The Effect of Regulating Political Connections: Evidence from China's Board of Directors Ban

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Abstract

There is a great deal of variation in how countries regulate the relationships between politicians and private sector firms, but little evidence about how such policies affect firm performance. In 2013, China passed a new regulation that banned politicians from serving on the boards of directors of companies. Using a novel data set that links board members, government officials, and forced resignations, I estimate the effect of the policy on the composition of corporate boards and subsequent changes in firm performance and stock returns. I find that the loss of a high-level politician significantly reduces a firm's cumulative stock return and future profits. The analysis provides important evidence about the efficacy of a commonly used policy tool for reducing political influence in the private sector.

Keywords: political connections, government officials, board of directors, corruption.

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1 Introduction

Countries differ significantly in the extent to which they regulate firms' political connections. While a number of countries have no or only minor restrictions on high-level government officials owning shares of or working for private companies (e.g., Belgium, India, Japan, and Mexico), others prohibit such relationships (e.g., Brazil, Ireland, and the Philippines), and several have more moderate policies (e.g., France, Germany, the U.K., and the U.S.)[1] The wide variation in policies across countries suggests that there is little consensus about whether relationships between politicians and firms should be regulated. Further, while a large literature examines how political connections affect firm outcomes, there is far less evidence about whether government policies are effective at eliminating such connections. This paper considers these questions by examining one of the most common policies for regulating political connections: not allowing active politicians to serve on corporate boards. Specifically, I estimate the short- and long-run stock return and firm profit effects of a new policy that bans politicians from serving on corporate boards in China.

The effect of political connectedness on firm value is theoretically ambiguous (Krueger, 1974). A number of studies find advantages for politically connected firms, as connections may distort resource allocation through preferential lending (Mian and Khwaja, 2005; Wu et al., 2008; Chan et al., 2012; Cull et al., 2015), government bailout (Faccio et al., 2006), legal protections (Li et al., 2008), government contracts (Goldman et al., 2013), and exports concentration (Bai et al., 2014; Ding et al., 2017). However, there is some evidence that political connections can harm a company. For example, they may reduce investment efficiency in state-owned enterprises (Chen et al., 2011), or cause firms to lose independence from the government and hinder firm decision-making (Marquis and Qian, 2013). The effects of political connections on social efficiency are also ambiguous. Ferreira (2010) notes that board members with political experience may provide valuable guidance and help firms navigate government requirements. Conversely, Shleifer and Vishny (1994) show that rent-seeking typically occurs when politicians can bring profits to the firm, and a social welfare loss may occur if resource allocation is distorted.

There are a number of challenges to identifying the effect of political connections and policies intended to regulate these connections. First, measuring political connectedness can be difficult, as

[1] Faccio (2006) assesses the restrictions in each country by considering whether a member of parliament (MP) or a minister is allowed to be an owner or director of a company. For example, in the U.S., both members of Congress and governmental officials are generally not allowed to own or to direct a firm if there exist conflicts of interest, or if the firm may obtain benefits from the government.

personal relationships are rarely observed in data. Second, it is hard to make valid comparisons across countries due to endogeneity concerns, as countries make their policy decisions in response to local conditions. Likewise, comparing firms with and without political connections within a country may be problematic, as having political connections may be correlated with unobservable factors that cause differences in firm performance, and a political connection might actually form as a result of a firm's performance. In order to generate an unbiased estimate of the impact of a specific policy, we need an exogenous shock that is both observable and not otherwise correlated with firm performance.

This paper examines the effect of a sharp policy change in China. Regulation No.18, which was announced in the autumn of 2013, prohibited government officials from serving on corporate boards and from receiving any income from firms. Firms were given one year to comply with the policy, after which all government officials were expected to have resigned. Focusing on listed firms, I determine whether a company has an independent director who is a politician, the number of directors who are politicians, and the level of those politicians within the government. I examine short-run and long-run outcomes of the new policy using a difference-in-differences design. To allow for heterogeneous effects, I differentiate by the number and importance of the politicians who were affected (where importance is measured using national classification standards).

To conduct the analysis, I create a new data set that links Chinese stock returns with an original data set of board member resignations. In China, listed firms are required to disclose board member resignations by posting resignation reports, and I link each resigning board member with a database of government officials. I find that firms with politicians follow a very similar stock return trajectory to firms without politicians prior to the announcement of the policy. However, after policy implementation, these cumulative returns diverge significantly. In the very short run, the announcement of the regulation does not sharply change the stock returns of firms with politicians on their boards. In the longer run, however, stock returns of firms with high-level political connections fall by 5.4% relative to firms of similar size and industry. The discrepancy between short-run and long-run results may be explained by limitations in the market's ability to predict long-run effects, or by the fact that long-run changes in stock return are too modest and uncertain relative to typical short-run fluctuations to generate an investor response.

An analysis of treatment heterogeneity shows that the effects are increasing in the number of politicians who resign: cumulative returns decline by 5%, 9% and 17% if firms lose 1, 2 or 3 or more

high-level politicians, respectively. There is no significant price effect for firms that lose connections with low-level government officials. The differential effects of high- and low-level politicians suggest that only high level politicians have enough information and influence to generate stock return effects. The results are robust to a number of alternative specifications, such as including firm fixed effects, changing sample periods, and various methods of choosing untreated firms to control for time trends in stock returns.

The estimated policy effect in this paper of about 5.4% is in the middle range of those in the broader political-connectedness literature, indicating that a) the policy effectively reduced political influence, and that b) firms benefit from political connections. For example, Fisman (2001) finds that being connected to President Suharto contributed as much as 23% to firm value in Indonesia, while Fisman et al. (2012) find little effect of having Vice President Cheney as a board member in the U.S. Other estimates of the effect of political connections in the literature include 6% in Italy (Cingano and Pinotti, 2013), 13% in Egypt (Acemoglu et al., 2014), 5% in the U.S. (Goldman et al., 2009), and 2% to 4% across 47 countries (Faccio, 2006). In China, Xu and Zhou (2008) exploit a political scandal and find that related firms experience a 2% reduction in returns. Similar to the lagged response in this paper, Fisman and Wang (2015) find no immediate effects, but share prices of politically connected firms fall by 7% in the 30 trading days following a fatal accident that affects a politician's career. In contrast to this study, Tang et al. (2016) find that the announcement of Regulation No.18 resulted in a 3% reduction in 3- to 5-day short-run returns.[2] A concurrent working paper, Xu (2017), considers a narrower definition of politician in China, but finds longer-run effects of approximately 4%, which is consistent with the baseline result for high-level politicians in this study.

This paper contributes to the literature in several ways. First, because the analysis is based on a sudden change in the law in the world's second largest economy, the resulting estimates reveal the effects of a specific, common policy that governments use to combat the influences of political corruption in the private sector. That is, the analysis provides compelling evidence that such policies reduce the political connectedness of firms. Second, the large number of affected firms (more than 600) allows for precise estimates of the influence of higher and lower level politicians, as well as an examination of whether the benefits of connectedness are increasing in the number of associ-

[2]The difference in results is likely to stem from the fact that Tang et al. (2016) use an announcement date of Oct 30, two weeks after the policy was widely reported, and restrict attention to firms that complied with the policy, rather than all firms with politician on the board.

ated politicians. Finally, the analysis considers not only the short- and long-run effects of political connections on stock returns, but whether there are observable changes in firms' profitability and capital structure.

The paper is organized as follows. Section 2 presents background information about China's independent directors, government officials, and Regulation No.18. Section 3 introduces the data set and summary statistics. Section 4 details the empirical strategy. Section 5 presents short- and long-run estimates. Section 6 discusses anticipation and potential mechanisms, and Section 7 concludes.

2 Background Information

2.1 Independent Directors in China

An independent, or outside, director, refers to a board member who does not formally have a material or pecuniary relationship with a company. The duty of an independent director is to help make decisions and to mediate among interests of different shareholders. The role of independent director originated in the U.S. in 1934, and took its current form after the Sarbanes-Oxley Act in 2002.[3] It has long been viewed as a solution to corporate governance challenges such as the residual claim problem (Fama and Jensen, 1983). Outside directors make up 66% of all boards and 72% of S&P 500 company boards in the U.S.[4] Many developed and emerging countries have joined the trend of establishing the practice of requiring independent directors, including China.

In August 2001, the China Securities Regulatory Commission (CSRC) issued an opinion to establish independent directors for listed companies. It requires that all companies listed on Chinese Stock Exchanges shall have at least one third of board members be independent directors by 2003.[5] Typically, there are 8 to 10 directors on a board, 3 to 4 of which are independent. Generally, independent directors are not permitted to be employed by the company, but they may own up to 1% of a firm's shares and receive fixed compensation known as sitting fees.[6]

[3] Initially, they were known as non-employee directors, although the concept at that time is to some extent different from independent directors today. See The Securities Exchange Act, 1934.

[4] See http://www.wsj.com/articles/SB10667628024874610O.

[5] See China Securities Regulatory Commission, [*Guidance Opinion on the Establishment of an Independent Director Opinion*], sec. 1(3), issued Aug 16, 2001.

[6] Holding up to 1 percent of shares may allow independent directors to have a substantial stake in large, publicly traded companies. However, since non-major shareholders are not required to disclose their trading, we are unable to estimate the exact amount of benefits that politicians can get from firms.

The establishment of the independent director institution constitutes the most comprehensive measure taken to date by the CSRC to regulate internal corporate governance. However, the effectiveness of directors may be limited, as they devote a modest amount of time to the corporation and thus may not form independent judgement.[7] Therefore, Clarke (2006) concludes that there are weak connections between the use of independent directors and the quality of corporate governance. Nevertheless, independent directors may provide an opportunity for firms to develop political connections. The CSRC did not restrict political affiliation prior to 2014, and there were no restrictions on government officials having concurrent jobs as independent directors. Thus, offering the position of independent director could be a way for firms to set up and maintain political connections that increase firm profits, or for politicians to extract rents from the private sector.

2.2 Regulation No.18

Independent directors with political connections may enable corruption. Thus, to regulate politicians' behavior and maintain a good market environment, the Organization Department of the CPC Central Committee issued Regulation No.18 in October of 2013.[8] This regulation prohibited all government officials, including former officials who resigned or retired within the last three years, from holding positions in firms or receiving any payment from firms. The regulation applies to all government departments and all level of officials, and is widely regarded as an important step toward regulating corruption.[9] Although Regulation No.18 did not exclusively target independent directors, they were the largest group affected. There are some cases in which politicians served as executives such as CEO or CFO, but this is far less common than politicians serving on the board of directors.[10] Therefore, this regulation is primarily a restriction on independent directors. A key outcome of this paper is shedding light on whether restricting these formal relationships actually reduces the political connectedness of firms in practive.

Though the market may anticipate restrictions on political connections, it is unlikely that the market would know to what extent government officials would be regulated or the exact timing

[7]Normally, an independent director spends less than 10 days per year formally working for the firm (Shen and Jia, 2005). Moreover, instead of observing, analyzing and providing independent opinions, their time is usually spent on attending annual/quartely meetings.

[8]See Organization Department of the CPC Central Committee, [*Guidance Opinion on the Regulation of Party and Government Leaders Taking Office in Corporation*], sec. 1, issued Oct 19, 2013. It is informally called Regulation No.18 since it is the 18th regulation announced by CPC Organization Department in that year.

[9]Some exemptions may be allowed with permission. However, for government officials working with an exemption, receiving payment is prohibited. Also, these officials are subject to closer supervision.

[10]The data reveals 156 resignations of CEOs and CFOs, compared with 1,387 independent director resignations. Moreover, the distribution of CEO/CFO resignations over time does not change around the announcement of Regulation No.18. See Appendix Figure A1.

of a new regulation. Therefore, anticipation is unlikely to be a significant concern.[11] Each listed firm with at least one government official who is an independent board member is affected by the resignation. However, in order to maintain the normal operation of boards, all government officials were given one year from the date of issue of Regulation No.18 to resign from their positions. Based on this pattern of adjustment, the announcement of the regulation leads to two types of changes for each listed firm with government officials on their board. The first stems from the announcement and the anticipation of how this change may affect the firm, and the second stems from the actual resignation of officials. As firms and officials may choose the separation date, the timing of resignation is endogenous. Therefore, I first consider the announcement of the regulation in the short run, and then examine firm outcomes over time in the long run. In addition, since politicians of all administrative levels must comply, the regulation provides a chance to estimate if there are heterogeneous effects due to the number and seniority of politicians affected.

Importantly, this regulation requires compliance by anyone who resigned or retired from a government position within three years. Therefore, it rules out the case in which a politician would leave the government and choose to stay with the firm. Apart from working for the firm, it is less likely that politicians get benefits through other legal channels, since a government official is not allowed to hold or control shares of firms that are under his or her jurisdiction of duties.[12]

2.3 Government Officials and the Measurement of Power

Defining "government official" is a complicated endeavor in China. A narrow definition includes leaders and officers in a strictly defined government organization. However, China's unique political system means that leaders of institutions like public universities may also have some political power. Having connections with these people may have a similar effect to having a connection with a political official in a more narrowly defined sense. Therefore, I use the generalized definition for *officials*: in addition to CPC and government officials, it includes National Parliament Committee (NPC) deputies, Chinese People's Political Consultative Conference (CPPCC) representatives, and leaders of state-owned enterprises and non-profit institutions such as public universities, research institutes, and hospitals, etc.[13]

[11] From the stock return trends prior to the announcement of regulation, there does not appear to be anticipation.

[12] See [*Guidance Opinion on the Regulation of Party and Government Leaders Individual Investment Behavior*], sec. 3, issued Apr 3, 2001. Available at http://cpc.people.com.cn/GB/33838/2539927.html.

[13] China is now trying to separate state-owned enterprises and other institutions from government control as well as CPC administrations.

The power of an official is measured by the administrative level. According to the national standard, there are 12 levels of officials. In practice, people normally categorize them into 5 major tiers: national (Guojia Ji), provincial (Shengbu Ji), bureau (Tingju Ji), county (Xianchu Ji), and township (Xiangke Ji). More broadly, officials are either high or low level: bureau tier or higher are considered as high-level, and vice-bureau tier or lower are regarded as low-level. The high and low division is used by China's government and is consistent with common understanding. This division has been used in previous studies such as Fisman and Wang (2015). Table 1 presents the categorization and gives examples of positions for each tier. I classify a firm as politically connected if one or more government official serves as an independent director on the firm's board at the time of the announcement of the regulation.

3 Data

3.1 Data Source

The analysis involves the use of three data sets: two firm-level financial data sets, and a newly constructed data set of independent director resignations.

Financial data collected by Wind Information Co., Ltd. includes firm descriptions, issuance information, market data, dividend data, share capital structure, financial and accounting data, and other important information for all listed companies in the stock exchanges of Shanghai and Shenzhen. The trading history consists of daily data about opening, high, low, and closing adjusted prices, trade volume, and other indicators that depict market changes within a day. Listed firms' characteristics come from annual reports that reveal a firm's size, ownership, and accounting indicators such as debt-to-capital ratio and operation cash flows. Wind also has records of company announcements, from which I collect the resignation reports of independent directors. As a complement to Wind, I use Financial China, which is a free-access website that shows listed firms' basic information. Most importantly, the website has a brief profile for each board member. This aids in identifying whether a board member holds a political position.

In addition to firm data, I collected the identity of government officials from publicly available sources. The resulting data set contains detailed personal background for all independent directors who resigned after January 1, 2013, including the political positions he or she held. While Financial China and other Chinese financial websites contain basic information about the directors (age,

tenure, education, gender, party membership, etc.), a richer set of variables was collected using Baidu Baike (Baike means encyclopedia), which contains profiles for noteworthy individuals. I find that more than 90% of board members have detailed information listed on the site. In instances where the information was not detailed enough, additional internet searches of newspapers, working homepages, and other websites was conducted until the missing information was collected.[14] The final data set identifies the level of government position held by board members and the stock prices of treated and untreated firms before and after the regulation was announced and implemented.

3.2 Data Description

I consider all 1,965 listed stocks on the main board of the Shanghai and Shenzhen stock exchange, and collect their daily price history from 2013 to 2015, focusing on trading days and skipping the days when the market is closed.[15] The 1,965 firms are categorized by their highest level of political connection. The number of resignations occurring after the announcement of the regulation is presented in Table 2, Panel A. I find 1,387 cases of resignations after the announcement, and 882 of them are government officials.[16] Panel B and Panel C show how these politicians are distributed among firms: about one-third of firms have political connections, typically one government official, and about 10 percent of firms have multiple officials on their boards. Firms are considered as treated if they are connected with one or more officials. There are 243 firms connected to high-level politicians, 419 firms connected to low-level politicians, and 1,303 firms with no political connection.

Table 3 shows the summary statistics for firms with no political, a high-level political, or a low-level political connection. The data reveals significant differences in the number of employees, the working capital ratio (asset-to-liability ratio), the quick ratio (liquid asset-to-liability ratio), and beta (volatility in comparison to the market) on average across the three groups. Shareholder structure and sector composition are similar across the groups. However, in terms of market value, net profit, and employment scale, firms with high-level political connections have larger scale and firms with low-level political connections have smaller scale than firms without connections. This fact is intuitive, as larger firms have potentially greater capacity to connect with higher-level officials. Additionally, firms with political connections tend to have higher P/E ratios. These differences across connected and unconnected firms suggest potential benefits of verifying that estimates are

[14] Truex (2014), where NPC deputy information is collected in the same way, claims that Baidu profiles are quite reliable. To verify data quality, I check the validity of Baidu data for a large sample of directors against official government websites.

[15] There are 2,185 stocks in total at the beginning of 2013. I drop the firms that have key characters missing in annual reports. GEM, SME board, the new OTC market and all the IPOs after Jan 1, 2013 are not included.

[16] See notes in Table 2 for details.

robust to using a matched control group to determine counterfactual time trends based on similar firms.

4 Empirical Framework

I first confirm the effectiveness of the treatment, i.e., that Regulation No.18 causes politicians to resign their positions. Figure 1 shows the total number of independent director resignations by month. Before October 19, 2013, there was a stable and modest number of resignations for both officials and non-officials over time. Typically, resignations occur either because the board member's term has expired or due to eligibility changes (for example, the person has become a large shareholder or an executive leader and thus loses independent status). After the regulation was announced, monthly non-official resignations are steady, but instances of government officials' resigning increase dramatically: the number of government official resignations increased from 10 to 50 per month after four months of corporate adjustment, and in November 2014, one year after the announcement, a wave of resignation comes and there are more than 200 resignations in one month prior to the compliance deadline.[17] This evidence indicates that Regulation No.18 generated a large scale increase in resignations of government officials from corporate boards.

The impact of regulating political connections on firms' stock performance may be realized in the short-run or in the long-run. According to Jensen and Johnson (1995), when a regulation is announced (even before full implementation), the market may react by adjusting the price. Alternatively, if markets do not internalize the importance of political connections, or realize the extent of political connections, then it may take time for the returns to respond. Further, if changes in long-run firm performance are small in magnitude relative to short-run stock return fluctuations, then investors may not alter their strategies.

To measure short-run and long-run stock return effects, I employ a difference-in-differences (DID) design in the days before and after the announcement, and over the course of subsequent months and years. To ensure valid comparisons over time, I present results for several alternative methods of selecting control firms with similar pre-treatment characteristics.

[17] There are also some cases of resignations after the designated deadline, because some officials did not realize they should leave until government enforcement. I also include them as treated.

4.1 Identification Strategy: Difference-in-Differences

The identifying assumption for a difference-in-differences specification is that, apart from political connections being cut off, firms with and without politicians on their boards experience the same trends. Hence if we deduct the cumulative returns of control firms from that of treated firms, we can capture the treatment effect. I regress the cumulative return on a post-policy dummy, a treatment dummy, and their interaction:

$$CAR_{i,t} = \alpha + \beta_1 After_t + \beta_2 Gov_i + \beta_3 After_t Gov_i + \varepsilon_{i,t} \tag{1}$$

The dependent variable is each stock's daily cumulative return, i.e. logarithmic difference between daily adjusted closing price and the closing price on October 18, 2013.[18] The binary variable $After_t$ equals 1 if the date t is after the announcement, and Gov_i equals 1 if firm i has at least one government official on the board at the time of the announcement. The coefficient β_1 captures the common trend. β_2 measures the initial difference between treatment and control firms. Our interest is in the coefficient β_3, which indicates the treatment effect. Alternatively, adding firm and time fixed effects, I estimate the following equation:

$$CAR_{i,t} = \alpha_i + \gamma_t + \beta_3 After_t Gov_i + \varepsilon_{i,t} \tag{2}$$

where δ_i and γ_t represent firm and day fixed effects. For the short-run effect, I use the time frame of one or two weeks before and after the announcement, and for the long-run effect, I consider a range of periods in one or two years.

I examine heterogeneity across treatment groups, as it might be the case that a Minister has a different effect than a vice Minister, and losing two politicians may have a greater effect than losing one. Thus, I refine my specification to allow for heterogeneous effects by considering finer categorization of official tiers and the number of officials leaving the board. I treat the number of resignations as a categorical variable that flexibly reveals the effects. Specifically, I estimate the following regression:

$$CAR_{i,t} = \alpha + \beta_0 After_t + \sum_k \gamma_k \delta(Ngov_i = k) + \sum_k \beta_k \delta(Ngov_i = k) After_t + \varepsilon_{i,t} \tag{3}$$

[18] A typical way used in finance is estimating the abnormal return using CAPM or newer model such as Fama-French three-factor model, but once controlled for stock fixed effect in RD and DID design, the raw cumulative return is equivalent, as the expected return and risk-free return are both captured by fixed effect.

where $Ngov_i$ is the number of high-level or low-level politicians on the firm's board at the time of the announcement. The indicator $\delta(\cdot)$ is defined to be 1 if the condition holds, and 0 otherwise, and the coefficients β_k reveal the effect of losing 1, 2, or 3 or more politically connected board members.

Likewise, instead of having high-treated and low-treated firms only, I assign the level of treatment by the highest level of governmental position of its board members. I define

$$Highest_{k,i} = \begin{cases} 1, & \text{if firm } i \text{ has at least one level-}k \text{ government official but no higher-levels on the board} \\ 0, & \text{otherwise} \end{cases}$$

where k takes the value of all possible official tiers (see Table 1), and estimate the regression

$$CAR_{i,t} = \alpha + \beta_0 After_t + \sum_k \eta_k Highest_{k,i} + \sum_k \beta_k After_t Highest_{k,i} + \delta_i + \gamma_t + \varepsilon_{i,t} \quad (4)$$

The coefficients β_k will capture the heterogeneous effects by political level.

4.2 Choosing Counterfactual Firms

In both the short and long run, we need to assume that treated and untreated firms are similar to each other in terms of their stock price trajectories. However, from the summary statistics in Table 3, we note that firms with high-level, low-level, or no political connections differ in observables and thus may experience different stock price trends. Thus, I present estimates using the full sample and after implementing propensity score matching (PSM) as a method of choosing control firms that are most likely to experience similar outcomes.

The goal of propensity score matching introduced by Rosenbaum and Rubin (1983) and developed by Imbens (2000), Frölich (2004) and Abadie and Imbens (2006) is to estimate an ex-ante probability of being treated, i.e., the propensity score, and to use firms with a similar propensity score as the counterfactual. While this strategy is generally not valid in a cross-sectional design, it is commonly used to select a control group when a subset of individuals are affected by an exogenous shock in a panel data context. Treated and untreated firms are matched within sector by the available summary variables that measure the performance from annual reports, i.e., market value, net profit, number of employees, P/E ratio, P/B ratio, return on equity ratio, working capital rate, debt-asset ratio, quick ratio, systematic volatility (beta), and share of large shareholders. Similar variables are commonly used in matching listed firms (e.g., Ding et al., 2017). Appendix Figure A2

show the density of propensity scores, revealing that both high- and low-level connected firms have control firms with similar propensity distributions. I use propensity score matching to compare the sample from the common support of distributions using caliper matching, as there are often multiple potential control firms with similar propensity scores. Appendix Table A1 and Table A2 exhibit the weighted summary statistics after matching for high-level and low-level treatments. Compared with their original statistics, the PSM significantly reduces differences in firm characteristics between treatment and control firms.

5 Results

As shown in Figure 1, the announcement of Regulation No.18 leads to government officials resigning from the board of listed firms, potentially reducing firms' political connections. In this section, I will first briefly summarize the results and then provide a detailed discussion of the evidence.

Figure 2 shows the trend of average cumulative returns in the period after the announcement. I cluster and plot the average return by firms' level of political connectedness. Before the regulation was announced, high- and low-treated and control firms follow a nearly identical path, suggesting that they did not anticipate the policy and have similar pretreatment trends. After the regulation, in the short run their trends look similar, but in the long run, while low-level connected and non-connected firms still move together, previously high-level connected firms experience a decrease in cumulative return.

5.1 Short-run Effects

For the short-run impact, Appendix Figure A3 presents a close up of Figure 2 around the date of announcement. The cumulative returns are shown around the announcement of Regulation No.18 (which is centered to $t = 0$), within 14 trading days before and after the announcement. Although the daily return varies substantially, graphically the return of firms in different groups changes nearly identically. While firms with political connections undergo a price reduction, firms without connections experience the same decrease. Therefore, there is no abnormal change in return for politically connected firms in the short run.

Table 4 presents the estimates of the short-run effect. For high-treated firms, column (1) shows the estimates for the full sample. The coefficient on the interaction term of $After$ and $High$ is neither

economically nor statistically significant: the size of the abnormal return is less than ±1%. Column (2) shows similar estimates for the matched sample: I use caliper matching (with radius $r = 0.01$) within sector, and compare firms with similar characteristics.[19] Column (3) and (4) display the analogous short-run estimation for low-level politically connected firms, which also reveals no effect of the regulation announcement on abnormal returns for these firms. Therefore, the announcement of the regulation does not appear to have an immediate impact on firms connected to either high- or low-level politicians. In addition, the results are robust to alternative choices of pre- and post-bandwidth from 7 trading days to 28 trading days, as presented in Appendix Tables A3.

5.2 Long-run Effects

Table 5 shows the estimated long-run effects for firms that lose high-level politicians due to the policy. I use the time window of June to September of 2013 as the pre-treatment period, and September to December of 2014 as the post-treatment period. The former time window is just before the announcement and the latter corresponds to the designated deadline for government officials to leave their boards (one year later). In column (1), the difference-in-difference estimates show that the resignation of a high-level government official has a long-run negative effect of about 5.4% on the cumulative return. Column (2) replicates the estimate using propensity score matched control groups. The matching process may be important for long-run outcomes, since the probability of divergence of corporate performance between firms with different characteristics is higher. The result with caliper matching (5.9%) is vary similar to the all sample estimate. The specification is also robust to changing the time frame that stock prices are measured after the announcement (see Appendix Tables A4).

The negative effect indicates that the political connectedness has been reduced, i.e., the policy was effective. The magnitude of the estimate is consistent with Fisman and Wang (2015), who find a 3-day negative abnormal return of politically connected firms of 1.4%, and 30-day abnormal negative return of 7%, after an exogenous shock that may reduce a firm's connectedness. The estimate is smaller than Fisman (2001) but greater than Faccio (2006) and Fisman et al. (2012). These magnitudes are consistent with the intuition that the value of political connections may be higher in countries with higher corruption levels.

[19] Generally speaking, caliper matching will involve larger sample sizes due to including more control firms and thus has more precision. However, since caliper matching allows less similar matches, it potentially introduces more bias. Pairwise matching, in contrast, reduces biasedness but is less precise due to the reduction in sample size. I have run all regressions using pairwise-matched sample, and the results are the same. Pairwise-matched results are not shown.

Column (3) and (4) reveal that the resignation of low-level politicians does not significantly affect a firm's stock return. This is consistent with lower level politicians providing a weaker political connection. Notably, the difference between high- and low-treated firms indicates that the high-level effect is not driven by a turnover effect. That is, the stock return effects for high level politicians do not appear to stem simply from increased turnover of independent directors due to the policy shock.

An important consideration is how the effect sizes evolve over time. To examine this, I use every four month period from September 2014 to December 2015 to estimate the effect of resignations and present the results in Table 6. For high-level politically connected firms, the estimate of price loss increases from 5.9% at 12 months, to 7.2% at 16 months, and 7.1% at 20 months. Thus the statistical significance of the effect is not due to the specific choice of when the outcome is measured. However, firms with low-level connections do not exhibit any significant market value loss during any of these time periods.

5.3 Heterogeneous Effects

Table 7 presents the results based on the number of resignations experienced by firms with high-level political connections. The full sample and caliper-matched sample reveal that the loss of one, two, and three or more high-level officials accounts for a 5%, 9% and 17% negative abnormal returns, respectively. This pattern is consistent with the intuition that political connections have some de facto effect, whereby the more politicians that leave from the board of a firm, the more value the firm loses. Hence, the positive relation between magnitude of abnormal return and number of officials leaving strengthens the interpretation of the value of political connections. Analogous estimates for low-level connected firms are shown in column (3) and (4): the loss of one, two, or more low-level officials has no significant negative effect on stock returns.

Table 8 presents estimates for treatment by the level of the official. Since there are no national level officials involved, I estimate the effect from the provincial-level to the township-level. I find that for high-level connected firms (provincial, vice-provincial, or bureau-level officials), on average the abnormal return is about 5%, and for low-level connected firms (vice-bureau, county and vice-county level), the treatment effect is quite modest. These effect sizes support the segregation of high-level and low-level officials in the primary specification. This finding also reveals that the effects are not due simply to turnover of the board, in which case we should observe similar sized effects for high- and low-level connected firms.

Table 9 shows the estimation for different types of firms. I first consider ownership, i.e., whether the firm is state-owned or private. A publicly traded firm is state-owned if the central or local government holds more than 50 percent of shares. Since there are more direct interactions between state-owned firms and the government, it is possible for them to have political connections in different ways, and thus directors as a single channel of connection may have less effect. Column (1) and (2) indicate that the average treatment effect for privately-owned firms is 7.5%, somewhat larger than for state-owned firms, 4.6% (though the difference is not statistically significant). For low-level officials, the effects for privately-owned firms are larger, though the results are statistically insignificant.

Finally, I consider heterogeneous effects by sector. That is, which industries benefit most from having political connections. Because a detailed segmentation by sector does not provide sufficient statistical power to generate precise estimates, I divide the sample into manufacturing and non-manufacturing sectors. The results are shown in column (3) and (4), Table 9. This reveals that political connections have the largest effect on stock return for non-manufacturing firms, which might be a consequence of the larger room for rent-seeking in emerging sectors.

6 Anticipation and Mechanisms

In this section I examine two possible explanations for the pattern of results: 1) policy anticipation; and 2) long-run changes in profitability and access to capital.

6.1 Policy Anticipation

Under the efficient-market hypothesis raised by Hayek (1945) and Fama et al. (1969), if political connections have effects, the price should immediately adjust at the time the information is revealed. However, as shown above, this is not what we observe empirically: there seems to be no short-run effect, but there are significant long-run effects for firms connected to high-level politicians. Similar time-delayed results are also found in other studies such as Fisman and Wang (2015). One concern is that the short-run effects are attenuated if the market anticipated the policy change and adjusted the price prior to the announcement of the regulation. If there was some anticipation, the most likely time is in March 2013 when President Xi Jinping presented other, more minor, anti-corruption measures.[20] Appendix Table A5 presents a placebo test, assuming there was some anticipation by the market in March 2013. I find no significant effect at this time.

[20] Xi was elected as the General Secretary of CPC Central Committee on October 15, 2012, and was then elected as the President of China on March 14, 2013.

Alternatively, the investors do not *pay attention* to the political connections. Even if the information is public, they just neglect it. This could explain the market indifference after the regulation was announced. However, in this case, it should change when the board members actually resign. To test for this explanation, I examine the effect on stock return when a politician actually leaves the board. Although the exact date of resignation is endogenously made by the firm, it might provide some insight into the effectiveness of the market. For each firm affected by the Regulation No.18, I identify the date when its first government official resigned from the board, and thus have 189 high-level official resignations and 338 low-level official resignations out of 917 in total.[21] By aligning the stock returns to the dates of resignation, I examine the market sensitivity when a resignation occurs. Specifically, I estimate the following model for the sample of high-level and low-level firms, respectively, controlling for time trends:

$$CAR_{i,t} = \alpha_i + \beta Resign_t + \gamma t + \varepsilon_{i,t} \tag{5}$$

where t represents the number of days after the resignation and $Resign_t$ is a dummy variable that takes value 1 if it is after the resignation. Appendix Figure A4 shows the cumulative return discontinuities on the day of resignation. There is no obvious discontinuity of stock return before and after the resignations. The econometric results are shown in Appendix Tables A6, which reveals no significant changes immediately after the leaving of politicians in various specifications. Therefore, when investors observe the actual resignations of politicians, there is no immediate effect on stock returns.

Based on the arguments above, the following explanations for the discrepancy between short-and long-run results are possible. First, the market is aware of the resignations but does not believe the connections would be cut off. For instance, the connections might remain but not in the public view. Second, the market may not believe that the government regulation will be completely enforced. In such a case the stock return will not vary immediately after the announcement of Regulation No.18 due to the enforcement uncertainty, and as more and more politicians have resigned, the spill-over of enforcement belief gradually results in the abnormal return. Third, the anticipated effect on stock prices in the long run is modest relative to short-run variation in the market. Even if the investors know there will be a price effect, the predictable part is too small to make profitable adjustment at

[21] For firms with only one politicians on board, this is exactly the date when he or she left. For firms with more than one politicians, I only consider its first resignation, assuming that shareholders, if not aware of the political connectedness, would realize at the time when the first resignation occurs.

the time of announcement.

6.2 Profitability and Access to Capital

Understanding the mechanism behind the value of political connections is potentially helpful for informing policy. In this part I briefly discuss potential channels and test alternative hypotheses using available data.

Firms can benefit from political connections in various, direct or indirect ways. Direct benefits may involve politicians helping firms win contracts with the government (Goldman et al., 2013), reducing the cost of dealing with bureaucratic issues such as the waiting time, decreasing the frequency of government inspections (Fisman and Wang, 2015), enjoying lower applicable tax rates or higher tax returns (Wu et al., 2012), helping firms get special permissions, providing legal protection for firms (Li et al., 2008), bringing internal information (such as a new regulation) to firms before it was publicly revealed, or providing bailout by the government during recessions (Faccio et al., 2006). Apart from these direct benefits, connected firms may also be placed at an advantage when dealing with third parties. For example, commercial banks and other investors may believe that politically connected firms are more reliable, and thus these firms would get loans more easily (Mian and Khwaja, 2005; Wu et al., 2008; Chan et al., 2012; Cull et al., 2015). Thus political connections may decrease profitability, or reduce the relative cost of capital. I consider these channels explicitly.

To examine changes in firm profitability, I directly estimate the following equation

$$\log NetProfit_{i,2014} - \log NetProfit_{i,2013} = \alpha + \beta \cdot Gov_i + \varepsilon_i \tag{6}$$

where β shows the relative percentage change in firm's net profit. The results are shown in Table 10. Compared with untreated firms, politically connected firms appear to experience gradual profit declines: while the immediate effects are modest, the profits of connected firms are 10 to 15 percent lower one or two years after the regulation. However, the decrease in profitability are not statistically significant, and the timing is not matched with the change in stock returns. Therefore, the relation between decreasing stock returns and profitability changes remains plausible.

Compared with examining profitability, the relative factor price effect is more indirect. Since the actual factor price faced by firms is hard to observe, it is necessary to proxy for that using observable variables. Suppose that a firm produces with capital and labor and allocates its resource

optimally. If the relative factor price changes, we should observe the firm changing its factor inputs. Specifically, assume that the local-monopoly firm has a constant elasticity of substitution (CES) production function with $\gamma \leq 1$. Given factor prices w and r, a firm maximizes its profit

$$\max_{K,L} A[\alpha K^{\gamma} + (1-\alpha)L^{\gamma}]^{\frac{1}{\gamma}} - wL - rK$$

and the F.O.C. implies that

$$\frac{r}{w} = \frac{\alpha}{1-\alpha}\left(\frac{K}{L}\right)^{\gamma-1}$$

Taking the log difference we have

$$-(1-\gamma)\Delta \log\left(\frac{K}{L}\right) = \Delta \log\left(\frac{r}{w}\right)$$

where the left hand side is the change in factor allocation and the right hand side shows the percentage changes in relative factor prices. If political connections affect the relative factor price, when the connection is terminated, we should observe an abnormal change in capital-labor ratio (K/L) of politically connected firms. I proxy the capital by market value (MV) and labor by number of employees (NE), which come from listed firms' annual reports, and then estimate the following equation

$$\log\left(\frac{MV_{i,2014}}{NE_{i,2014}}\right) - \log\left(\frac{MV_{i,2013}}{NE_{i,2013}}\right) = \alpha + \beta \cdot Gov_i + \varepsilon_i \tag{7}$$

where β shows the abnormal relative price change for politically connected firms.[22] Note that $\beta < 0$ indicates that political connections reduce the relative price of capital.

Table 11 shows the result. There are no significant abnormal changes in capital-labor ratios for high- and low-level connected firms when their political connections were cut off. Also, compared with the trend effect, the magnitude is negligible. Therefore, it seems that changes in relative factor prices is not the main channel of benefit for political connections.[23]

7 Conclusions

In October of 2013, a new regulation that restricts connections between politicians and firms was announced in China. This study exploits the resulting exogenous shock as an opportunity

[22] However, this estimation only gives the direction of change. We cannot quantitatively interpret the results, as γ is unknown.

[23] It is possible that political connection change both price of capital and price of labor. If the factor prices decreases together, the price ratio may stay unchanged, in which case we would observe no effect.

to examine the effectiveness of regulating political connections. With an original data set that consolidates resignation reports and other sources of personal information about politicians, I find credible estimates of the effect of a widely used government policy on firm outcomes. Using a regression discontinuity design, I do not find an immediate effect after the announcement of the regulation. However, with a difference-in-difference design, I find effects one year later and beyond: the stock returns of firms that lose political connections with one or more mayor-equivalent or higher level official decrease by 5.4% on average, while the stock returns of firms that lose connections with lower level politicians remain unaffected. The sizes of the effect are increasing in the number of lost officials: stock prices decrease by 5%, 9% and 17% if firm lose 1, 2, and 3 or more politicians. These results are robust to the choice of control firms and are exclusive to high-level politicians. The long-run effects are supported by a reduction in firm profitability in the year after the policy was announced.

This paper extends beyond the literature to examine whether a common government policy effectively reduces the influence of political connections on firm outcomes. The large number of affected firms results in precise estimates and allows a detailed heterogeneity analysis. The analysis considers not just short- and long-run effects of political connections on stock prices, but potential mechanisms through observable changes in firms' profitability and capital structure. The results suggest that considering additional regulations, such as restricting stock ownership or overseas investment, are likely to be fruitful avenues of research.

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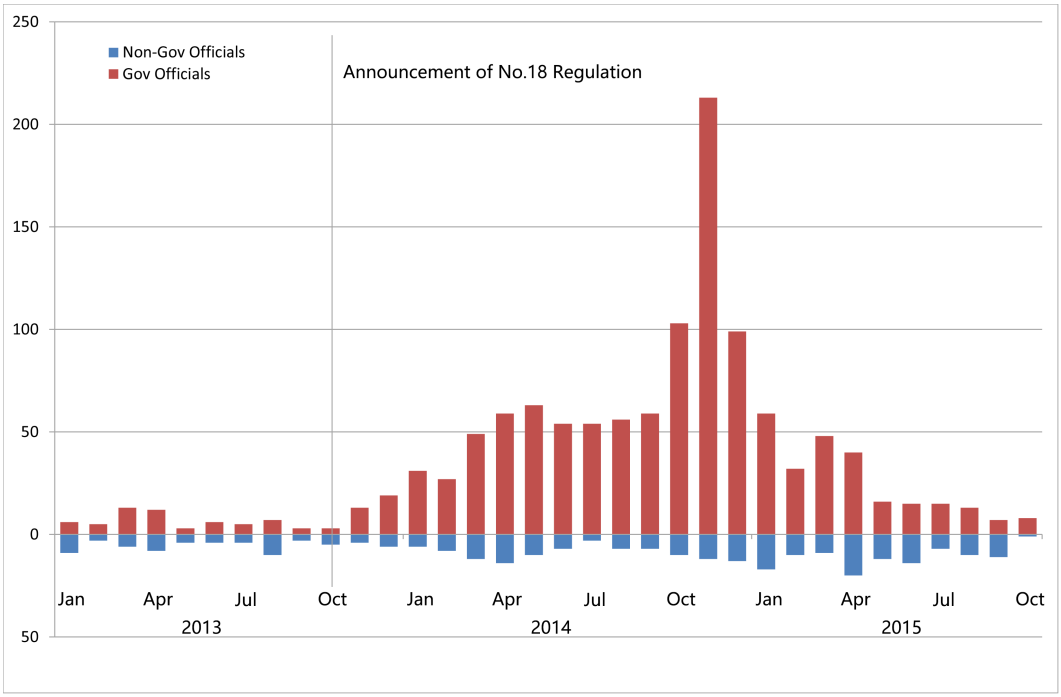
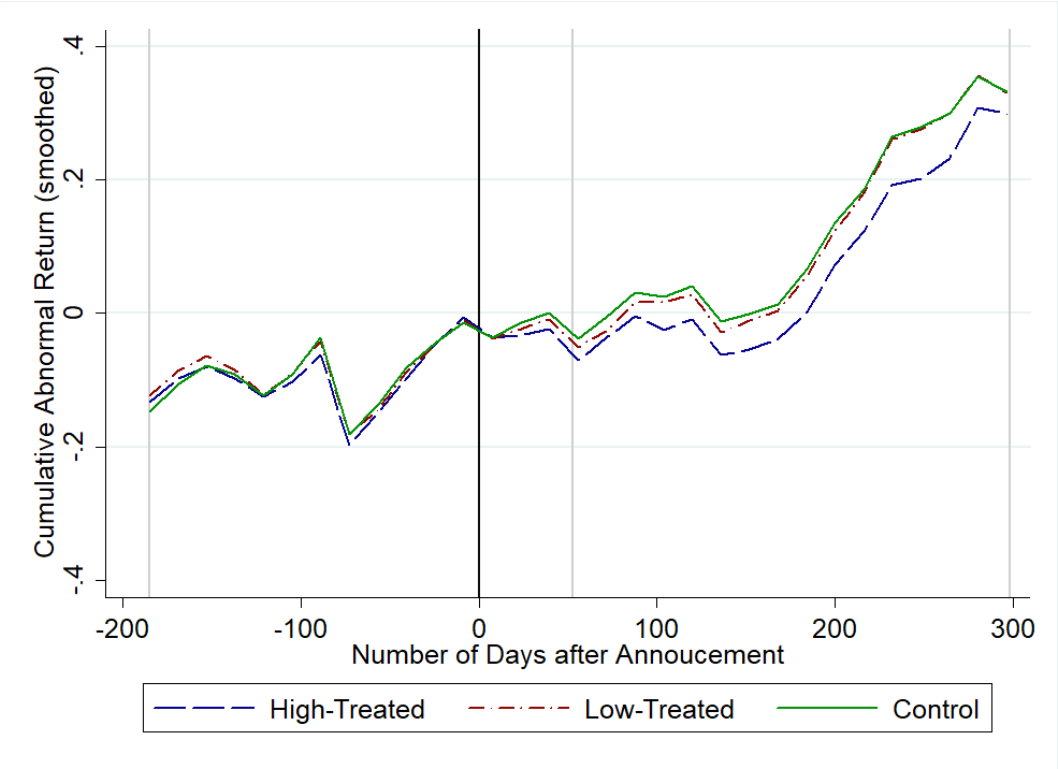
Figure 1: Number of Board Resignations



Notes: This figure shows board resignations by month. While the monthly non-official resignations are steady, the the instances of government officials' resignations increases from 10 to 50 per month after four months of corporate adjustment, and there are more than 200 resignations in one month prior to the deadline of one-year grace period. After that, the number of monthly resignations gradually decreases.

Figure 2: Average Price Trend, by Group



Notes: This figure shows the local polynomial-smoothed average cumulative returns for treated and control firms. Before the regulation, they have similar return fluctuations. However, after the regulation was announced, return of high-level connected firms (blue dash) experience a decline compared with low-level connected firms (red dash-dot) and control firms (green solid). The thick vertical line shows the announcement and the four lighter lines show the beginning of year 2013, 2014, and 2015, respectively.

Table 1: Examples of Official Tiers

Categorization	Tier	GB/T Level	Examples
High	National	1,2	Prime Minister
			Supreme Court President
			CPPCC Chairman
	Provincial	3,4	Minister
			Provincial Governer
			National University Principal
	Bureau	5	Mayor
			Department Chair
Low	Bureau	6	Vice Mayor
	County	7,8	County Head
			Provincial University Department Chair
	Township (lower)	9,10,11,12	(Omitted due to unimportance)

Notes: This table only gives some example of each tier of officials, but does not list all positions in corresponding tier. Generally, the tier simply combine a level with its vice level. Most vice positions lie in the same tier, while for bureau level, the mayor and its equivalence are regarded high-level positions but the vice-mayor and its equivalence are regarded low-level. For detailed information, please refer to the national standards. The number of Resignation is summarized till Dec 31, 2014, and the number if parentheses shows the resignation in vice positions. Source of Official Tier: Standards China 2008, *Duty Level Codes* [*zhiwu jibie daima*], GB/T 12407-2008.

Table 2: Distributions of Political Connections

Panel A: Number of Resignations by Level of Position		
Provincial	6	0.68%
Vice-Provincial	46	5.21%
Bureau	230	26.08%
Vice-Bureau	204	23.13%
County	273	30.95%
Vice-County	116	13.15%
Township and lower	7	0.80%
Total Number of Official Resignations	882	
Panel B: Firms by Number of Politicians on Board		
0	1,303	66.31%
1	489	24.89%
2	135	6.86%
3	30	1.53%
4	7	0.36%
5	1	0.05%
Total Number of Firms	1,965	
Panel C: Firms by Highest Level of Connection		
Provincial	6	0.31%
Vice-Provincial	41	2.09%
Bureau	196	9.97%
Total:High	243	12.37%
Vice-Bureau	155	7.89%
County	191	9.72%
Vice-County	71	3.61%
Township and lower	2	0.10%
Total:Low	419	21.32%

Notes: This table shows the distribution of political connection across firms. I found no national-level or vice-national-level connected firms, thus these levels are omitted in the following analysis. Note that the number in this table is number of firms after trimming. The firm base of 2,185 is selected on Jan 4 2013. New IPOs are not included in the sample. From Oct 19, 2013, to Oct 31, 2015, these firms have announced 1,387 cases of board resignation, 1,144 of which are related to government officials. I exclude 262 resignations in which the resigner joined the board after the announcement of Regulation No.18, or the linked firm has extreme characteristics and has been excluded from sample.

Table 3: Summary Statistics

Level of Treatment	High	Low	None
Market value	24.801 [11.853] (39.755)	16.278 [8.739] (26.252)	19.615 [8.876] (76.843)
Net profits	0.673 [0.148] (2.474)	0.415 [0.089] (2.085)	0.557 [0.104] (4.776)
Number of employees	9.766 [2.896] (22.280)	4.921 [2.429] (9.445)	6.281 [2.216] (23.170)
P/E ratio	69.547 (161.969)	66.915 (117.821)	58.896 (112.094)
P/B ratio	2.806 (2.529)	3.372 (4.888)	2.949 (3.016)
ROE	6.121 (13.688)	5.293 (13.264)	6.851 (11.600)
Working capital ratio	1.901 (2.030)	2.249 (2.248)	2.025 (1.783)
Debt asset ratio	49.899 (21.420)	45.400 (21.547)	46.975 (20.624)
Quick ratio	1.447 (1.843)	1.723 (2.031)	1.475 (1.569)
Beta	0.676 (0.289)	0.620 (0.259)	0.606 (0.269)
Concentration	40.010 (22.318)	37.155 (20.777)	39.033 (22.039)
IPO price	11.702 (11.773)	12.53 (13.06)	12.440 (12.287)
Composition of Sector Distribution			
Manufacture	144 (59.26%)	276 (65.87%)	825 (63.32%)
Wholesale and retail	12 (4.94%)	27 (6.44%)	103 (7.90%)
Real estate	10 (4.12%)	20 (4.77%)	92 (7.06%)
Energy	14 (5.76%)	19 (4.53%)	42 (3.22%)
Transportation	16 (6.58%)	17 (4.06%)	36 (2.76%)
Other	47 (19.34%)	60 (14.33%)	205 (14.63%)
N	243	419	1,303

Notes: This table shows the summary statistics of all sample. Standard deviations in parentheses. For skewed distributions, medians are shown in brackets. Market value and number of employee measure firms' scale. Net profit and ROE describe profitability. P/E ratio, working capital ratio and debt asset ratio measure the capital structure. P/B ratio represents market expectation. Quick ratio shows liquidity and beta shows the direction of relation between individual stock and the market. Market value and net profit are in unit of billion yuan (CNY), nominal price in 2013. Number of workers employed is in unit of thousand people. Market value is taken on Jan 1st, 2013. P/E and P/B ratio are measured on Jan 1st, 2013 and matched with previous year's annual report. Net profit, number of workers, ROE ratio, working capital ratio, debt asset ratio and quick ratio are from 2013 annual report. The beta is calculated with weekly data from Jan 1, 2013, to Dec 31, 2014. General market movements is measured by CSI 300 index. Firm are categorized according to SCF standard. Concentration is measured by the percentage of share held by the top ten largest shareholders, comes from 2013 Annual Report.

Table 4: Short-run Difference-in-Difference Estimation

Dependent variable: Cumulative Abnormal Return				
	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Matched Sample	All Sample	Matched Sample
After× Treat	-0.0082	-0.0087	-0.0065	-0.0071
	(0.0053)	(0.0059)	(0.0043)	(0.0049)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	-0.0171	-0.0169	-0.0176	-0.0180
Observations	44,805	38,193	49,909	45,646
R^2	0.191	0.195	0.191	0.184

Notes: Estimates show the short-run effects of losing political connections. Column (1) shows the effect of high-level officials using all sample, and column (2) uses caliper matched sample. Column (3) and (4) shows the effect of low-level officials. Sample: 14 trading days before and after the announcement of Regulation No.18. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Long-run Difference-in-Difference Estimation

Dependent variable: Cumulative Abnormal Return

	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Matched Sample	All Sample	Matched Sample
After× Treat	-0.0535***	-0.0585**	-0.0012	-0.0047
	(0.0200)	(0.0231)	(0.0160)	(0.0172)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	0.0968	0.0847	0.1021	0.1055
Observations	251,650	214,568	280,420	256,459
R^2	0.590	0.560	0.602	0.614

Notes: Estimates show the long-run effects of losing political connections. Column (1) shows the effect of high-level officials using all sample, and column (2) uses caliper matched sample. Column (3) and (4) shows the effect of low-level officials. Sample: Jun-Spet, 2013 and Sept-Dec, 2014. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Treatment Effects over Time

Dependent variable: Cumulative Abnormal Return			
	(1)	(2)	(3)
Post-Treated Period	Sept-Dec 14	Jan-Apr 15	May-Aug 15
Panel A: Treatment Effects with High-level Officials			
After×High	-0.0590**	-0.0718***	-0.0714**
	(0.0231)	(0.0271)	(0.0354)
Mean Dep.	0.0847	0.1929	0.3096
Observations	214,568	209,226	218,359
R^2	0.409	0.604	0.605
Panel B: Treatment Effects with Low-level Officials			
After×Low	-0.0047	-0.0051	-0.0158
	(0.0172)	(0.0200)	(0.0247)
Mean Dep.	0.1055	0.2039	0.3271
Observations	256,459	250,011	261,008
R^2	0.466	0.634	0.646
Time FE	X	X	X
Stock FE	X	X	X

Notes: Estimates show the long-run effects of losing political connections over time. Column (1), (2) and (3) shows the effect in 12 months, 16 months and 20 months, respectively. Panel A shows the treatment effects with high-level officials and panel B is with low-level officials. The pre-treated sample is Jun-Spet, 2013. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Effects by Number of Officials

Dependent variable: Cumulative Abnormal Return				
	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Matched Sample	All Sample	Matched Sample
After×Number=1	-0.0457**	-0.0514**	-0.0002	-0.0045
	(0.0213)	(0.0242)	(0.0169)	(0.0180)
After×Number=2	-0.0929	-0.0946	0.0035	0.0048
	(0.0570)	(0.0676)	(0.0415)	(0.0435)
After×Number≥3	-0.1556***	-0.1789***	-0.0461	-0.0552
	(0.0548)	(0.0633)	(0.0626)	(0.0676)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	0.0968	0.0847	0.1021	0.1055
Observations	251,650	214,568	280,420	256,459
R^2	0.591	0.561	0.602	0.614

Notes: Estimates show the heterogeneous effects by number of officials. Column (1) shows the effect of high-level officials using all sample, and column (2) uses caliper matched sample. Column (3) and (4) shows the effect of low-level officials. Sample: Jun-Spet, 2013 and Sept-Dec, 2014. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Effects by Level of Officials

Dependent variable: Cumulative Abnormal Return			
	(1)	(2)	(3)
	All Sample	High-Matched Sample	Low-Matched Sample
After×ViceProvincial	-0.0367	-0.0370	
	(0.0369)	(0.0454)	
After×Bureau	-0.0572**	-0.0625**	
	(0.0228)	(0.0254)	
After×ViceBureau	0.0076		-0.0014
	(0.0263)		(0.0276)
After×County	-0.0123		-0.0118
	(0.0199)		(0.0212)
After×ViceCounty	-0.0042		-0.0104
	(0.0322)		(0.0334)
Day FE	X	X	X
Stock FE	X	X	X
Mean Dep.	0.0974	0.0847	0.1055
Observations	319,947	214,568	256,459
R^2	0.594	0.560	0.620

Notes: Estimates show the heterogeneous effects by level of officials. Column (1) shows the effect using all sample, and column (2) and (3) use caliper matched sample for high- and low-treated firms, respectively. Note that coefficients for provincial level and township level and their interactions are omitted due to limited sample size: only 6 firms are categorized as "provincial" and 9 firms as "township". Sample: Jun-Spet, 2013 and Sept-Dec, 2014. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 9: Effects By Firm Types

Dependent variable: Cumulative Abnormal Return				
	(1)	(2)	(3)	(4)
	State-Owned	Private	Manufacturing	Non-Manufacturing
Panel A: High-level Firms				
After×High	-0.0457	-0.0705*	-0.0138	-0.1317***
	(0.0279)	(0.0423)	(0.0285)	(0.0385)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	0.0716	0.1086	0.1024	0.0554
Observations	109,270	91,280	155,399	59,169
R^2	0.564	0.582	0.573	0.555
Panel B: Low-level Firms				
After×Low	0.0167	-0.0152	-0.0187	0.0275
	(0.0218)	(0.0287)	(0.0204)	(0.0317)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	0.00895	0.1256	0.1208	0.0705
Observations	133,476	107,009	176,019	80,440
R^2	0.603	0.645	0.623	0.602

Notes: Estimates show the heterogeneous effects by firm type. Column (1) shows the effect of State-owned firms and column (2) shows the effect of private firms. State-owned firms are public-traded firms with more than 50 percentage of shares being hold by central or local government. Private firms are public-traded firms with more than 50 percentage of shares being hold by non-governmental domestic investors. There are 1,187 state-owned firms and 854 private firms. Firms with other ownerships are not included. Column (3) shows the effect of manufacturing firms and column (2) shows the effect of non-manufacturing firms. The following sectors are not included due to insufficient sample size: General, Education, Finance, Science and Technology, Medical and Social Work. Sample: Jun-Spet, 2013 and Sept-Dec, 2014. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

[1]

[2] Caliper-matched samples. Clustered standard errors in parentheses.

[3] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

[4] Sample: Jun-Sept 2013, Sept-Dec 2014.

Table 10: Change in Net Profit

Dependent variable: Log difference of Net Profit				
	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Matched Sample	All Sample	Matched Sample
Panel A: Post-treatment 2014				
Treat	-0.0236	-0.0566	-0.0202	-0.0659
	(0.0589)	(0.0442)	(0.0481)	(0.0420)
Constant	0.0419*	0.0711**	0.0419*	0.0797***
	(0.0233)	(0.0310)	(0.0234)	(0.0256)
Observations	1,273	1,083	1,406	1,302
R^2	0.000	0.002	0.000	0.002
Panel B: Post-treatment 2015				
Treat	-0.1746**	-0.1525**	-0.0018	-0.0349
	(0.0837)	(0.0680)	(0.0672)	(0.0606)
Constant	0.1834***	0.1294***	0.1834***	0.2171***
	(0.0333)	(0.0480)	(0.0330)	(0.0429)
Observations	1,233	1,050	1,368	1,259
R^2	0.004	0.005	0.000	0.000
Panel C: Post-treatment 2016				
Treat	-0.1714*	-0.1407*	-0.0929	-0.1050
	(0.0953)	(0.0735)	(0.0801)	(0.0716)
Constant	0.4493***	0.3860***	0.4493***	0.4732***
	(0.0380)	(0.0521)	(0.0389)	(0.0504)
Observations	1,297	1,103	1,427	1,320
R^2	0.002	0.003	0.001	0.002

Notes: Estimates show the changes in firm's net profits. Column (1) shows the effect of high-level officials using all sample, and column (2) uses caliper matched sample. Column (3) and (4) shows the effect of low-level officials. Panels have different post treatment time period. Pre-treatment is 2013. Clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

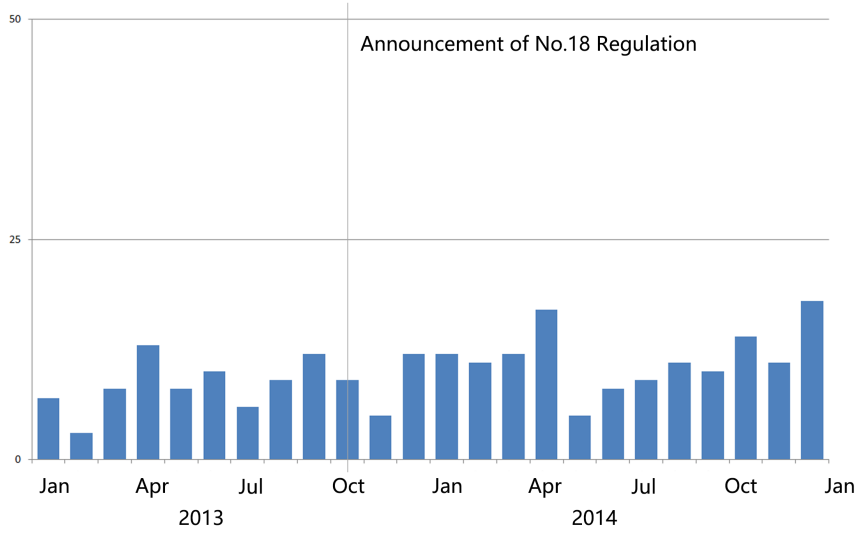
Table 11: Change in Capital-Labor Ratio

Dependent variable: Log difference of K/L ratio				
	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Matched Sample	All Sample	Matched Sample
Panel A: Post-treatment 2014				
Treat	0.0120	0.0024	0.0101	0.0056
	(0.0260)	(0.0199)	(0.0215)	(0.0183)
Constant	-0.4775***	-0.4689***	-0.4775***	-0.4779***
	(0.0103)	(0.0141)	(0.0106)	(0.0129)
Observations	1,546	1,317	1,722	1,574
R^2	0.000	0.000	0.000	0.000
Panel B: Post-treatment 2015				
Treat	-0.0550	-0.0079	0.0224	0.0327
	(0.0465)	(0.0380)	(0.0366)	(0.0332)
Constant	-0.0112	-0.0535**	-0.0112	-0.0233
	(0.0185)	(0.0269)	(0.0181)	(0.0234)
Observations	1,546	1,317	1,722	1,574
R^2	0.001	0.000	0.000	0.001
Panel C: Post-treatment 2016				
Treat	-0.0727	-0.0134	0.0115	0.0303
	(0.0556)	(0.0422)	(0.0452)	(0.0406)
Constant	-0.1178***	-0.1690***	-0.1178***	-0.1370***
	(0.0221)	(0.298)	(0.0223)	(0.0287)
Observations	1,546	1,317	1,722	1,574
R^2	0.001	0.000	0.000	0.000

Notes: Estimates show the changes in firm's capital-labor ratio. Column (1) shows the effect of high-level officials using all sample, and column (2) uses caliper matched sample. Column (3) and (4) shows the effect of low-level officials. Panels have different post treatment time period. Pre-treatment is 2013. Clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

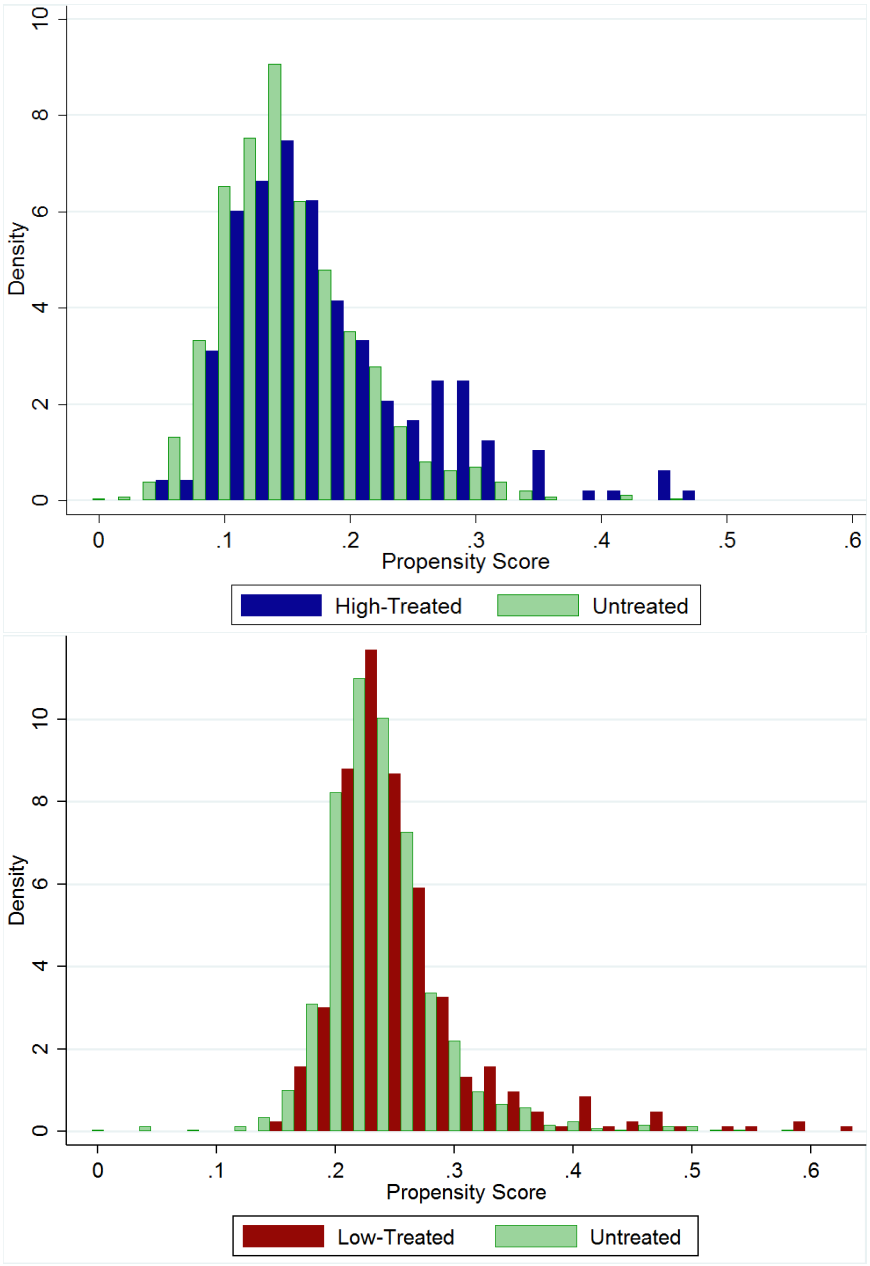
Appendix

Figure A1: Number of High Level Executive Resignations

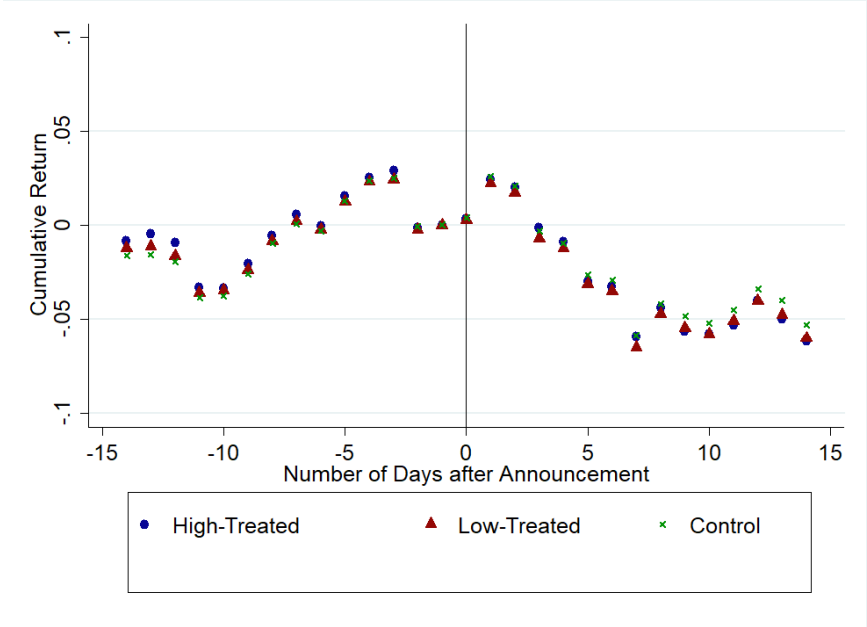


Notes: This figure shows high level executive resignations by month. There is no significant change in trend of resignations pre and post treatment. Meanwhile, the number of monthly executive resignations is much less than that of board member resignations. Therefore, high executives are not the main channel of political connections.

Figure A2: Propensity Score Density for High- and Low-Treated Firms

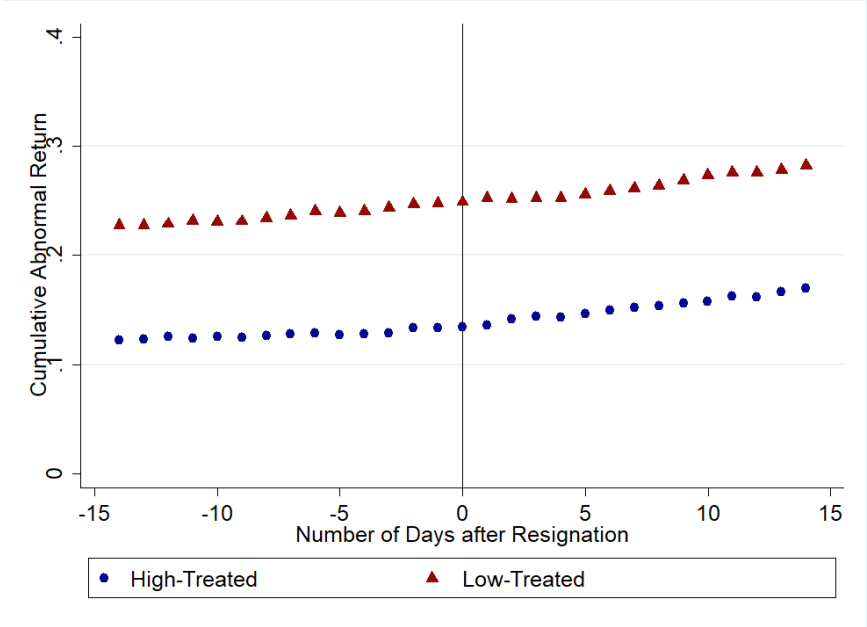


Notes: The figures show the distributions of propensity scores of high- and low-treated firms, along with corresponding controlled firms. There are large common ranges of propensity score, which confirms the validity for using matched samples as counterfactual.



Notes: The figure shows the immediate effect of the announcement of the regulation. High- and low-treated firms (blue and red, respectively) do not present different price discontinuities than control firms (green). Trading day is used as running variable, centering at $t = 0$ for October 18, 2013.

Figure A3: Cumulative Returns around the Day of Announcement



Notes: The figure shows the immediate effect of the revealing of resignation reports. High-treated (blue) and low-treated firms (red) do not present sharp price changes at the time of disclosing resignation reports. Trading day is used as running variable, data is aligned at $t = 0$ for the day of disclosing resignation reports.

Figure A4: Cumulative Returns around the Day of Announcement

Table A1: Summary Statistics After Matching: High-level Official

Level of Treatment	High	Control	Difference
Weight	High	High	
Market value	21.756 [10.823]	21.086 [11.744]	0.670
	(35.180)	(32.702)	(2.771)
Net profits	0.485 [0.136]	0.506 [0.137]	-0.021
	(1.537)	(1.823)	(0.127)
Number of employees	7.021 [2.802]	7.874 [2.707]	-0.853
	(11.264)	(14.399)	(1.168)
P/E ratio	65.292 (154.825)	59.360 (11.039)	5.932 (11.142)
P/B ratio	2.843 (2.589)	2.773 (2.616)	0.070 (0.192)
ROE	5.887 (13.872)	6.811 (12.569)	-0.924 (1.058)
Working capital ratio	1.950 (2.081)	1.883 (1.788)	0.067 (0.156)
Debt asset ratio	49.354 (21.148)	47.612 (20.258)	1.742 (1.623)
Quick ratio	1.489 (1.888)	1.437 (1.614)	0.052 (0.142)
Beta	0.661 (0.281)	0.661 (0.286)	0.000 (0.023)
Concentration	40.224 (21.908)	40.033 (21.694)	0.191 (1.694)
IPO price	12.122 (12.056)	11.942 (12.441)	0.180 (0.931)
Composition of Sector Distribution			
Manufacture	140 (62.22%)	679.44 (62.22%)	
Wholesale and retail	10 (4.44%)	48.48 (4.44%)	
Real estate	10 (4.44%)	48.48 (4.44%)	
Energy	12 (5.33%)	58.24 (5.33%)	
Transportation	15 (6.67%)	72.80 (6.67%)	
Other	38 (22.34%)	184.56 (22.34%)	
N	225	1,092	
Sum of Weight	225	225	
N: Out of Support	11	211	

Notes: This table shows the summary statistics of matched sample. Standard deviations in parentheses. For skewed distributions, medians are shown in brackets. Market value and number of employee measure firms' scale. Net profit and ROE describe profitability. P/E ratio, working capital ratio and debt asset ratio measure the capital structure. P/B ratio represents market expectation. Quick ratio shows liquidity and beta shows the direction of relation between individual stock and the market. Market value and net profit are in unit of billion yuan (CNY), nominal price in 2013. Number of workers employed is in unit of thousand people. Market value is taken on Jan 1st, 2013. P/E and P/B ratio are measured on Jan 1st, 2013 and matched with previous year's annual report. Net profit, number of workers, ROE ratio, working capital ratio, debt asset ratio and quick ratio are from 2013 annual report. The beta is calculated with weekly data from Jan 1, 2013, to Dec 31, 2014. General market movements is measured by CSI 300 index. Firm are categorized according to SCF standard. Concentration is measured by the percentage of share held by the top ten largest shareholders, comes from 2013 Annual Report.

Table A2: Summary Statistics After Matching: Low-level Official

Level of Treatment	Low	Control	Difference
Weight	Low	Low	
Market value	15.895 [8.940]	14.434 [8.745]	1.461
	(25.175)	(17.273)	(1.384)
Net profit	0.406 [0.091]	0.284 [0.092]	0.122
	(2.055)	(0.906)	(0.107)
Number of employee	4.832 [2.462]	4.379 [2.136]	0.453
	(8.371)	(7.492)	(0.475)
P/E ratio	65.693 (114.433)	62.896 (119.265)	2.797 (7.059)
P/B ratio	2.969 (2.994)	2.826 (2.769)	0.143 (0.176)
ROE	5.946 (11.596)	5.778 (11.841)	0.168 (0.741)
Working capital ratio	2.174 (2.071)	2.205 (2.026)	-0.031 (0.133)
Debt asset ratio	45.611 (20.904)	44.812 (20.729)	0.799 (1.275)
Quick ratio	1.633 (1.820)	1.664 (1.791)	-0.031 (0.119)
Beta	0.614 (0.252)	0.612 (0.264)	0.002 (0.015)
Concentration	37.428 (20.913)	37.814 (22.116)	-0.386(1.289)
IPO price	12.668 (13.193)	12.663 (11.921)	0.005 (0.784)
Composition of Sector Distribution			
Manufacture	273 (69.64%)	823.17 (69.64%)	
Wholesale and retail	23 (5.87%)	69.35 (5.87%)	
Real estate	18 (4.59%)	54.28 (4.59%)	
Energy	18 (4.59%)	54.28 (4.59%)	
Transportation	13 (3.32%)	39.20 (3.32%)	
Other	47 (11.99%)	141.72 (11.99%)	
N	392	1,182	
Sum of Weight	392	392	
N: Out of Support	27	121	

Notes: This table shows the summary statistics of matched sample. Standard deviations in parentheses. For skewed distributions, medians are shown in brackets. Market value and number of employee measure firms' scale. Net profit and ROE describe profitability. P/E ratio, working capital ratio and debt asset ratio measure the capital structure. P/B ratio represents market expectation. Quick ratio shows liquidity and beta shows the direction of relation between individual stock and the market. Market value and net profit are in unit of billion yuan (CNY), nominal price in 2013. Number of workers employed is in unit of thousand people. Market value is taken on Jan 1st, 2013. P/E and P/B ratio are measured on Jan 1st, 2013 and matched with previous year's annual report. Net profit, number of workers, ROE ratio, working capital ratio, debt asset ratio and quick ratio are from 2013 annual report. The beta is calculated with weekly data from Jan 1, 2013, to Dec 31, 2014. General market movements is measured by CSI 300 index. Firm are categorized according to SCF standard. Concentration is measured by the percentage of share held by the top ten largest shareholders, comes from 2013 Annual Report.

Table A3: Short-run Difference-in-Difference Estimation with Alternative Time Frames

Dependent variable: Cumulative Abnormal Return				
	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Matched Sample	All Sample	Matched Sample
Panel A: ±7 Days				
After× Treat	-0.0029	-0.0001	-0.0041	-0.0038
	(0.0039)	(0.0043)	(0.0031)	(0.0034)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	-0.0019	-0.0008	-0.0018	-0.0021
Observations	23,175	19,755	25,815	23,610
R^2	0.244	0.240	0.249	0.245
Panel B: ±14 Days				
After× Treat	-0.0082	-0.0087	-0.0065	-0.0071
	(0.0053)	(0.0059)	(0.0043)	(0.0049)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	-0.0171	-0.0169	-0.0176	-0.0180
Observations	44,805	38,193	49,909	45,646
R^2	0.191	0.195	0.191	0.184
Panel C: ±28 Days				
After× Treat	-0.0115*	-0.0131*	-0.0061	-0.0088
	(0.0063)	(0.0070)	(0.0054)	(0.0062)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	-0.0257	-0.0262	-0.0258	-0.0260
Observations	88,065	75,069	98,097	89,718
R^2	0.124	0.129	0.122	0.119

Notes: Estimates show the short-run effects of losing political connections with alternative time frames. Column (1) shows the effect of high-level officials using all sample, and column (2) uses caliper matched sample. Column (3) and (4) shows the effect of low-level officials. Clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Long-run Difference-in-Difference Estimation with Alternative Time Frames

Dependent variable: Cumulative Abnormal Return

	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Matched Sample	All Sample	Matched Sample
Panel A: Aug-Sept 2013, Nov-Dec 2014				
After× Treat	-0.0505**	-0.0692***	0.0001	-0.0038
	(0.0203)	(0.0235)	(0.0160)	(0.0173)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	0.1364	0.1284	0.1409	0.1440
Observations	129,694	110,585	144,521	132,173
R^2	0.595	0.566	0.607	0.618
Panel B: Jun-Sept 2013, Sept-Dec 2014				
After× Treat	-0.0535***	-0.0585**	-0.0012	-0.0047
	(0.0200)	(0.0231)	(0.0160)	(0.0172)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	0.0968	0.0847	0.1021	0.1055
Observations	251,650	214,568	280,420	256,459
R^2	0.590	0.560	0.602	0.614
Panel C: Apr-Sept 2013, Jul-Dec 2014				
After× Treat	-0.0535***	-0.0529**	-0.0046	-0.0078
	(0.0198)	(0.0228)	(0.0157)	(0.0170)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	0.0665	0.0545	0.0715	0.0753
Observations	381,297	325,095	424,878	388,569
R^2	0.513	0.482	0.526	0.538

Notes: Estimates show the long-run effects of losing political connections with alternative time frames. Column (1) shows the effect of high-level officials using all sample, and column (2) uses caliper matched sample. Column (3) and (4) shows the effect of low-level officials. Clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Placebo Test for Anticipation

Dependent variable: Cumulative Abnormal Return

	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Matched Sample	All Sample	Matched Sample
After× Treat	-0.0105	0.0011	-0.0186	-0.0155
	(0.0196)	(0.0224)	(0.0139)	(0.0150)
Day FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	-0.0791	-0.0780	-0.0773	-0.0737
Observations	117225	99897	130566	119394
R^2	0.059	0.051	0.060	0.054

Notes: Estimates show the placebo test. I define $After = 1$ if the date is after Mar 14, 2013; otherwise, $After = 0$. Column (1) shows the effect of high-level officials using all sample, and column (2) uses caliper matched sample. Column (3) and (4) shows the effect of low-level officials. Sample: Jan-Feb 2013, Aug-Sept 2014. Clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Effects on Days of Resignation

Dependent variable: Cumulative Abnormal Return				
	(1)	(2)	(3)	(4)
	High-level Officials		Low-level Officials	
	All Sample	Weighted Sample	All Sample	Weighted Sample
announce	0.0028	0.0057	-0.0042	-0.0040
	(0.0042)	(0.0044)	(0.0040)	(0.0036)
Stock FE	X	X	X	X
Mean Dep.	0.1229	0.1256	0.2536	0.2605
Observations	5,829	5,423	12,470	10,904
R^2	0.067	0.069	0.041	0.054

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: Estimates show the the effects on the days of official resignation. Column (1) shows high-level official resignation effect, and column (2) uses weighted sample. Analogously, column (3) shows the low-level official resignation effect and column (4) weights the estimate. All regressions control for linear time trends. Sample: 14 trading days before and after the days of resignation. For firms with multiple politician resignations, only the first is counted. Clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.