/SPARK
Leverage	Total debt, scaled by net assets	Ruslana/SPARK
Total financial investment ratio	Total financial investment, scaled by net assets	Ruslana/SPARK
%Δ ROA	Rate of growth of ROA during 2003–2008	Ruslana/SPARK
%Δ Total revenue	Rate of growth of total revenue during 2003–2008	Ruslana/SPARK
Δ Leverage	Change of leverage ratio during 2003–2008	Ruslana/SPARK
Δ Total fin. investment ratio	Change of total financial investment ratio during 2003–2008	Ruslana/SPARK
Liquidation (0/1)	Dummy that equals one if firm was liquidated during 2004–2010	Ruslana/SPARK
Pre-crisis liquidation (0/1)	Dummy that equals one if firm was liquidated during 2004–2008	Ruslana/SPARK
Post-crisis liquidation (0/1)	Dummy that equals one if firm was liquidated during 2009–2010	Ruslana/SPARK
<i><u>Independent variables</u></i>		
<i>Firm-level characteristics</i>		
Influence (0/1)	Dummy that equals one if firm reported it had political influence at the regional level	BOFIT Survey
State owned (0/1)	A dummy that equals one if firm was more than 50 % owned by the state or state was reported as main shareholder	BOFIT Survey
Net assets	Total book assets less cash and cash equivalents	Ruslana/SPARK
Net working capital	Current assets less cash minus current liabilities, scaled by net assets	Ruslana/SPARK
Revenue growth	Sales growth rate over the previous year	Ruslana/SPARK
No credit needed (0/1)	Dummy that equals one if firm does not borrow because it does not need credit	BOFIT Survey
Credit for investment (0/1)	Dummy that equals one if firm borrowed for investment purposes	BOFIT Survey
Industry dummy (0/1)	Dummy for each 2-digit SIC equivalent classification of Russia's industry codes	Ruslana/SPARK
Region dummy (0/1)	Dummy for each region where the sample firm is headquartered	Ruslana/SPARK
<i>Region-level characteristics</i>		
Regional institutions – Market freedom (0/1)	Dummy that equals one if region's market freedom sub-index reading exceeds the median of the national market freedom sub-index	Carnegie Endowment

*Note:* BOFIT Survey is shorthand for the HSE-CEFIR-BOFIT survey documented in Haaparanta et al. (2003).

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