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POLITICAL INFLUENCE, FIRM PERFORMANCE AND SURVIVAL[3]

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. Most importantly, our empirical analysis suggests that the benefits of influence may be transient. Influential firms experienced significantly lower growth during our sample period than non-influential firms. Moreover, influential firms had a significantly higher probability of being liquidated than non-influential firms and the likelihood of the subsequent plant utilization by a new firm was higher for the politically influential liquidated firms.

Keywords: political influence, firm performance, firm liquidation, government quality.
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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 financial performance through various channels. For example, political connections may help firms to obtain less strict tax enforcement (Slinko et al., 2005; Sonin, 2010), 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), 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 as 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 of firms on their performance over the longer term. Does regional political influence support firm growth and survivability over time? Or could reliance on political connections, in fact, become a burden to an unprofitable firm that does not see future investment opportunities for itself?

In this article, we contribute to the discussion on these issues by examining the performance of a stratified sample of mid-sized manufacturing 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 not too big to fail or 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 are able to match surveyed firms with official financial data and trace them during the mature stage of the transition period (2003–2016). This allows us to make a twofold contribution to the literature.

First, we investigate whether regional political influence has a significant effect on firm's financial performance and examine channels through which this influence could possibly operate.

Second, we identify a sub-sample of firms that have been liquidated and excluded from the official registry in order to study how their political influence affected their probability of liquidation. We carefully identify all incorporations of new firms at the exact same locations of previously liquidated firms and examine the relationship between political influence of the liquidated firms and the probability of utilization of their physical and human capital by the newly established firms.

The first part of our analysis reveals several interesting facts. Controlling for observable firm characteristics, we show that firms that have regional-level influence are, both statistically and economically speaking, *significantly* more profitable than non-influential firms. After controlling for all relevant covariates, influential firms on average have a 5 % higher return on assets (ROA) than non-influential firms. This result is consistent with the broad literature linking the political connections of firms to their financial performance (Faccio et al., 2006; Li et al., 2008; Boubakri et al., 2012; Do et al., 2013; Caprio et al., 2013). Next, given Russia's heterogeneous regional business environments, we ask how regional institutional characteristics shape the way private businesses operate. Notably, we find that there is almost no positive relation between regional political influence and firm profitability in regions with the highest levels of economic freedom measured by Carnegie Endowment for International Peace quality of regional government index.

We then ask whether the higher profitability of influential enterprises translated into higher growth rates. The results are surprising. We find that annual growth rates of firm revenue were significantly *lower* (by 5 percentage points) among influential firms, which suggests that profits accruing to these firms are not necessarily used to foster firm growth, and may instead be tunneled out to controlling shareholders or other well-connected parties. In the next step, we find partial support for this hypothesis.

The tunneling phenomenon has been explored in several recent studies. For example, Mironov and Zhuravskaya (2016) use detailed microdata at the transactions level and show that firms in Russia often tunnel cash to politicians around the time of regional elections to lock in procurement contracts. Ma et al., 2013 and Su et al., 2014 document a significant positive relationship between political connections of firms in China and incentives of shareholders to maximize private benefits and tunnel resources out of the firm. These findings suggest that

politically influential firms are more likely to be involved in asset-tunneling activities than non-influential firms. To test this hypothesis, we follow Jiang et al. (2010) and Ma et al. (2013) by using financial investments as a proxy variable for tunneling and find that politically influential firms accumulated significantly *higher* financial investments than non-influential firms (by 2 percentage points). The evidence again points to extensive tunneling by firms politically influential at the regional level.

We also test another channel through which political influence might affect the performance of firms – access to external finance. Our results indicate that influential firms do not secure more debt financing, which suggests that firms in Russia do not use regional politicians to gain preferential access to funding. This is consistent with evidence reported for Thailand by Bunkanwanicha and Wiwattanakantang (2009). We note here that the jury is still out on the relationship between political influence of firms and their access to finance; for example, Charumilind et al. (2006) use another sample of Thai firms and find a significant and positive relationship between the two.

Our key novel contribution to the transition literature (i.e. Lambert-Mogiliansky et al. 2007; Iwasaki, 2014) is on political economy of firm liquidations and utilization of their assets by other firms in the post-liquidation period. We follow the filings history of our sample firms and find that a quarter of them was liquidated during the 2003–2016 period. To explain the high liquidation rate, we searched through the local press for the journalists' investigations and found that the vast majority of surveyed manufacturing firms in our sample were former Soviet enterprises that were incorporated as Joint Stock Companies (JSC) during the massive voucher privatization of the 1990s.[4] The liquidated firms often failed to adapt to market conditions and faced adverse demand shocks, stiff competition, and supply chain break-ups.

One example is the JSC "Biysk Tobacco Factory," which chose to self-liquidate after introduction of new taxes on the cheap cigarettes that were the factory's mainstay. Unable to enter the premium cigarette market segment, the company was liquidated.[5] Another example is JSC "Chromatron," once one of the Soviet Union's largest and most advanced Soviet factory producing TV sets. After the Russian market was opened to foreign TV set manufacturers, the

4 Only 4.8 % of firms in our sample are incorporated after 1995.
5 See the story: http://www.sibpress.ru/29.12.2006/companies/83150/

shareholders of the factory discontinued the manufacturing and refurbished the factory building into a business center for rental of the office space.[6]

A highly illustrative account of developments that lead a typical firm to liquidation can be found at the official website of JSC "Khabarovsk Factory of Heating Equipment." The description of the long history of this firm ends with the following passage: "…the former giant was defeated by China in a battle with unfair odds created by the market reforms."[7]

Our baseline probit result demonstrates that politically influential firms are significantly more likely (by 9 percentage points) to be liquidated relative to non-influential firms. In the next steps of our investigation, we address this rather puzzling result.

We first study how political influence relates to the probability of liquidation by examining the relationship before and after the global financial crisis of 2008. The bankruptcy of the Lehman Brothers investment bank in 2008 and subsequent oil price collapse resulted in a sudden, unforeseen slump in Russian economic growth. 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). Our sample firms do not fall into the strategic category and did not receive federal aid. This allows us to examine whether regionally influential, mid-sized 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 reject this hypothesis and find a strong positive association of political influence with the likelihood that a firm would be liquidated during the post-crisis period. This suggests that influential firms may be more vulnerable to an exogenous shock if left without government aid.

We next test our hypothesis on the relationship between political influence of the liquidated firm and the likelihood that its successor firm will utilize the existing plant or commercial space after liquidation. Following the methodology of Bernstein et al. (2016), we searched for active firms located at the same postal address and operating in the same industry as liquidated firms. In 56 % of cases, we found the new firm was established at the same location and in many cases retained a similar name to the liquidated firm from our sample.

6 http://wikimapia.org/14946571/ru/Бизнес-центр-East-Gate-бывший-завод-Хроматрон
7 http://dv-chugun.ru/istoriya-zavoda

A notable fact is that 80 % of the newly established firms changed their corporate status from Joint Stock Company (JSC) to Limited Liability Company (LLC). For example, the well-known shoemaker JSC "Skorohod" was liquidated and succeeded by the LLC "Skorohod" firm, which was established at the same location, but operating on a smaller scale.[8] Another interesting example is liquidation of JSC "Ulyanovsk Factory of Heavy and Unique Equipment." There are two new firms operating at its current address. The new firm located in Building No. 2 is called LLC "Ulyanovsk Factory of Heavy and Unique Equipment," and while the firm located in Building No. 1 at the same address it now titled LLC "Simbirsk Equipment Factory." According to corporate filings with the state, both firms have independent owners, operate in the same industry, and utilize parts of the physical capital of the liquidated firm from our sample.

The probit estimation results indicate that the probability that a new firm will be established at the same location and operating in the same industry is significantly higher for politically influential firms (by 18 percentage points). Our data do not allow us to establish who owns the new firm, i.e. the previous shareholders of the liquidated firm or new shareholders. [9] Thus, the detailed political economy analysis of firm liquidations is left for future research. Nevertheless, our findings are consistent with the hypothesis formulated by Lambert-Mogiliansky et al. (2007) on the socio-economic importance of politically influential firms for the region that makes it more likely that the facility will be operated and utilized after liquidation of the old firm.

All in all, we 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 survivability. We find that despite higher relative profitability, influential firms tend to grow slower than non-influential firms and are more likely to get liquidated following a large exogenous shock. This suggests that the business model of influential firms may be quite different from the model used by non-influential firms. 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 our 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

8 http://www.fdo-skorohod.ru/about/history/

[9] See Chernykh (2008) for the detailed analysis of the Russian firms' ownership structure.

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 the robustness tests, and section 7 concludes.

2. Institutional environment

Frye and Shleifer (1997) demonstrate that model under which politicians and firms interact is particularly crucial for economies undergoing transition in the post-privatization period. Russia offers an excellent natural testing ground for studying how political connections at the regional level affect firm performance.

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). In this environment one would expect that the regional political influence of firms may affect their long-term performance.

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), 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 successful 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.[10] 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 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?*

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

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.[11] 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.

[Insert Table 1 here]

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.

[Insert Figure 1 here]

11 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.

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 policies 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.

[Insert Table 2 here]

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.

[Insert Table 3 here]

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.

[Insert Table 4 here]

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.[12] 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.

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* operating in industry *j*: 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.

12 http://carnegieendowment.org/files/CP_Petrov_Rus_2013.pdf

$Infl_i$ is our survey-based measure of firm political influence. *Market freedom*$_k$ is a dummy variable that takes value one for a firm located in a region *k* classified as pursuing free market policies by the Carnegie Foundation, and zero otherwise[13].

Vector X_{it-1} is the complete set of firm-level control variables lagged by one period.

α is the constant term, θ_k is a regional fixed effect that accounts for time-invariant institutional differences across Russian regions, τ_t is a time fixed effect that absorbs common macroeconomic shocks to all firms, γ_j is the industry fixed effects, and ε_{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 form 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).

13 The regional index enters our baseline specification only in the interaction term because the index gets subsumed by the regional fixed effects. We note that in a specification without regional fixed effects and with inclusion of *Market freedom*, all our qualitative results hold.

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.

[Insert Table 5 here]

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.

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 β_1 in our baseline specification, while the coefficient β_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 conditioning on 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 have 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 that 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 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*.[14] 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.

14 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.

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 (columns 3-4 of Table 8), 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 (by 2 %) 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 cross-sectional 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 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 of firm i in region *k*. 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.

α 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, θ_k is the region fixed effect, and ε_{ik} is the error term.[15] 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.

[Insert Table 6 here]

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 statistically indistinguishable for influential firms across "good" and "bad" regions.

15 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 inclusion of only industry fixed effects yields qualitatively similar estimation results which are available on request.

6. Political influence, firm survival and utilization of liquidated firms' plants by new firms

6.1 Political influence and firm survival

We traced all firms' liquidations in our sample and identified firms that were excluded from the official registry after the finalization of the liquidation procedures.

Panel A of Table 7 reports the frequency of liquidations by year. Panel B presents the distribution of pre-crisis 2003–2008 liquidations across influential and non-influential firms. Panel C reports the same distribution during the post-crisis period of 2009–2016.

[Insert Table 7 here]

The surprising finding from the baseline probit model reported in Table 8 is that influential firms were more likely (by 8.8 percentage points) to be liquidated relative to non-influential firms during the whole period of our study 2003–2016. As expected, the higher is the initial profitability and the larger size of firms the less likely they are liquidated. We also find negative and significant relation between the probability of being liquidated and state ownership of a firm.

In order to gain deeper understanding of this result we split our sample into pre- and post-crisis periods and test the relationship between influence status and probability to be liquidated in these periods. To this end we first regress a dummy *Liquidated 2003-2008*, which assigns value of one to all firm liquidation events during the 2003–2008 period on the familiar set of firm level variables measured at the time of the survey[16]. As can be seen from column (3) of Table 8 the coefficient on the *Influence* dummy is statistically insignificant. This demonstrates that firm political connections in normal time are unrelated to its liquidation. The firm size and the initial profitability are related to the liquidation probability as expected. Interestingly, the strongest factor positively related to the probability of a firm's liquidation during the pre-crisis years of rapid macroeconomic growth is the financial investment ratio. This suggests that these investments were made for unproductive reasons or tunneled out of the firm. This bolsters our view of this variable as a useful proxy for asset tunneling.

[16] If 2003 observations of firms' financials were missing we took 2002 non-missing values.

[Insert Table 8 here]

Column (5) reports the result for the post-crisis period liquidations where we regress the probability of firm liquidation during the 2009–2016 period on the firms' initial characteristics. We find that relative to non-influential firms the probability of the influential firms to get liquidated was 9.4 percentage points higher after 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 possibility 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.

Columns (2), (4), (6) of Table 8 report results of the probit model with regional *Market freedom* dummy and interaction term of *Market freedom* with firm political influence. Our results show that in "bad" regions influential firms are not significantly more likely to be liquidated relative to non-influential firms. At the same time the statistically significant negative coefficient estimates on *Market freedom* dummy across all specifications meaning that in "good" regions non-influential firms are less likely to be liquidated relative to non-influential firms in "bad" regions. This suggests that for an average non-influential firm the quality of the regional government institutions matter.

The interaction term is positive and marginally significant for the whole and post-crisis periods meaning that the probability of influential firms in "good" regions to get liquidated is higher relative to the probability of non-influential firms in "bad" regions. This means that the main effect on influence on liquidations of firms reported in columns (1), (5) is driven by

influential firms located in "good" regions. This rather puzzling finding motivates our further investigation of why politically influential firms exhibit such behavior.

Declining profitability and shifts in demand for firms' products are unavoidable consequences of the evolving economy that undergoes transition. Following the exogenous financial shock solvency of all firms deteriorated. The fact that in "good" regions firms with the regional political influence status are more likely to go through the liquidation procedures suggests that Schumpeterian forces of creative destruction might be at work. In the next section, we find partial empirical support for this hypothesis.

6.2 Political influence of liquidated firms and subsequent utilization of their physical capital by the newly established firms

Following the approach of Bernstein et al. (2016) we searched for active firms located at the same postal address and operating in the same industry as liquidated firms. As can be seen from Table 9 out of 96 liquidated firms 54 new firms appeared that continue to utilize facilities of the original firms and work in the same industry.[17]

[Insert Table 9 here]

While tracing these newly established firms we gain insight into the late stage of the transition history of the medium-sized manufacturing enterprises that were rooted in the planned Soviet economy and were earlier privatized in the 1990s.

As visible from Table 10 all 54 liquidated firms that found their facilities to be re-used by the new firms were originally incorporated as Joint Stock Companies (JSC) and all of them were transparent in terms of financial statements reporting. On the contrary, out of 54 newly established firms only 11 chose to retain the JSC organizational status while 43 were incorporated as Limited Liability Companies (LLC). The level of corporate transparency noticeably diminished as only 12 newly established firms make their financial statements publicly available.[18]

17 Cases when the newly established firms operate in a different industry are assigned to the *Plant re-used* category as equal to zero. For example, we found several instances where the factory building of the original firm is now used as office space for rent. We do not treat these cases as utilization of the original plant for the same purpose as was done by the liquidated firm.

18 The low availability of financial information about the new firms precludes us from making any formal analysis as of how they utilize assets of the liquidated firms at the intensive margin.

We also observe a trend that many of 54 newly established firms try to capitalize on the brand name of the liquidated firm. New firms often carry the same or very similar name to the liquidated firm. For example, in place of the Bogotolsky Instrument (JSC) a new firm called Bogotol Instrument Services (LLC) was founded, or in place of liquidated Ivchesmash (JSC) the Ivchesmash (LLC) was re-established.

[Insert Table 10 here]

In the next part of our analysis we turn to testing the relationship between the regional political influence status of the original liquidated firms and the probability of the subsequent utilization of their facilities by the newly established firms. The reported estimates of the predicted probabilities in Table 11 demonstrate that for otherwise similar liquidated firms the probability that new firms would occupy their facilities is by 18 % higher for politically influential ones.

In other words, this finding suggests that assets of firms that exercised political influence are more likely to be reused after their liquidation. Lambert-Mogiliansky et al., 2007 and Sonin, 2010 posit that firms that maintain close ties to the regional governments in Russia often hold special socio-economic status. Our result indicates that this special status could be tied to the uniqueness of the physical and human capital of the original firms. These assets are of high value to the region and potentially to local politicians making them attractive to be reutilized by the new entities.

[Insert Table 11 here]

In column (2) of Table 11 we report the coefficient estimates of the specification with interaction term of the regional quality in terms of market freedom. All coefficients are statistically insignificant making the statistical inference imprecise. Nevertheless, the coefficient on the interactive term is positive suggesting that in “good” regions the likelihood that assets of the influential firms would be reutilized is higher relative to non-influential firms from “bad” regions. We realize that there could be alternative explanations to this finding but the body of empirical evidence presented in this and previous sections enables us to interpret these findings as a partial support of the Schumpeterian hypothesis on creative destruction taking place in “good” regions.

7. Robustness checks

7.1 Firm performance: 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 and cross-sectional growth results for this sub-sample in Table 12 and 13. 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.

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.

7.2 Firms liquidations: acquisitions and unrealized bankruptcies

While tracing liquidations of firms we have identified 4 firms that were acquired by other firms and 13 firms who initiated the liquidation procedures but didn't finish them. For robustness, we assign these 17 cases to liquidated category and create the new variable *Liq_augment 2003-16* which takes the value one if the firm initiated liquidations or got acquired during the whole sample 2003-2016 period, and zero otherwise part we chose another robustness check. We follow the same logic for creation of pre- and post-crisis liquidation dummies.

Table 14 report probit estimation results for the augmented specification. Again, our main messages remain unchanged – politically influential firms were more likely to be liquidated during the whole and post-crisis periods than non-influential firms.

8. 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, if only because of their size, are likely to influence political decision-making. The firms in our sample are more representative the general economic landscape, allowing for a balanced view of corporate political connections.

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 see whether 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 result 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.

We have also identified all active firms located at the same postal address and operating in the same industry as liquidated firms. The probit estimation results indicate that among liquidated firms the probability that a new firm will be established at the same location and operating in the same industry is significantly higher for politically influential firms.

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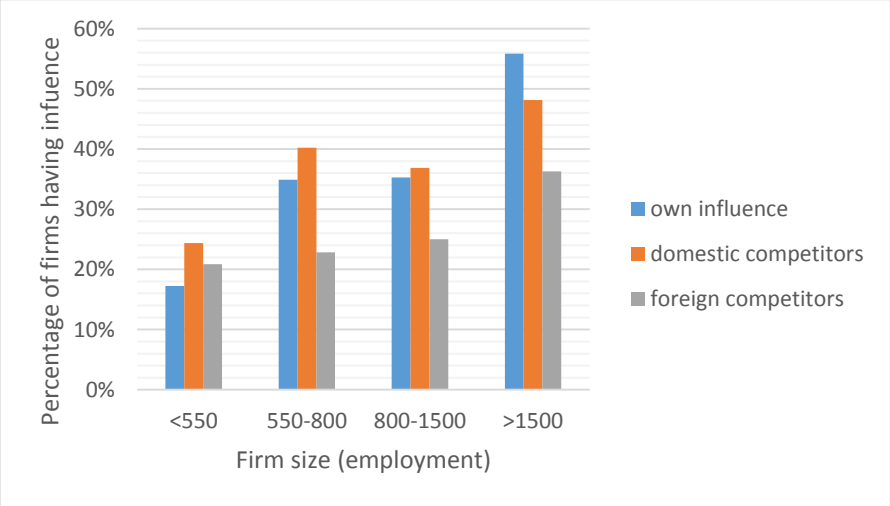
Table 1. Summary table of political influence of firms at the regional level

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.

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

Figure 1. Survey influence dummy by firm size categories



Source: HSE-CEFIR-BOFIT survey

Table 2. Descriptive statistics and correlation matrix

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.

Panel A: Descriptive statistics

	N	Mean	Std. dev.	Min	p25	p50	p75	Max
HSE-BOFIT survey variables								
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
Region-level characteristics								
Carnegie regional market freedom index	39	3.308	0.694	2	3	5	39	5

Panel B: Correlation coefficients

	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	**0.155**								
Credit for invest.	0.043	**-0.084**	**-0.159**							
ROA	**0.107**	-0.041	**0.112**	**0.076**						
Revenue growth	-0.022	-0.048	0.014	0.042	**0.402**					
Total assets growth	-0.048	**-0.059**	0.028	**0.058**	**0.339**	**0.397**				
Total financial investment	**-0.101**	-0.014	**0.089**	-0.044	**0.2**	-0.034	**0.069**			
Leverage	-0.042	**-0.151**	**-0.147**	**0.140**	**-0.235**	-0.053	**0.060**	0.045		
Net assets	**0.135**	0.014	-0.028	0.045	**0.297**	**0.122**	**0.086**	**0.339**	**0.086**	
NWC	**0.080**	0.006	**0.093**	0.023	**0.549**	**0.359**	**0.286**	**0.071**	**-0.337**	**0.105**

Table 3. Univariate tests by political influence

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.

	Means		Diff. test	Medians		Diff. test
	Influential (137 firms)	Non-influential (246 firms)	t-test	Influential (137 firms)	Non-influential (246 firms)	Wilcoxon z-test
	(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 investment 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 investment (0/1)	0.107	0.107	0.111	0	0	0

Table 4. Summary statistics of growth

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.

Panel A	mean	sd	min	med	max	n
Dependent variables						
%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
Independent variables						
ROA initial	0.1	0.208	-0.447	0.086	0.642	378
Log total assets initial	19.59	1.454	16.65	19.47	24.12	378
Leverage initial	0.174	0.213	0	0.109	1.067	378

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

Panel 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 initial	0.110	-0.032	**0.291**	-0.05	0.065	-0.025		
Ln assets initial	**0.218**	0.004	**0.471**	0.06	0.12	0.083	**0.372**	
Leverage initial	-0.025	0.023	0.070	-0.05	-0.057	**-0.141**	**-0.211**	0.128

Table 5. Political influence at the regional level and firm performance

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.

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***	-0.047**	-0.007	0.020**	0.088***	-0.010	0.015	0.022*
	(2.595)	(-2.339)	(-0.287)	(2.165)	(3.543)	(-0.388)	(0.494)	(1.843)
Infl.* Market Freedom					-0.083**	-0.070*	-0.042	-0.003
					(-2.391)	(-1.877)	(-0.940)	(-0.164)
State owned	-0.038	-0.069	-0.099**	-0.011	-0.042	-0.074	-0.101**	-0.011
	(-1.261)	(-1.170)	(-2.485)	(-0.523)	(-1.475)	(-1.247)	(-2.549)	(-0.530)
Log net assets	0.026***	0.037***	0.063***	0.006	0.027***	0.039***	0.063***	0.006
	(3.618)	(3.534)	(6.150)	(1.251)	(3.723)	(3.628)	(6.261)	(1.247)
Leverage	-0.107***	0.134**		0.025	-0.110***	0.130**		0.025
	(-3.736)	(2.058)		(1.023)	(-3.847)	(2.008)		(1.014)
ROA		0.002***	-0.002***	0.001***		0.002***	-0.002***	0.001***
		(3.030)	(-4.652)	(3.121)		(2.900)	(-4.736)	(3.108)
NWC	0.133***	0.167***	-0.198***	-0.007	0.132***	0.168***	-0.196***	-0.007
	(6.652)	(4.320)	(-5.052)	(-0.676)	(6.657)	(4.331)	(-5.057)	(-0.666)
Revenue growth	0.035**		0.011	-0.02***	0.033**		0.011	-0.020***
	(2.490)		(0.797)	(-3.533)	(2.480)		(0.758)	(-3.550)
No credit needed	0.033	-0.033	-0.073**	0.017	0.038	-0.029	-0.070**	0.017
	(1.066)	(-0.906)	(-2.298)	(0.886)	(1.239)	(-0.803)	(-2.184)	(0.895)
Credit for invest.	0.026	-0.008	0.062***	-0.010	0.026	-0.009	0.062***	-0.010
	(1.541)	(-0.389)	(2.882)	(-1.048)	(1.554)	(-0.394)	(2.875)	(-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

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

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.

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	-0.239**	-0.030	-0.007	-1.053	-0.093	-0.058*	0.002
	(0.086)	(-2.20)	(-1.28)	(-0.305)	(-1.423)	(-0.474)	(-1.89)	(0.079)
Infl.* Market freedom					2.280	-0.281	0.046	-0.016
					(0.860)	(-1.25)	(0.82)	(-0.335)
State owned	-0.847	-0.067	-0.095**	-0.006	-0.748	-0.082	-0.093**	-0.006
	(-0.797)	(-0.171)	(-2.06)	(-0.178)	(-0.661)	(-0.382)	(-1.99)	(-0.181)
ROA initial		0.753**	-0.109	0.020		0.708**	-0.101	0.017
		(2.224)	(-1.59)	(0.323)		(2.01)	(-1.43)	(0.249)
Log Tot assets initial	0.035	0.378***	0.03***	0.009	0.027	0.382***	0.029***	0.010
	(0.166)	(5.413)	(3.49)	(1.303)	(0.120)	(5.511)	(3.47)	(1.275)
Leverage initial	1.478	-0.102	-0.099	-0.040	1.445	-0.11	-0.098	-0.040
	(0.405)	(-0.312)	(-0.92)	(-0.939)	(0.394)	(-0.33)	(-0.9)	(-0.931)
No credit needed	-0.518	-0.226	-0.024	-0.045	-0.561	-0.214	-0.026	-0.045
	(-0.840)	(-0.861)	(-0.57)	(-1.057)	(-0.803)	(-0.834)	(-0.64)	(-1.045)
Credit for invest.	-0.599	0.166	-0.006	-0.020	-0.599	0.168	-0.007	-0.020
	(-0.397)	(1.21)	(-0.27)	(-1.604)	(-0.392)	(1.214)	(-0.29)	(-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

Table 7. Liquidation of firms

A. Frequency of firm liquidations

This table reports the number of cases per year when an arbitrage court ruled the finalization of all liquidation procedures and exclusion of a firm from the official registry.

Year	Number of liquidations	Percent	Cum.
2003	2	2.08	2.08
2004	2	2.08	4.17
2005	7	7.29	11.46
2006	16	16.67	28.13
2007	13	13.54	41.67
2008	10	10.42	52.08
2009	5	5.21	57.29
2010	10	10.42	67.71
2011	5	5.21	72.92
2012	5	5.21	78.12
2013	7	7.29	85.42
2014	4	4.17	89.58
2015	3	3.13	92.71
2016	7	7.29	100.00
Total	96	100.00	

B. Influential firms and pre-crisis liquidations

This table reports frequency of firms' liquidations across influential and non-influential categories during the pre-crisis period.

	Influential=0	Influential=1	Total
Liquidated 2003-08=0	206	122	328
Liquidated 2003-08=1	36	14	50
Total	242	136	378

C. Influential firms and post-crisis period liquidations

This table reports frequency of firms' liquidations across influential and non-influential categories during the post-crisis period. Firms liquidated during the pre-crisis period are excluded.

	Influential=0	Influential=1	Total
Liquidated 2009-16=0	180	102	282
Liquidated 2009-16=1	26	20	46
Total	206	122	328

Table 8. Political influence and liquidation of firms

This table reports predicted probabilities of the probit model where we regress incidences of firm liquidations on the survey-based measure of firm political influence. *Liquidated 2003-16* is a dummy variable that takes the value one if the firm was liquidated during the whole sample 2003-2016 period, and zero otherwise. *Liquidated 2003-08* is a dummy variable that takes the value one if the firm was liquidated during the pre-crisis 2003-2008 period, and zero otherwise. *Liquidated 2009-16* is a dummy variable that takes the value one if the firm was liquidated during the post-crisis 2009-2016 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. Significance levels of 0.1, 0.05, and 0.001 are denoted by *, **, and ***, respectively.

Dependent variable:	Whole period liquidation Liquidated 2003-16=1		Pre-crisis period liquidation Liquidated 2003-08=1		Post-crisis period liquidation Liquidated 2009-16=1	
	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.
	(1)	(2)	(3)	(4)	(5)	(6)
Influence	0.088**	0.026	0.014	-0.001	0.094***	0.036
	(2.39)	(0.58)	(0.64)	(-0.03)	(2.66)	(0.88)
Market freedom		-0.128***		-0.064*		-0.088*
		(-2.52)		(-1.91)		(-1.85)
Infl. *Market freedom		0.118*		0.018		0.109*
		(1.81)		(0.51)		(1.77)
State owned	-0.182**	-0.171**	-0.021	-0.017		
	(-2.27)	(-2.05)	(-0.36)	(-0.29)		
Ln total net assets initial	-0.073***	-0.07***	-0.053***	-0.05***	-0.039***	-0.039***
	(-4.09)	(-4.01)	(-3.58)	(-3.64)	(-3.01)	(-3.07)
Total fin. invest. initial	0.312	0.325	0.379**	0.394***	-0.182	-0.149
	(1.28)	(1.42)	(2.23)	(2.49)	(-0.84)	(-0.7)
ROA initial	-0.761***	-0.745***	-0.469***	-0.461***	-0.489***	-0.481***
	(-6.41)	(-6.55)	(-4.56)	(-4.63)	(-3.96)	(-3.99)
Leverage init.	0.025	0.041	-0.059	-0.046	0.102*	0.106*
	(0.33)	(0.54)	(-0.95)	(-0.73)	(1.72)	(1.7)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.239	0.256	0.314	0.327	0.124	0.137
No. of liquidations	96	96	50	50	46	46
Observations	378	378	378	378	328	328

Table 9. Political influence of liquidated firms and of new firms utilizing their physical and human capital

This table reports frequency of liquidated firms' facilities being re-used by the newly established firms operating in the same industry across influential and non-influential categories of liquidated firms.

	Influential=0	Influential=1	Total
Plant re-used =0	31	11	42
Plant re-used =1	31	23	54
Total	62	34	96

Table 10. Incorporation structure and financial reporting of the liquidated firms and the new firms utilizing their physical and human capital

The first number in column (1) presents the number of liquidated firms that were incorporated either as JSC or LLC and whose plants were later re-used by the new firms. The second number after / sign presents the number of firms that reported their financial statements in each organizational category. The first number in column (2) presents the number of newly established firms that chose to be incorporated either as JSC or as LLC. The second number after / sign presents the number of firms that chose to report their financial statements in each organizational category.

	Original firms before liquidation	New firms established at the site of liquidated firms
	(1)	(2)
JSC status / Financial reporting	54/54	11/6
LLC status / Financial reporting	0/0	43/6
Total number	54/54	54/12

Table 11. Political influence of liquidated firms and probability of the new firm to utilize their physical and human capital

This table reports predicted probabilities of the probit model where we regress incidences of new firm being established at the same address and operating in the same industry as the liquidated firm on the survey-based measure of liquidated firms' political influence. *Plant re-used* is a dummy variable that takes the value one if the new firm is using the facility and operates in the same industry as the liquidated firm, 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. Significance levels of 0.1, 0.05, and 0.001 are denoted by *, **, and ***, respectively.

Dependent variable:	Plant re-used=1 Predicted prob.	Plant re-used=1 Predicted prob.
	(1)	(2)
Influence	0.176**	0.135
	(2.13)	(0.99)
Market freedom		0.061
		(0.51)
Infl. *Market freed		0.095
		(0.46)
Total net assets initial	0.029	0.024
	(0.51)	(0.42)
Total fin. investment initial	-0.562	-0.644
	(-0.79)	(-0.84)
ROA initial	-0.069	-0.041
	(-0.29)	(0.17
Leverage initial	-0.048	-0.074
	(-0.21)	(-0.32)
Constant	Yes	Yes
Pseudo R^2	0.032	0.039
Observations	96	96

Table 12. Political influence at the regional level and firm performance after exclusion of state firms

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.

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**	-0.050**	-0.007	0.017*	0.071***	-0.015	-0.001	0.016
	(2.214)	(-2.403)	(-0.309)	(1.725)	(2.791)	(-0.548)	(-0.018)	(1.312)
Infl.* Market freedom					-0.061*	-0.068*	-0.013	0.002
					(-1.701)	(-1.748)	(-0.288)	(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

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

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.

Dependent variable	%Δ ROA	%Δ Total revenue	Δ Leverage	Δ Total fin. invest.	%Δ ROA	%Δ Total revenue	Δ Leverage	Δ Total fin. invest
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Influence	0.181	-0.214*	-0.041	-0.008	-1.144	-0.159	-0.049	-0.001
	(0.113)	(-1.710)	(-1.502)	(-0.315)	(-1.221)	(-0.744)	(-1.461)	(-0.020)
Infl.* Market freedom					2.635	-0.109	0.017	-0.013
					(0.885)	(-0.417)	(0.299)	(-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

Table 14. Political influence and liquidation of firms after addition of acquired firms and firms that initiated liquidations but survived

This table reports predicted probabilities of the probit model where we regress incidences of firm liquidations on the survey-based measure of firm political influence. In addition to 96 liquidated firms we have identified 4 firms that were acquired by other firms and 13 firms who initiated the liquidation procedures but didn't finish them. For robustness we assign these 17 firms to liquidated category and create the new variable *Liq_augment 2003-16* which takes the value one if the firm initiated liquidations or got acquired during the whole sample 2003-2016 period, and zero otherwise. *Liq_augment 2003-08* is a dummy variable that takes the value one if the firm initiated liquidations or got acquired during the pre-crisis 2003-2008 period, and zero otherwise. *Liq_augment 2009-16* is a dummy variable that takes the value one if the firm initiated liquidations or got acquired during the post-crisis 2009-2016 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. Significance levels of 0.1, 0.05, and 0.001 are denoted by *, **, and ***, respectively.

Dependent variable:	Whole period liquidation Liq_augment 2003-16=1		Pre-crisis period liquidation Liq_augment 2003-08=1		Post-crisis period liquidation Liq_augment 2009-16=1	
	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.	Predicted prob.
	(1)	(2)	(3)	(4)	(5)	(6)
Influence	0.094**	0.043	0.014	-0.001	0.103**	0.064
	(2.14)	(0.79)	(0.64)	(-0.03)	(2.35)	(1.2)
Market freedom		-0.139**		-0.064*		-0.093
		(-2.16)		(-1.91)		(-1.42)
Infl. *Market freed		0.087		0.018		0.065
		(1.11)		(0.51)		(0.8)
State owned	-0.121	-0.115	-0.021	-0.017	-0.151*	-0.15*
	(-1.54)	(-1.40)	(-0.36)	(-0.29)	(-1.84)	(-1.81)
Total net assets init.	-0.055***	-0.052**	-0.053***	-0.05***	-0.017	-0.017
	(-2.53)	(-2.41)	(-3.58)	(-3.64)	(-1.02)	(-0.98)
Total fin. invest. init.	0.162	0.185	0.379**	0.394***	-0.477*	-0.444*
	(0.58)	(0.71)	(2.23)	(2.49)	(-1.78)	(-1.66)
ROA init.	-0.849***	-0.835***	-0.469***	-0.461***	0.651***	-0.649***
	(-5.86)	(-5.94)	(-4.56)	(-4.63)	(3.74)	(-3.85)
Leverage init.	-0.015	0.001	-0.059	-0.046	0.01	0.013
	(-0.15)	(0.01)	(-0.95)	(-0.73)	(0.11)	(0.13)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.197	0.213	0.314	0.327	0.12	0.13
No. of liquidations	113	113	50	50	63	63
Observations	378	378	378	378	328	328

Appendix

Table A1. Distribution of *influential* firms across industries

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.

	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, transportation, hotels	6	27	0.222222
Total			137	383	0.357702

Table A2. Variables definitions and data sources

Variable	Definition	Source
Dependent variables		
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 2003–2016	Ruslana/SPARK
Pre-crisis liquidation (0/1)	Dummy that equals one if firm was liquidated during 2003–2008	Ruslana/SPARK
Post-crisis liquidation (0/1)	Dummy that equals one if firm was liquidated during 2009–2016	Ruslana/SPARK
Plant re-used (0/1)	Dummy that equals one if the firm operating in the same industry is established at the address of the liquidated firm	Ruslana/SPARK
Independent variables		
Firm-level characteristics		
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
Region-level characteristics		
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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