The Value of Political Connections in China: Government Officials on the Board of Directors

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Abstract

Understanding the value of political connections is important for firm decision-making and for policy analysis. I examine this question by estimating the effect of having a politician on the board of directors on a firm's stock price. A new policy in China (Regulation No.18) forced politicians to resign as directors, providing an exogenous shock to firms' political connectedness. I create an original data set with the political positions of all independent directors who resigned between 2013 and 2015. A regression discontinuity design reveals no immediate impact after the announcement of the regulation. However, a difference-in-difference design shows that the loss of high level politicians causes a firm's stock price to fall in the long run. The analysis exploits heterogeneity in both the number and importance of politicians across firms to identify short-run and long-run effects.

Keywords: Political connection, Stock market, Government official, Independent director.

JEL classification: G14, G18, G38

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1 Introduction

Political connections may affect firm decision making and social efficiency. This paper considers the value of having a politician as an independent board member for publicly traded corporations in China. Specifically, I estimate the stock price effects of political connectedness by applying regression discontinuity and difference-in-differences designs to a new policy that bans politicians from serving on corporate boards.

The effect of political connectedness are theoretically ambiguous (Krueger, 1974). Benefits come from faster information transmission while costs may be caused by rent-seeking. The majority of research finds advantages for politically connected firms, as political connections may distort resource allocation in favor of connected firms 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), and government contracts (Goldman et al., 2013). Amore and Bennedsen (2013) highlight the importance of local governors in their study of Danish markets. However, there is some evidence that political connections can harm a company. Chen et al. (2011) find that political connections significantly reduce investment efficiency in state-owned enterprises. Marquis and Qian (2013) show that political connection makes firms lose independence from the government, which hinders firm's decision-making. The effects of political connections on social efficiency is also ambiguous. Ferreira (2010) notes that board members with political experience may provide experience and information, or help firms deal with government affairs in a legal way. Nevertheless, Shleifer and Vishny (1994) show that rent-seeking usually happens if politicians can bring profits to the firm, and as long as the resource allocation is distorted, a social welfare loss may occur.

In practice, countries have implemented different types of policy to regulate political connections. While some countries try to interdict political connectedness, others allow it. For example, Belgium, the Czech Republic, India, Indonesia, Japan, Luxembourg, Malaysia and Mexico have no or only minor restrictions on high-level government officials and their families being connected to companies. Conversely, Brazil, Ireland, Israel, Peru and Philippine have strong restrictions. Several developed countries like France, Germany, the U.K., and the U.S. have intermediate levels of restrictions.[1]

[1] Faccio (2006) assesses the level of restriction for each country by considering whether a member of parliament (MP) or a minister is allowed to be an owner, director, and if there is a constitution. 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. However, exceptional cases include that MP may have non-remunerated directorships, and that restrictions to minister can be waived with special

The variation in policy across countries suggests that there is no consensus about whether the relationships between politicians and firms should be regulated.

There are a number of challenges to identifying the effect of having political connections. First, measuring the political connectedness of a firm is difficult. Second, it is hard to make valid comparisons across firms: cross-country comparisons may suffer from endogeneity problems, as countries make their policy decisions in response to local concerns. Likewise, comparing firms with and without political connections within a country may be problematic: having political connections may be correlated with unobservable factors that cause differences in firm performance, and a political connection might actually form after a firm's performance is revealed. In order to have an unbiased estimation of the impact of political connections, we need an exogenous shock that affects firms' political connections in a way that is not otherwise correlated with a firm's performance.

In this paper, I examine the value of political connections in China, the world's largest emerging economy. I specifically focus on listed firms in Mainland China and political connectedness is measured by 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. As an emerging market, China's stock exchanges and official governance policies are still developing, and thus information transmission or resource allocation might occur with political connections. I exploit a shock to politicians on boards caused by the newly-announced Regulation No.18. This regulation prohibits government officials from receiving any income from firms and thus, to a certain extent, cuts off firms' political connections. To allow for heterogenous effects, I separate short-run (within 3 days of announcement) and long-run (1 year) response and differentiate by the importance of the politician: politicians are assigned to be high or low level according to national classification standards. Firms were given one year to comply with the policy, after which all government officials were expected to have resigned from the board of directors.

I create a new data set that links Chinese stock prices with original data from all listed firms' board member resignation reports. In China, listed firms are required to disclose the information about board member resignations by posting resignation reports, and I link each resigned board member with a database of government officials. The estimates reveal that in the short run, the announcement of the regulation does not sharply change the stock price of firms with politicians on their boards. In the long run, however, stock prices of firms with high-level political connections

authorization. Detailed information could be found in Table 3, Faccio (2006).

fall by 9% relative to firms of similar size and industry. Interestingly, there is no significant price changes for firms that lose connections with low-level government officials. The discrepancy between short-run and long-run results may be explained by the limitations in the market's ability to predict long-run effects or by the fact that discounted long-run decreases in stock price are modest relative to typical short-run fluctuations. The differential effects of high- and low-level politician resignations might suggest that only high level politicians have enough information and influence to generate stock price effects. These results are robust to a number of different specifications, such as including firm fixed effects, changing sample periods, and various methods of matching treated and untreated firms. In addition, a decomposition of treatment heterogeneity shows that the effects are increasing in the number of politicians who resign, further supporting the finding that greater connectedness affects stock price.

The estimated effects in this paper of about 9% are in the middle range of those in the literature. Fisman (2001) estimates the value of political connections with news releases of Indonesia former President Suharto's deteriorating of health, and finds that political connections contribute to as much as 23% of firms' value. Applying the same methodology to the U.S., Fisman et al. (2012) analyzes vice President Richard Cheney's heart disease, but find no effect of having Cheney as a board member, attributing this to the fact that the U.S. has effective controls for rent-seeking.[2] Cingano and Pinotti (2013) estimate the value of firms in Italy and credit 6% of the value to political connections. Faccio (2006) estimates stock price movements of firms around the time of announcements that officers or large shareholders are entering politics or that politicians are joining their boards. Using a multinational sample of 47 countries, he finds that political connections account for about 2.3% to 4.3% of firm value. Goldman et al. (2009) show a 5% cumulative abnormal stock return following the announcement of the nomination of a politically connected individual to the board. Acemoglu et al. (2014) find that following Mubarak's fall in Egypt's Arab Spring, the value of politically connected firms fall by an average of 13%. As for the value of political connections in China, Xu and Zhou (2008) exploit a political scandal in China and find that related firms experience a 2% fall in cumulative abnormal return. Fisman and Wang (2015) find that share prices of politically connected firms fall by 7% in the 30 trading days following a fatal accident that affects the politicians' career.

[2] Other measures of political connectedness in Fisman et al. (2012) includes a firm leader having met with Cheney and the firm being mentioned by Cheney in public speeches.

The paper is organized as follows. Section 2 presents the background information about China's independent directors, government officials, and Regulation No.18. Section 3 introduces the data set and summary statistics. Section 4 explains the empirical strategy. Section 5 presents short- and long-run results. Section 6 discusses 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 except fixed compensation known as sitting fees. Generally, independent directors are not supposed to own shares or have any other positions in the company, so sitting fees are their only income from the firm.[3] The duty of an independent director is to help make decisions and to mediate among interests of different groups including shareholders.

The independent director institution originated in the U.S. in 1934, and took its current form after the Sarbanes-Oxley Act in 2002.[4] It has long been viewed as a solution to many corporate governance problems. Outside directors make up 66% of all boards and 72% of S&P 500 company boards in the U.S.[5] Many developed and emerging countries have joined the trend of establishing independent directors, including China. In August 2001, the China Securities Regulatory Commission (CSRC) issued a guidance opinion to establish independent directors in listed companies. It requires that all companies listed on Chinese Stock Exchanges shall have at least one third of board members as independent directors by 2003.[6] Typically, there are 8 to 10 directors on a board, 3 to 4 of which are independent directors.

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 independent 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) summarizes

[3]In 2012, the average sitting fee is around 50,000 yuan ($7,500). For the restriction on holding shares, independent directors and their relatives cannot hold more than 1% of a firm's share in China.

[4]Initially 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.

[5]See http://www.wsj.com/articles/SB106676280248746100.

[6]See China Securities Regulatory Commission, *Guanyu zai shangshi gongsi jianli duli dongshi zhidu de zhidao yijian* [*Guidance Opinion on the Establishment of an Independent Director Opinion*], sec. 1(3), issued Aug 16, 2001.

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

previous literatures and claims that there are weak connections between the use of independent directors and corporate governance. Nevertheless, independent directors may provide an opportunity for firms to build 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 increases firm profits.

2.2 Regulation No.18

Independent directors with political connections may bring extra profits to firms and enable corruption. To regulate politicians' behavior and maintain a good market environment, on October 19, 2013, the Organization Department of the CPC Central Committee issued a new regulation known as Regulation No.18.[8] This regulation prohibits all government officials, including former officials resigned or retired within the last three years, from having part-time position in firms and getting any kind of payment from firms. The regulation has strong enforcement and applies to all government departments and all level of officials,[9] and is regarded as an important step toward regulating corruption.[10] Although Regulation No.18 is not specifically aimed at independent directors, independent directors were the largest group affected. There are some cases in which politicians serve as high executives such as CEO or CFO, but this is far less common than politicians serving on the board of directors.[11] Therefore, I regard this regulation mainly as a restriction for independent directors.

Though the market may anticipate restrictions on political connections after prior anti-corruption efforts, it is unlikely that the market would know to what extent government officials would be regulated or the exact timing of a new regulation. Even officials may not be aware that their

[8]See Organization Department of the CPC Central Committee, *Guanyu jinyibu guifan dangzheng lingdao ganbu zai qiye jianzhi (renzhi) wenti de yijian* [*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 those government officials working with special permissions, getting payment is still prohibited. Also, these group of officials are less likely to have rent-seeking under supervision.

[10]Two more minor regulations were adopted before Regulation No.18. In September 2008, the Ministry of Education issued a regulation banning principals of public universities and other officials from having part-time positions outside their jobs. The Ministry of Finance announced a similar regulation in December 2011. However, these regulations have less reach and enforcement power than Regulation No.18.

[11]I found 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). Therefore, high-executives resignations may not be the main part being affected. Notably, Fisman and Wang (2015) measures the connectedness by whether politicians works as senior executives. They use 276 publicly-traded firms in selected sectors in China, and only 8.7% of 1,475 firm-year observations are specified as politically connected. This number is much less than my specification using independent directors.

connections with firms would be cut off, but it may be difficult to know the announcement in advance.[12]

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 are 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 Regulation No.18 leads to two waves of shocks for each listed firm with government officials on their boards. The first event occurs when the Regulation No.18 is announced, and the second event occurs when the official resigns and the firm releases a resignation report. However, as firms and officials may choose the separation date, this timing is endogenous. Therefore, I focus on the announcement of the regulation in the short run and firm outcomes over time in the long run. In addition, since politicians of all administrative levels must comply, the regulation provides a chance to see the heterogeneous effect of having different levels of connections in terms of both the seniority and number of politicians.

Importantly, this regulation also requires the compliance of anyone who resigned or retired from the government position within 3 years. Therefore, it rules out the case where 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 may get benefits in 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.[13]

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. Therefore, having connections with these people may have a similar effect to having a connection with a more narrowly defined official. Therefore, I am going to use the generalized definition for *officials*: apart from CPC and government officials, it also includes National Parliament Committee (NPC) deputies, Chinese People's Political Consultative Conference (CPPCC) representatives, and main leaders of state-owned enterprises and non-profit institutions such as public universities, high

[12] And I test explicitly of stock prices change prior to the announcement of regulation.

[13] See *Guanyu dangzheng jiguan gongzuo renyuan geren zhengquan touzi xingwei ruogan guiding* [*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.

schools, and hospitals, etc.[14]

The power of an official, or the value of connections with this 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, i.e., national tier (Guojia Ji), provincial tier (Shengbu Ji), bureau tier (Tingju Ji), county tier (Xianchu Ji) and township tier (Xiangke Ji) and lower. A more simplified way is to categorize officials into either high-level or low-level positions: 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 itself and is consistent with people's typical understanding. This division has also been used in previous studies such as Fisman and Wang (2015). Table 1 shows the categorization and gives some example of positions for each tier. I specify a firm as politically connected if one or more government officials serves as independent directors 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: Wind Information, Finance China, and an original data set of independent director resignations.

Wind Information is a commonly used financial data set which is made available by Wind Information Co., Ltd. It includes descriptions, issuance information, market data, dividend data, share capital structure, financial and accounting data, and other important information of all listed companies in the stock exchanges of Shanghai and Shenzhen. The trading history consists of daily data about opening, high, low, and closing prices, trade volume, and other indicators that depict market behavior within a day. The listed firms' information comes from annual reports that reveal a firm's scale, 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 includes composition os board members

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

and has a brief profile for each board member. This aids in identifying whether a board member has some political positions, and thus I can figure out how a firm is affected by the compulsory resignations.

To formalize the identification of government positions, I collect and integrated the identity of government officials from publicly available sources to make an original data set. This data set contains detailed personal background for all independent directors who resigned after Jan 1, 2013, including the political positions he or she holds (or held). While Financial China and other Chinese financial website contain basic information about the directors (age, tenure period, education, gender, party membership, etc.), a richer set of variables was collected using Baidu Baike (Baike means encyclopedia), which contains short profiles for noteworthy individuals. I find 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.[15]

My data set identifies the level of government position of board members. Financial China is linked to those records to measure to what extent the boards are affected by the regulation. Finally, Wind data is used to measure changes in stock performance.

3.2 Data Description

I consider all 1,965 listed stocks on the main board of the Shanghai and Shenzhen stock exchange,[16] and collect their daily price history from 2013 to 2015, focus on trading days and skip the days when the market is closed. The 1,965 firms are categorized by their highest level of political connections. The number of resignations occurring after the regulation are presented in Table 2, Panel A. I find 1,387 cases of resignations in total within two years since the announcement of Regulation No.18. After excluding those who joined the board after the announcement of Regulation No.18, there are 1,150 independent directors who resigned during this period and 971 of them are government officials. Panel B and Panel C show how these politicians are distributed among firms: two thirds of firms do not have political connections, most politically-connected firms have one government official, and about 10 percent of firms have multiple officials on their boards.

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

[16] There are 2,185 stocks in total at the beginning of 2013. I trim the panel by dropping 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.

Table 3 shows the summary statistics for firms with no political, a high-level political, and a low-level political connection. I find significant differences in the number of employees, the working capital ratio, the quick ratio, and beta across three groups. Given their large standard deviations, no statistical difference was found in other indicators. I also find the shareholder structure and sector composition are similar among 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 consistent with the intuition, 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 a need for matching in order to ensure that counterfactual time trends are based on similar firms.

4 Empirical Framework

I first confirm the effectiveness of the treatment, i.e., that the announcement of 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 steady number of resignations for both officials and non-officials. Typically, resignations occur either because the board member's term has expired or due personnel changes that affect eligibility (for example, the person has become a large shareholder or an executive leader and thus loses independent status). After the regulation was announced, while the monthly non-official resignations are steady, the instances of government officials' resignations increases 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 deadline of one-year grace period. This indicates that Regulation No.18 force the resignation of government officials from corporate boards, and thus the treatment works.

However, the impact of politician resignation on firms' stock performance may be realized either in the short run or in the long run. According to Jensen and Johnson (1995), when the regulation is announced (even before fully implemented), the market should react immediately by adjusting the price. On the contrary, if markets do not a) internalize the importance of political connections, b) realize the extent of political connections, then it may take time for prices to respond. Further, if decreases in long-run firm performance are small in magnitude relative to short-run stock price fluctuations, then investors may not alter their strategies.

I employ two identification designs: in the short run, a regression discontinuity (RD) design is implemented, and in the long run, a difference-in-difference (DID) design is adopted. To ensure valid comparisons over time, I use propensity score matching to select a control group with similar pre-treatment characteristics.

4.1 Short-run Specification: RD

A typical way to specify the short-run effect suggested by MacKinlay (1997) is an event study (which can be regarded as an RD design with time as the running variable). If the announcement of the regulation was made during market opening hours, an event study design with high-frequency data would be possible. However, the announcement was made on Saturday, so the effect would emerge earlier than the next trading day. Thus I must differentiate the effect of Regulation No.18 from other events that happened during that weekend. To control for other factors, I implement a difference-in-RD design by estimating the regression discontinuity for both the treatment group and the control group, and taking the difference in the discontinuities. The intuition is similar to a difference-in-difference design: assuming that the control group experiences common shocks that will also affect the treatment group, except for the treatment of the regulation announcement, then the difference-in-RD will estimate the effect of the announcement on politically connected firms.

The dependent variable is each stock's daily closing price relative to its price on the day of the event, i.e. daily closing price divided by the closing price on Oct 18, 2013. I use the relative price as the dependent variable so that the change will directly measure the percentage change. Note that the typical way to describe percentage change is to take natural logarithm, but I do not adopt this practice. Taking logs works as a first-order approximation when the changes are relatively small, but this is not the case for price level changes. From Figure 2 we can see that the average price level has increased by about 60% from 2013 to 2014, and thus relative price would be the correct way to depict the percentage changes.

I estimate the following equations

$$\frac{Price_{i,t}}{Price_{i,0}} = \alpha + \beta_1 After_t + \beta_2 Gov_i + \beta_3 After_t Gov_i + (\vec{\gamma_0} + \vec{\gamma_1} After_t + \vec{\gamma_2} Gov_i + \vec{\gamma_3} After_t Gov_i) \cdot \vec{T}' + \varepsilon_{i,t} \tag{1}$$

using high-level and low-level officials separately, where

$$After_t = \begin{cases} 1, & \text{if the date } t \text{ is after the announcement} \\ 0, & \text{otherwise} \end{cases}$$

$$Gov_i = \begin{cases} 1, & \text{if firm } i \text{ has at least one government official on the board at the time of announcement} \\ 0, & \text{otherwise} \end{cases}$$

and

$$\vec{T} = (t, t^2, \ldots, t^p)$$

is a pth-order polynomial of trading day t with no constant term. The coefficient β_1 captures the discontinuity for control group stocks, and thus I consider it a non-specific shock, and β_2 reflects pre-existing differences between treated and untreated firms. The coefficient β_3 is of interest as the immediate impact of the announcement of the regulation for politically connected firms. Note that in the short run, with no dividend paid on that day, changes in relative prices are equivalent to the cumulative return. Therefore, the coefficient β_3 has similar meaning as cumulative abnormal return (CAR), which is typically used in event studies. The advantage is that the CAR approach uses the predicted trend as the benchmark, but a difference-in-relative-price approach is more precise in that it uses the trend of non-treated stocks as a benchmark. The vectors of coefficient $\vec{\gamma_n} = (\gamma_{n,1}, \gamma_{n,2}, \ldots, \gamma_{n,p})$ $(n = 0, 1, 2, 3)$ describe the trends before and after the event, for treated and untreated groups. Gelman and Imbens (2014) have suggested that higher-order polynomials in RD might be misleading. Therefore, I present several alternative polynomial orders.

4.2 Long-run Specification: DID

The identifying assumption for a long-run difference-in-difference specification is that, apart from political connections being cut off, firms with and without political connections experience the same trends. Hence if we deduct the price change of control firms from that of treated firms, we can capture the long-run treatment effect. I regress the relative price on a time dummy, a treatment dummy, and their interaction term, controlling for fixed effects, i.e.,

$$\frac{Price_{i,t}}{Price_{i,0}} = \alpha_i + \gamma_t + \beta_1 After_t + \beta_2 Gov_i + \beta_3 After_t Gov_i + \varepsilon_{i,t} \tag{2}$$

This specification is estimated for high- and low-level officials separately, where the dependent variable is relative price. The coefficient β_1 captures the trend common to both groups, which turns out to be the average growth in stock prices. β_2 measures the initial difference between treatment and control firms. δ_i and γ_t represent firm and time level fixed effects. Our interest is in the coefficient β_3, which indicates the treatment effect. The first equation is estimated using the sample of high-level treated and control firms, and the second is estimated using low-level treated and controls. I consider a range of long-run periods, including 11-14 months, 15-18 months, 19-22 months, and 23-26 months.

I consider heterogeneity within treatment group, as it might be the case that a Minister has a different effect than a vice Minister, or than losing two politicians has a greater effect than losing one. Thus, I refine my specification and allow for heterogeneous effects by considering finer categorization of official tiers, and the number of officials leaving the board. I treat the number of resignation as a categorical variable that flexibly estimates the effects. Specifically, I estimate the following regression

$$\frac{Price_{i,t}}{Price_{i,0}} = \alpha + \beta_0 After_t + \sum_k \gamma_k \delta(Ngov_i = k) + \sum_k \beta_k \delta(Ngov_i = k) After_t + \varepsilon_{i,t} \qquad (3)$$

where $Ngov_i$ is the number of high-level or low-level at the time of the announcement. The function $\delta(\cdot)$ 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 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

$$\frac{Price_{i,t}}{Price_{i,0}} = \alpha + \beta_0 After_t + \sum_k \eta_k Highest_{k,i} + \sum_k \beta_k After_t Highest_{k,i} + \delta_i + \gamma_t + \varepsilon_{i,t} \qquad (4)$$

The coefficients β_k will capture the heterogenous effects by level of connection.

4.3 Propensity Score Matching

In both RD and DID design, 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 comparison in Table 3, we note that firms with high-level, low-level or no political connections differ in observables and thus may experience different market trajectories. I implement 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. Appendix Figure A2 and Figure A3 show the density of propensity scores, revealing that both high- and low-level treatments have control groups with similar propensity distributions. I use propensity score matching to compare the sample from the common support of distributions using two matching techniques: nearest-neighbor matching, and caliper matching. 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 eliminates or reduces the firm characteristics difference 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 discuss the results and then provide detailed statistical evidence.

Figure 2 shows the trend of average stock prices in the period after the announcement. I normalize the price by dividing its closing price on Oct 18, 2013, and then cluster and plot the average price biweekly by firms' level of political connectedness. Before the regulation was announced, high- and low-treated and control firms had experienced similar trends, suggesting that they did not anticipate the policy and have similar pretreatment trends. After the regulation came out, in the short run their trends look similar, but in the long run, while low-level connected and non-connected firms still co-move, high-level connected firms experience a gradual decrease in stock prices.

5.1 Short-run Effects

For the short-run impact, Figure 3 presents the discontinuity of relative price around the announcement of Regulation No.18 (which is centered to $t = 0$), within 14 trading days before and after the announcement. The blue dots, red crosses and green triangles demonstrate the daily average of relative stock price of firm with different political connectedness levels, and the lines indicate fitted values for each group, before and after the announcement. Although the daily stock price varies substantially, graphically I find that the price level of firms in different groups moves nearly the same. While firms with political connections undergo a price reduction, firms without connections experience the same decrease. Therefore, there is no abnormal price decrease for politically connected firms in the short run.

Table 4 presents the results of the regression discontinuity estimation. Panel A shows the estimates without matching: the coefficient for $After$ is significantly negative, indicating an overall discontinuity on that day, but the coefficient on the interaction term of $After$ and $High$ is neither economically nor statistically significant. Column (1) uses a linear trend in the running variable interacted with treatment, Column (2) assumes for no interaction terms of time trend and being treated, and Column (3) to (6) expand to quadratic and cubic time trends. Higher-order polynomials reveal the robustness of the results. Panel B and Panel C provide the same estimation using caliper matching (with radius $r = 0.01$) and pairwise matching (closest neighbor, with replacement) within sector, which helps to compare firms with similar characteristics.[17] 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 for some dispersion, it potentially introduces more bias. Pairwise matching, on the contrary, reduces biasedness but is less precise due to the reduction in sample size. Under each of the specifications I find no immediate effect for firms with high-level officials on board.

Table 5 displays the short-run estimation for low-level politically connected firms. The result is organized identically as in Table 4. Whether using the matched sample or not, I find no effect of the regulation announcement on stock prices for low-level connected firms. Therefore, the announcement of regulation does not have an immediate impact on firms connected to either high-level or low-level politicians.

[17] The results with cross-sector matching for high-level politicians are shown in Appendix Table A3. The coefficients are consistent with those using within-sector matching.

In addition, the results for high-level and low-level connected firms are robust to different choices of pre- and post-window length from 7 trading days to 28 trading days. I also estimate the model excluding event window, i.e., dropping observations that are very close to the announcement day (which is similar to the donut-hole test suggested by Barreca et al. (2011)). This donut-hole around the event time has two advantages: it allows shareholders to adjust their expectations less quickly after the announcement, and reduces the likelihood that the results stem from the market anticipating the announcement. In Appendix Table A4 and A5, I present the RD estimation excluding event window, and the results are consistent with previous findings.

5.2 Long-run Effects

Table 6 and 7 show the estimation of long-run effects for firms that lose their high-level or low-level political connections, respectively. I use the time window of Jun-Sept 2013 as pre-treated, and Sept-Dec 2014 as post-treated. The former time window is just before the announcement and the latter corresponds to the fact that the regulation requires all government officials to leave their boards within one-year. In Panel A 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 9% on a firm's stock price. Notably, the magnitude of estimation is consistent with Fisman and Wang (2015), where they find 30-day cumulative abnormal return of politically connected firm decreases by 7% after an exogenous shock that may stop a firm's connection.[18] The estimates is smaller than Fisman (2001) but greater than Faccio (2006) and Fisman et al. (2012). It is consistent with the intuition that the value of political connections should be higher in countries with higher corruption levels.

Table 7 reveals that the resignation of low-level politicians does not affect a firm's stock price. This is consistent with lower level politicians providing a weaker political connection. Notably, the difference between high- and low-treated firms rules out a turnover effect, that is, the price effects for high level politicians do not appear to stem simply from increased turnover of independent directors. These estimates are robust with and without fixed effects (see Column (2) and (3)).

While Panel A estimates the model with using all firms, Panel B and C replicate the estimates using propensity score matching. The matching process is more important in long-run estimation than that in the short run, since the probability of divergence of corporate performance between

[18] They use a different specification for the shock. See Fisman and Wang (2015) for details. Note that the result cannot be fully explained by connection built by politicians as senior executives, since the number of treated firms in their sample is much less.

firms with different characteristics is higher. Panel B and C show the results from caliper matching and pairwise matching, respectively. We can see that results under both specifications are similar to the baseline sample. The specification is also robust considering the outcome in different time frames after the announcement, and the results are attached in Appendix Table A6 and A7.

Furthermore, it is interesting to see how these effects evolve over time. To show 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 A8. For high-level politically connected firms, the estimation of price loss increases from 9% at 12 months, to 14% at 16 months, and 16% at 20 months. After 24 months the effect is about 9%, but is less precisely measured. Thus the significant effects are not due to the specific choice of when the outcome is measured. However, firms with low-level connections do not experience any value loss during any of these time periods.

5.3 Heterogenous Effects

Table 8 shows the estimation result with number of resignations as the treatment for firms with high-level political connections. I use caliper matching and show the result both with and without fixed effects. All the numbers of resignations are significant, indicating the loss of one, two, and three or more officials account for 8%, 15% and 24% of price decline, respectively. It 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 (and roughly linear) relation between magnitude of price decrease and number of officials leaving strengthens the interpretation of the value of political connections. Similar estimates for low-level connected firms are shown in Table 9: while previously I find that on average the leaving of low-level government official does not have an impact on stock price, Table 9 implies that the leaving of one or two low-level officials has no significant effect, but the resignation of three politicians or more might have a significant negative effect on stock price behavior. Recall from Table 2 that we do not have enough number of firms to infer a general result, although the magnitudes remain plausible.

Table 10 illustrates the estimation for treatment by level of the official. Since there are no national level officials involved, I only estimate the effect from provincial-level to township-level. I find that for high-level connected firms (provincial, vice-provincial, or bureau level officials), on average the price effect is about 9%, and for low-level connected firms (vice-bureau, county and vice-county level), the treatment effect is very small. It also implies that the reasonability of segregation of high-level and low-level officials: it is important to have high-level political connections rather than low-level connections. This finding also reveals that the effects are not due simply to turnover of the board.

Table 11 shows the estimation for firms with different types of ownership. A public-traded firm is state-owned if the central or local government holds more than 50 percentage 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 politician directors as a single channel of connection may have less effects on state-owned firms. Table 11 indicates that the average treatment effect for private-owned firms is 9.5%, slightly larger than that for state-owned firms (7.8%). For low-level officials, the effects for private-owned firms is larger, though the results are statistically insignificant due to the limited sample size.

Finally, I consider heterogenous 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 Appendix Table A9. This reveals that a large part of benefits from political connections is contributed by non-manufacturing firms.

5.4 Discussion

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 some significant long-run treatment effect for firms connected to high-level politicians. 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 showed his anti-corruption plan, and we should see decline in prices at that time.[19] Appendix Table A10 presents a placebo test, assuming there were some anticipation by the market in March 2013. I find no significant effect at this time.

[19] 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. The latter time was believed to be the point when he fully attained his power.

Alternatively, markets may not believe that the government regulation will be implemented. In such a case the price will not vary immediately after the announcement of Regulation No.18, but it should change when the board members actually resign. To test for this explanation, I examine the effect on stock price 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.[20] By aligning the price histories to the dates of resignation, I examine the market sensitivity when a resignation occurs. Specifically, I estimate the following model with sample of high-level and low-level firms, respectively:

$$\frac{Price_{i,t}}{Price_{i,t_0}} = \alpha_i + \beta Resign_t + \vec{\gamma} \cdot \vec{T}' + \vec{\gamma} \cdot \vec{T}' Resign_t + \varepsilon_{i,t} \tag{5}$$

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 price discontinuities on the day of resignation. For the graph there is no obvious discontinuity of price before and after the resignations. The econometric results are shown in Appendix Table A11 and Table A12 for high-level official and low-level official resignations, which proves no significant changes immediately after the leaving of politicians in various specifications. Therefore, even if people observe the actual leaving of politicians, there is still no immediate effect.

Based on the arguments above, the following explanations are possible: a) The market know the resignations but does not believe the connections would be cut off. For instance, the connections might become underground. In this case, the estimation result indicates that the Regulation No.18 was pretty thorough. b) The overall predictable effect is modest relative to typical 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 the time of announcement.

6 Potential Mechanisms

Understanding the mechanism behind the value of political connections is potentially helpful for informing policy. In this section I will briefly discuss some potential channels of benefit, and test

[20] 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.

alternative hypotheses using available data.

Firms can benefit from political connections in various way, directly or indirectly. As for direct benefits, politicians may help firms win contracts with the government (Goldman et al., 2013), reduce the cost of dealing with bureaucratic issues, such as reducing the waiting time, or decreasing the frequency of government inspection (Fisman and Wang, 2015), enjoy lower applicable tax rate or higher tax return (Wu et al., 2012), help firms get special permissions, provide legal protection for firms (Li et al., 2008), bring internal information (such as a new regulation) to firms before it was publicly revealed, or provide bailout by the government during recessions (Faccio et al., 2006). Apart from these direct benefits, political connected firms may also be placed at an advantageous side while 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 reduce the relative cost of capital.

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. Since the actual factor price faced by firms is hard to observe, we need to proxy that using observable variables. 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 price. If political connection affects 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 report, and then estimate the following equations

$$\log(MV_{i,2014}) - \log(NE_{i,2014}) - \log(MV_{i,2013}) + \log(NE_{i,2013}) = \alpha + \beta \cdot Gov_i + \varepsilon_i \qquad (6)$$

where β shows the abnormal relative price change for political connected firms.[21] Note that $\beta < 0$ indicates that political connection reduces the relative price of capital.

Appendix Table A13 shows the estimation result. There are no significant abnormal changes in capital-labor ratio for high- and low-treated firms when their political connections were cut off, even using matched sample. Also, compared with the trend effect, the magnitude is negligible. Therefore, it seems that changing in relative factor price is not the main channel of benefitting from political connections, at least it does not change firm's factor allocation.[22] This result implies that direct benefits from government rather than easier access to capital is more likely to be the reason for valuing political connections.

7 Conclusions

On Oct 19, 2013, a new regulation that restricts connections between politicians and firms was announced in China. In this paper, I exploit this exogenous shock as an opportunity for testing the effect of political connectedness on a listed firm's stock price. With an original data set that consolidates resignation reports and other sources of personal information about politicians, I find credible estimates of the value of political connections. Using a regression discontinuity design, I did not find any immediate effect after the announcement of the regulation. However, with a difference-in-difference design, I find effects one year later: the stock prices of firms that lose political connections with one or more mayor-equivalent or higher level official decrease by 9% on average, while the stock prices of firms that lose connections with lower level politicians remain unaffected. The short-run effects reveal market expectations, and thus the results imply that the market does not fully adjust in response to the announcement. This could be due to investors not believing that the policy will be enforced, not correctly valuing political connections, or ignoring modest long-run effects in favor of short-run fluctuations that are larger in magnitude. These results are robust to

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

[22] 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.

the choice of control firms and functional forms, and differentiate by the number and the level of officials being connected. The results regarding China will supplement and improve the existing estimates of the value of political connections and give insights about developing countries.

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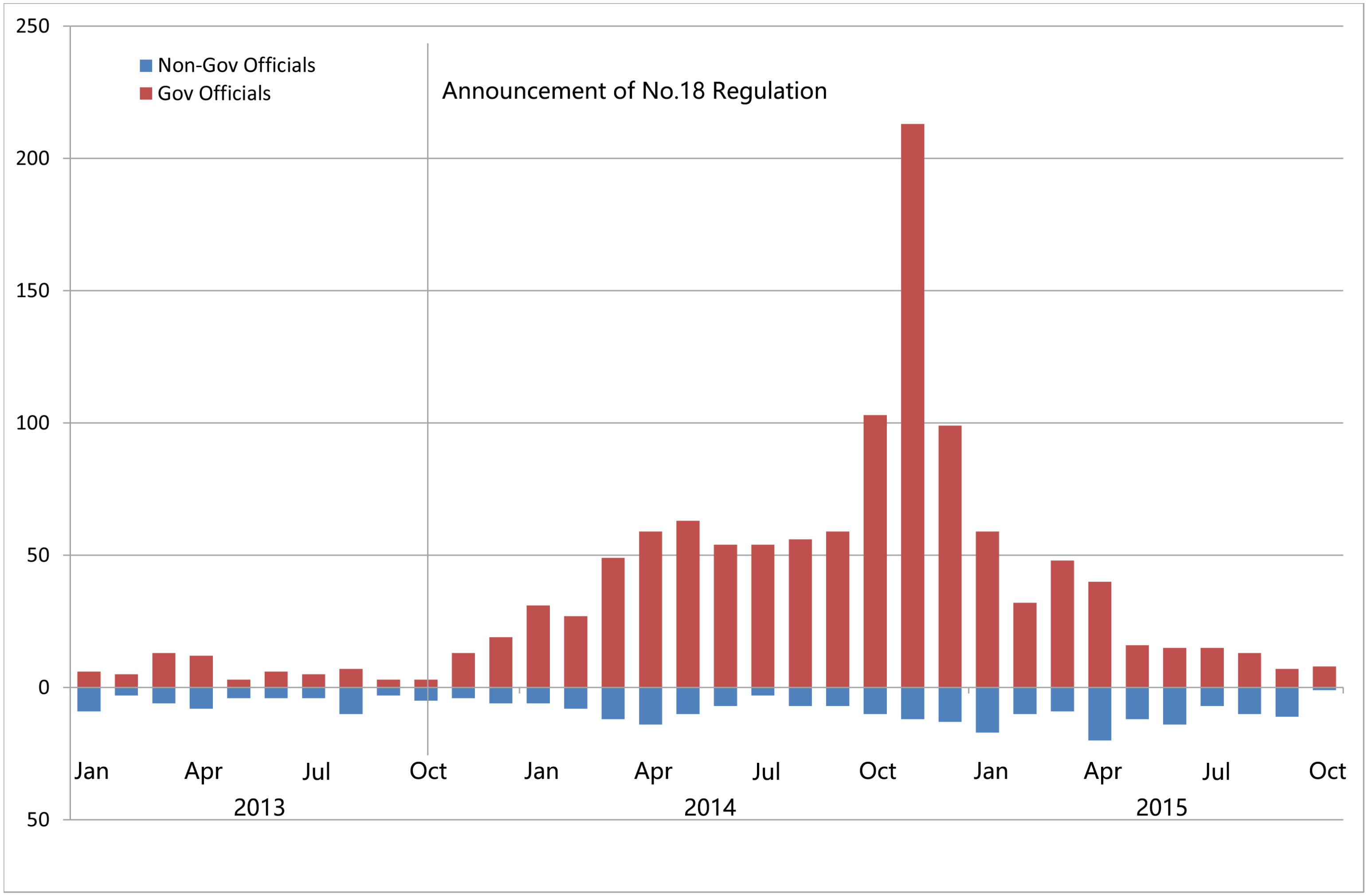
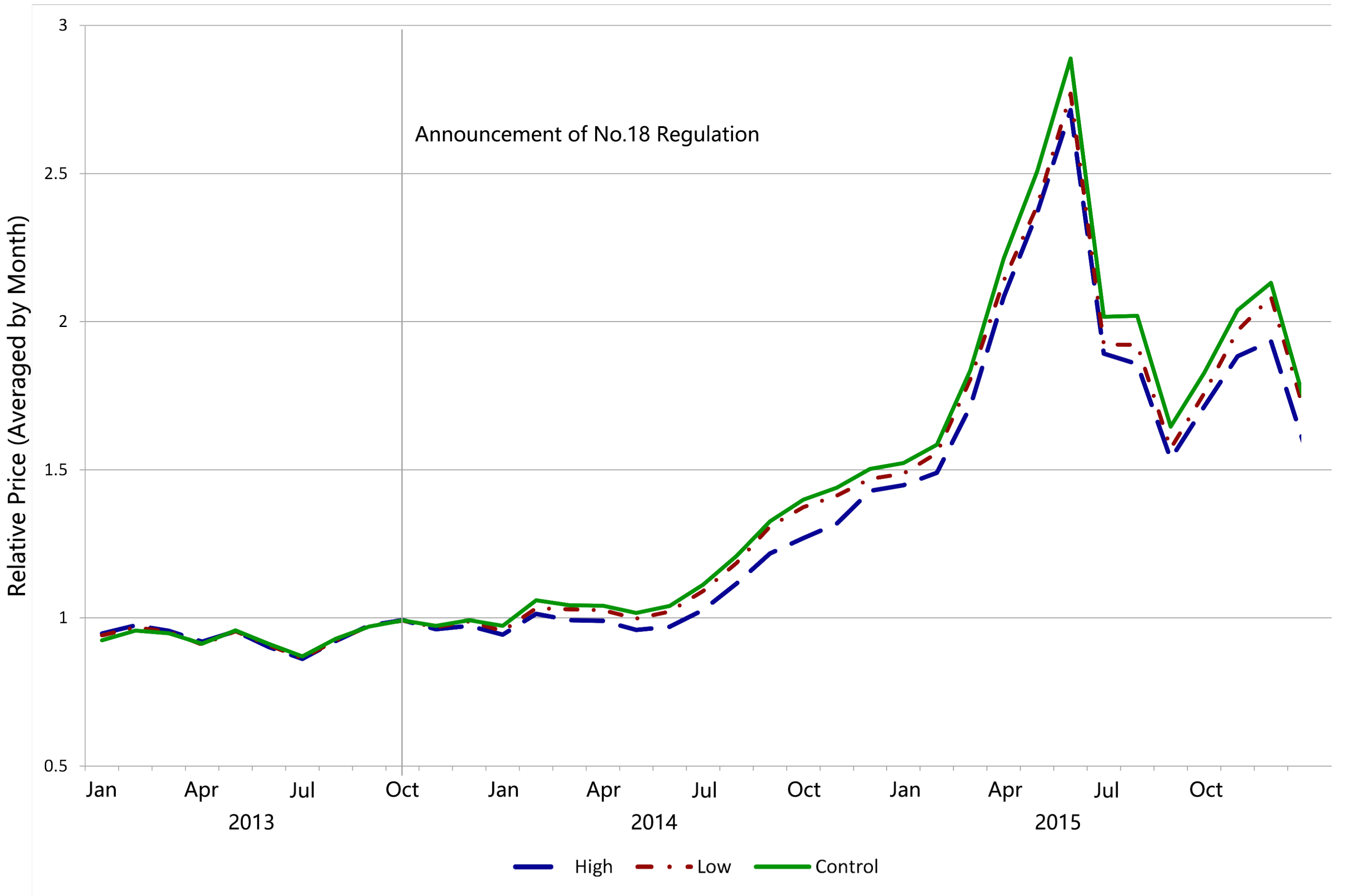


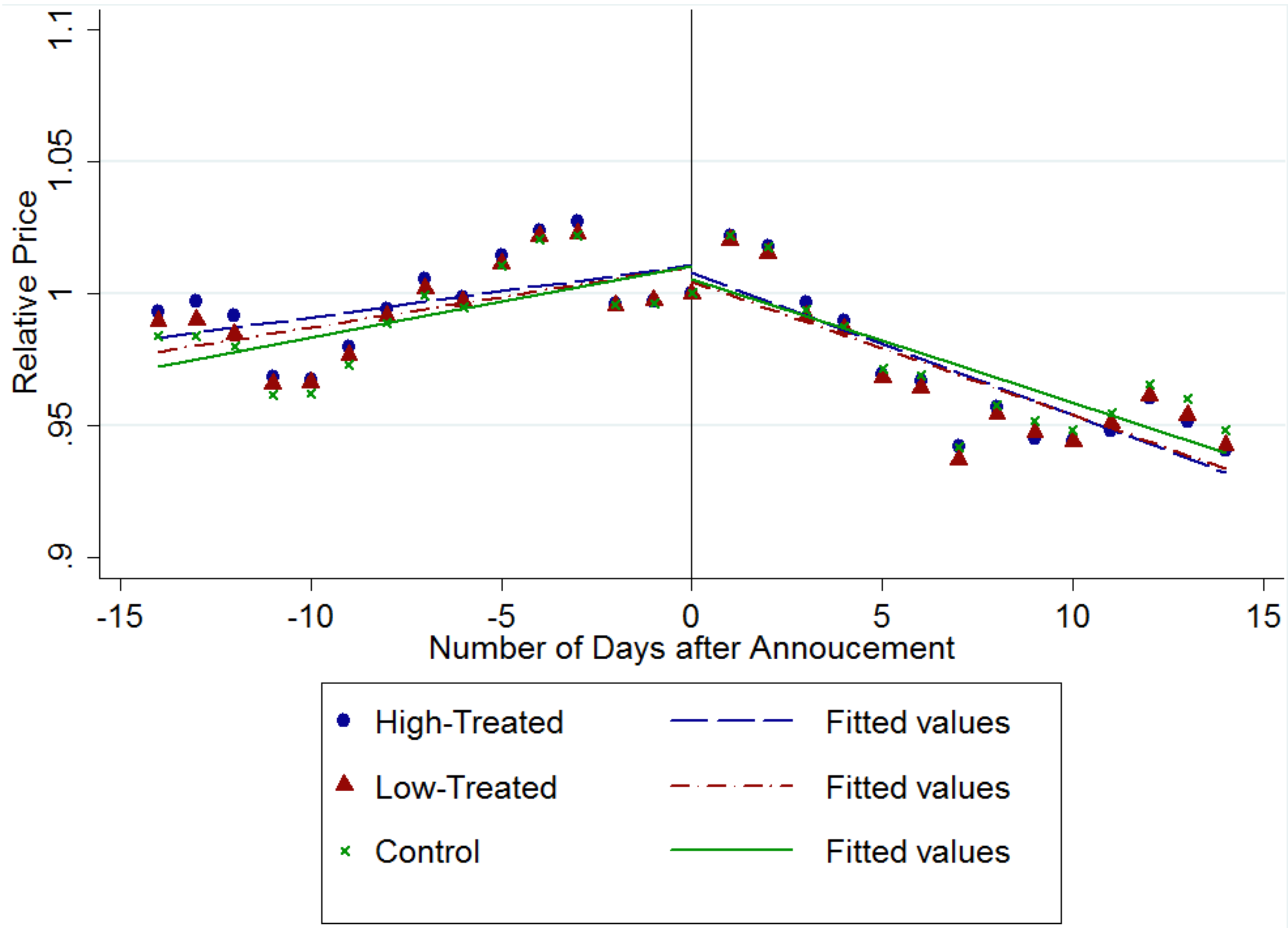
This figure shows board resignations by month. While the monthly non-official resignations are steady, the the instances of government officials' resignations increases from 10 to 50 per month after four months of corporate adjustment, and there are more than 200 resignations in one month prior to the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

Figure 1: Number of Board Resignations



This figure shows the unmatched price trends for treated and control firms. Before the regulation, they have similar price fluctuations. However, after the regulation was announced, high-level connected firms (blue dash) experience a price decline compared with low-level connected firms (red dash-dot) and control firms (green solid).

Figure 2: Average Price Trend, by Group



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 3: Regression Discontinuity on the Day of Announcement, All Groups

Table 1: Examples for 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)

[1] This table only gives some example, but does not list all positions in corresponding tier.

[2] 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.

[3] Number of Resignation is summarized till Dec 31 2014, and the number if parentheses shows the resignation in vice positions.

[4] 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	0.62%
Vice-Provincial	52	5.36%
Bureau	260	26.78%
Vice-Bureau	224	23.07%
County	293	30.17%
Vice-County	128	13.18%
Township and lower	8	0.82%
Total	971	
Panel B: Number of Firms, by Number of Politicians on Board		
0	1339	68.14%
1	463	23.56%
2	125	6.36%
3	30	1.53%
4	7	0.36%
5	1	0.05%
Total	1965	
Panel C: Number of Firms, by Highest Level of Connection		
Provincial	6	0.27%
Vice-Provincial	47	2.15%
Bureau	219	10.02%
Vice-Bureau	168	7.69%
County	202	9.24%
Vice-County	76	3.48%
Township and lower	2	0.09%
Total:None(Control)	1465	67.05%
Total:Low	448	20.50%
Total:High	272	12.45%

[1] I found no national-level or vice-national-level connected firms, thus these levels are omitted in the following analysis.

[2] This table shows the number of firms before trimming. The firm base of 2185 is selected on Jan 4 2013, and new IPOs are not included in the sample. From Oct 19, 2013, to Oct 31, 2015, these firms have announced 1387 cases of resignation. I exclude 237 resignations in which the resigner joined the board after the announcement of Regulation No.18.

Table 3: Summary Statistics

Level of Treatment	High	Low	None(Control)	p-value
Market value	24.801 [11.853] (39.755)	16.278 [8.739] (26.252)	19.615 [8.876] (76.843)	0.269
Net profit	0.673 [0.148] (2.474)	0.415 [0.089] (2.085)	0.557 [0.104] (4.776)	0.717
Number of employee	9.766 [2.896] (22.280)	4.921 [2.429] (9.445)	6.281 [2.216] (23.170)	0.015
P/E ratio	69.547 (161.969)	66.915 (117.821)	58.896 (112.094)	0.285
P/B ratio	2.806 (2.529)	3.372 (4.888)	2.949 (3.016)	0.054
ROE	6.121 (13.688)	5.293 (13.264)	6.851 (11.600)	0.071
working capital ratio	1.901 (2.030)	2.249 (2.248)	2.025 (1.783)	0.047
debt asset ratio	49.899 (21.420)	45.400 (21.547)	46.975 (20.624)	0.029
quick ratio	1.447 (1.843)	1.723 (2.031)	1.475 (1.569)	0.028
beta	0.676 (0.289)	0.620 (0.259)	0.606 (0.269)	0.001
Concentration	40.010 (22.318)	37.155 (20.777)	39.033 (22.039)	0.196
ipo price	11.702 (11.773)	12.53 (13.06)	12.440 (12.287)	0.668
Main Composition of Sector Distribution: N,share				
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%)	
Subtotal of above	(80.66%)	(85.67%)	(85.37%)	
N	243	419	1,303	

[1] Standard deviations in parentheses. For skewed distributions, medians are shown in brackets.

[1] 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.

[2] 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.

[3] 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.

[4] The beta is calculated with weekly data from Jan 1, 2013, to Dec 31, 2014. General market movements is measured by CSI 300 index.

[5] Firm are categorized according to SCF standard.

[6] Concentration is measured by the percentage of share held by the top ten largest shareholders, comes from 2013 Annual Report.

[7] The last column shows p-value for testing $\mu_{High} = \mu_{Low} = \mu_{Control}$.

Table 4: Regression Discontinuity Estimation: High-level Official

Dependent variable: Relative price	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A: No Matching			
After×High	0.0028	-0.0083	0.0008	-0.0083	-0.0016	-0.0083
	(0.0033)	(0.0052)	(0.0031)	(0.0052)	(0.0030)	(0.0052)
After	-0.0032**	-0.0091***	0.0328***	-0.0047***	0.0621***	0.0102***
	(0.0013)	(0.0014)	(0.0012)	(0.0014)	(0.0012)	(0.0013)
High	0.0001	0.0055	0.0004	0.0055	0.0001	0.0055
	(0.0019)	(0.0037)	(0.0016)	(0.0037)	(0.0011)	(0.0037)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816
Observations	44805	44805	44805	44805	44805	44805
R^2	0.086	0.030	0.102	0.074	0.115	0.078
			Panel B: Caliper Matching			
After×High	0.0073**	-0.0086	0.0060*	-0.0086	-0.0027	-0.0086
	(0.0036)	(0.0058)	(0.0033)	(0.0058)	(0.0032)	(0.0058)
After	-0.0055***	-0.0052*	0.0299***	-0.0008	0.0627***	0.0134***
	(0.0018)	(0.0030)	(0.0016)	(0.0029)	(0.0016)	(0.0033)
High	-0.0014	0.0079**	-0.0010	0.0079**	0.0005	0.0079**
	(0.0022)	(0.0040)	(0.0017)	(0.0040)	(0.0013)	(0.0040)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	0.9822	0.9822	0.9822	0.9822	0.9822	0.9822
Observations	38193	38193	38193	38193	38193	38193
R^2	0.094	0.039	0.108	0.081	0.121	0.085
			Panel C: Pairwise Matching			
After× High	0.0076*	-0.0033	0.0045	-0.0033	-0.0027	-0.0033
	(0.0041)	(0.0073)	(0.0040)	(0.0073)	(0.0041)	(0.0073)
After	-0.0079***	-0.0099**	0.0294***	-0.0056	0.0634***	0.0095**
	(0.0028)	(0.0042)	(0.0028)	(0.0042)	(0.0031)	(0.0041)
High	-0.0023	0.0018	-0.0004	0.0018	0.0007	0.0018
	(0.0027)	(0.0050)	(0.0021)	(0.0050)	(0.0016)	(0.0050)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	0.9830	0.9830	0.9830	0.9830	0.9830	0.9830
Observations	13050	13050	13050	13050	13050	13050
R^2	0.093	0.043	0.107	0.082	0.121	0.086

[1] Clustered robust standard errors in parentheses.

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

[3] Sample period: ±14 days.

Table 5: Regression Discontinuity Estimation: Low-level Official

Dependent variable: Relative price	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A: No Matching			
After×Low	-0.0013	-0.0065	-0.0016	-0.0065	-0.0015	-0.0065
	(0.0025)	(0.0042)	(0.0023)	(0.0042)	(0.0024)	(0.0042)
After	-0.0032**	-0.0095***	0.0328***	-0.0052***	0.0621***	0.0098***
	(0.0013)	(0.0014)	(0.0012)	(0.0014)	(0.0012)	(0.0013)
Low	-0.0003	0.0027	0.0000	0.0027	0.0004	0.0027
	(0.0014)	(0.0028)	(0.0010)	(0.0028)	(0.0008)	(0.0028)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813
Observations	49909	49909	49909	49909	49909	49909
R^2	0.086	0.030	0.102	0.074	0.115	0.078
			Panel B: Caliper Matching			
After×Low	-0.0002	-0.0074	-0.0028	-0.0074	-0.0022	-0.0074
	(0.0027)	(0.0048)	(0.0026)	(0.0048)	(0.0026)	(0.0048)
After	-0.0033**	-0.0073***	0.0343***	-0.0029	0.0632***	0.0123***
	(0.0016)	(0.0024)	(0.0016)	(0.0024)	(0.0014)	(0.0026)
Low	-0.0018	0.0023	-0.0006	0.0023	0.0008	0.0023
	(0.0015)	(0.0031)	(0.0011)	(0.0031)	(0.0009)	(0.0031)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	0.9818	0.9818	0.9818	0.9818	0.9818	0.9818
Observations	45646	45646	45646	45646	45646	45646
R^2	0.081	0.029	0.098	0.070	0.110	0.074
			Panel C: Pairwise Matching			
After×Low	-0.0013	-0.0075	-0.0014	-0.0075	-0.0000	-0.0075
	(0.0034)	(0.0056)	(0.0031)	(0.0056)	(0.0034)	(0.0056)
After	-0.0031	-0.0076**	0.0324***	-0.0032	0.0604***	0.0117***
	(0.0027)	(0.0034)	(0.0024)	(0.0034)	(0.0026)	(0.0031)
Low	-0.0027	0.0013	-0.0009	0.0013	0.0014	0.0013
	(0.0020)	(0.0037)	(0.0015)	(0.0037)	(0.0012)	(0.0037)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	0.9822	0.9822	0.9822	0.9822	0.9822	0.9822
Observations	21460	21460	21460	21460	21460	21460
R^2	0.089	0.033	0.105	0.077	0.119	0.081

[1] Clustered robust standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Sample period: ±14 days.

Table 6: Difference-in-Difference Estimation: High-level Officials

Dependent variable: Relative price	(1)	(2)	(3)
	Panel A: No Matching		
After×High	-0.0881***	-0.0854***	-0.0854***
	(0.0264)	(0.0263)	(0.0263)
After	0.4903***	0.4881***	
	(0.0122)	(0.0120)	
High	-0.0065		
	(0.0079)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1543	1.1543	1.1543
Observations	251732	251732	251732
R^2	0.342	0.480	0.510
	Panel B: Caliper Matching		
After×High	-0.0924***	-0.0919***	-0.0919***
	(0.0315)	(0.0316)	(0.0316)
After	0.4979***	0.4978***	
	(0.0192)	(0.0192)	
High	-0.0015		
	(0.0088)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1394	1.1394	1.1394
Observations	214568	214568	214568
R^2	0.331	0.459	0.497
	Panel C: Pairwise Matching		
After×High	-0.0870**	-0.0866**	-0.0866**
	(0.0398)	(0.0398)	(0.0399)
After	0.4878***	0.4878***	
	(0.0320)	(0.0320)	
High	-0.0033		
	(0.0106)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1337	1.1337	1.1337
Observations	73268	73268	73268
R^2	0.324	0.447	0.490

[1] Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Sample: Jun-Sept 2013, Sept-Dec 2014.

Table 7: Difference-in-Difference Estimation: Low-level Officials

Dependent variable: Relative price			
	(1)	(2)	(3)
Panel A: No Matching			
After×Low	-0.0106	-0.0084	-0.0085
	(0.0228)	(0.0228)	(0.0228)
After	0.4903***	0.4881***	
	(0.0122)	(0.0120)	
Low	-0.0014		
	(0.0061)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1607	1.1607	1.1607
Observations	280502	280502	280502
R^2	0.350	0.489	0.517
Panel B: Caliper Matching			
After×Low	-0.0140	-0.0139	-0.0139
	(0.0247)	(0.0247)	(0.0247)
After	0.5012***	0.5012***	
	(0.0143)	(0.0143)	
Low	-0.0001		
	(0.0065)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1643	1.1643	1.1643
Observations	256459	256459	256459
R^2	0.371	0.505	0.534
Panel C: Pairwise Matching			
After×Low	-0.0267	-0.0267	-0.0267
	(0.0386)	(0.0386)	(0.0386)
After	0.5053***	0.5053***	
	(0.0334)	(0.0334)	
Low	0.0026		
	(0.0081)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1604	1.1604	1.1604
Observations	120620	120620	120620
R^2	0.347	0.481	0.509

[1] Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Sample: Jun-Sept 2013, Sept-Dec 2014.

Table 8: Effects by Number of Officials: High-level

Dependent variable: Relative price	(1)	(2)	(3)
	Panel: Caliper Matching		
After×NumHigh=1	-0.0823**	-0.0817**	-0.0817**
	(0.0331)	(0.0331)	(0.0331)
After×NumHigh=2	-0.1482*	-0.1482*	-0.1482*
	(0.0795)	(0.0795)	(0.0795)
After×NumHigh≥3	-0.2448***	-0.2448***	-0.2448***
	(0.0713)	(0.0713)	(0.0713)
After	0.4979***	0.4978***	
	(0.0192)	(0.0192)	
NumHigh=1	-0.0024		
	(0.0093)		
NumHigh=2	-0.0053		
	(0.0226)		
NumHigh≥3	0.0521		
	(0.0386)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1394	1.1394	1.1394
Observations	214568	214568	214568
R^2	0.332	0.460	0.498

[1] Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Sample: Jun-Sept 2013, Sept-Dec 2014.

Table 9: Effects by Number of Officials: Low-level

Dependent variable: Relative price	(1)	(2)	(3)
	Panel: Caliper Matching		
After×NumLow=1	-0.0176	-0.0176	-0.0176
	(0.0251)	(0.0251)	(0.0251)
After×NumLow=2	0.0204	0.0205	0.0205
	(0.0681)	(0.0681)	(0.0681)
After×NumLow≥3	-0.0945	-0.0944	-0.0944
	(0.0913)	(0.0913)	(0.0913)
After	0.5012***	0.5012***	
	(0.0143)	(0.0143)	
NumLow=1	0.0032		
	(0.0070)		
NumLow=2	-0.0094		
	(0.0131)		
NumLow≥3	-0.0338		
	(0.0331)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1643	1.1643	1.1643
Observations	256459	256459	256459
R^2	0.372	0.506	0.534

[1] Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Sample: Jun-Sept 2013, Sept-Dec 2014.

Table 10: Effects by Level of Officials

Dependent variable: Relative price	(1)	(2)	(3)
	Panel: No Matching		
After×ViceProvincial	-0.0791	-0.0769	-0.0769
	(0.0499)	(0.0498)	(0.0498)
After×Bureau	-0.0896***	-0.0869***	-0.0869***
	(0.0297)	(0.0296)	(0.0296)
After×ViceBureau	0.0015	0.0037	0.0037
	(0.0381)	(0.0380)	(0.0380)
After×County	-0.0260	-0.0239	-0.0239
	(0.0280)	(0.0280)	(0.0280)
After×ViceCounty	-0.0034	-0.0012	-0.0012
	(0.0467)	(0.0466)	(0.0466)
After	0.4903***	0.4881***	
	(0.0122)	(0.0120)	
ViceProvincial	-0.0247		
	(0.0203)		
Bureau	-0.0028		
	(0.0084)		
ViceBureau	-0.0187**		
	(0.0092)		
County	0.0116		
	(0.0079)		
ViceCounty	0.0109		
	(0.0118)		
Time FE			X
Stock FE		X	X
Mean Dep.	1.1546	1.1546	1.1546
Observations	320029	320029	320029
R^2	0.350	0.485	0.515

[1] Clustered standard errors in parentheses.
[2] 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".
[3] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[4] Sample: Jun-Sept 2013, Sept-Dec 2014.

Table 11: Treatment Effects By Ownership

Dependent variable: Relative price	(1)	(2)
Ownership	State-owned Firms	Private-owned Firms
	Panel A: High-level Officials	
After×High	-0.0777**	-0.0951
	(0.0360)	(0.0617)
Time FE	X	X
Stock FE	X	X
Number of Treated Firms	31	82
Mean Dep.	1.1185	1.1767
Observations	109270	91280
R^2	0.509	0.510
	Panel B: Low-level Officials	
After×Low	0.0248	-0.0423
	(0.0311)	(0.0410)
Time FE	X	X
Stock FE	X	X
Number of Treated Firms	48	170
Mean Dep.	1.1408	1.1944
Observations	133476	107009
R^2	0.522	0.568

[1] 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.
[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.

Appendix

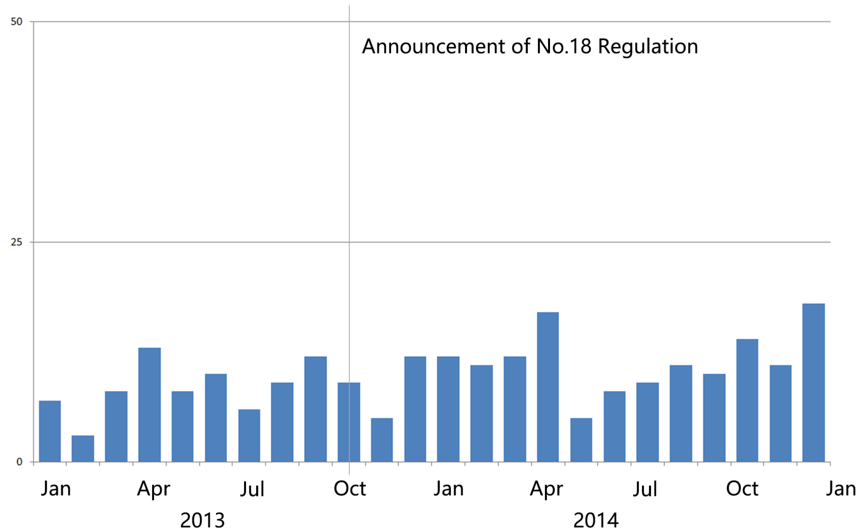


Figure A1: Number of High Executive Resignation

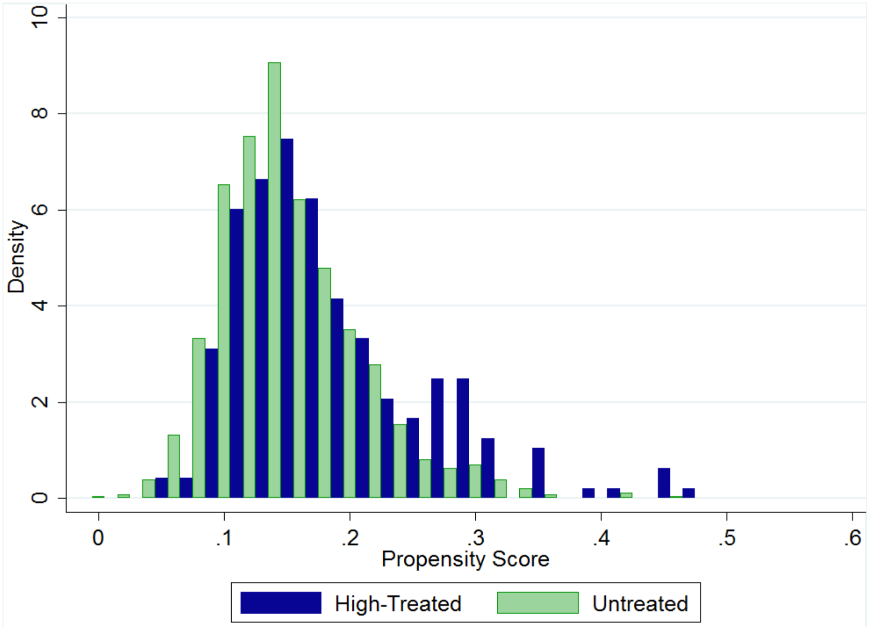


Figure A2: Propensity Score Density for High-Treated

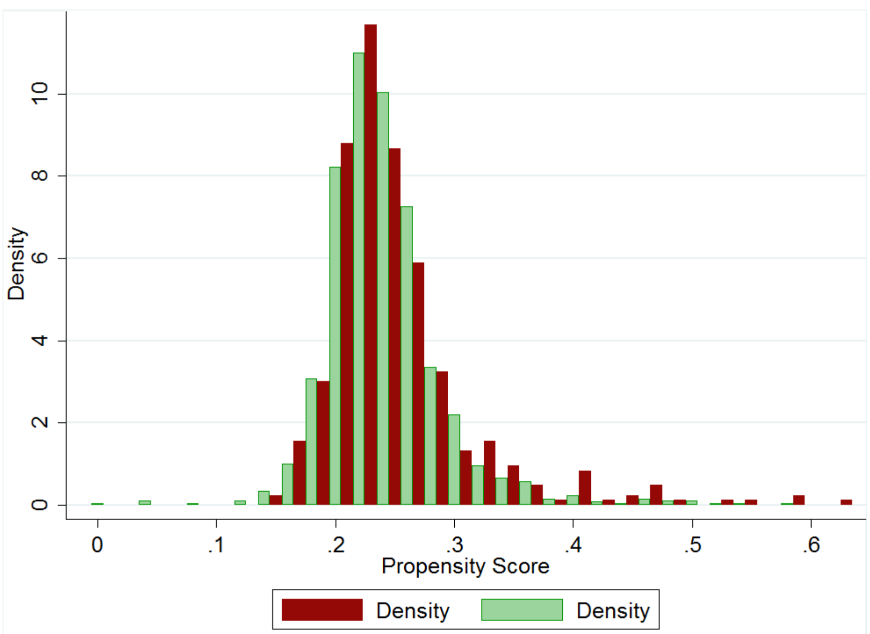
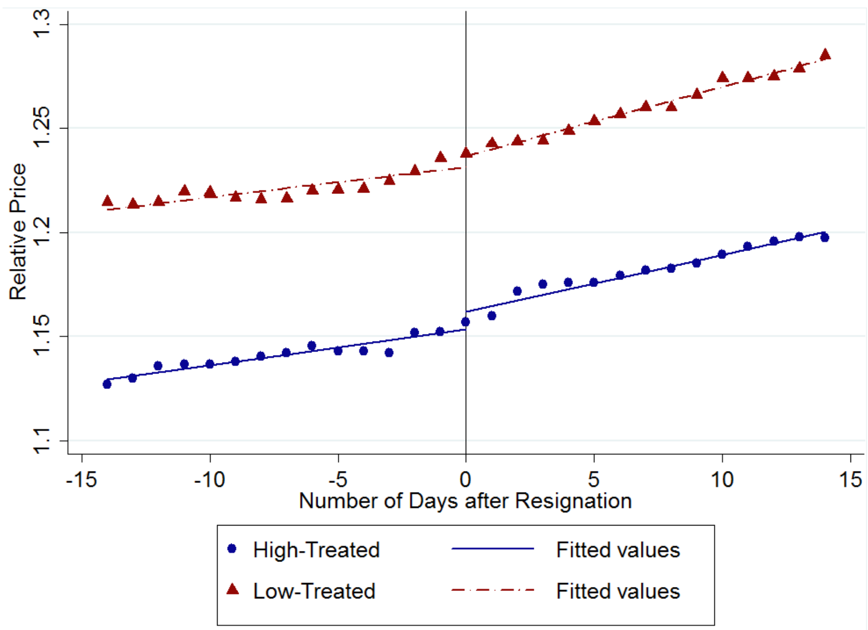


Figure A3: Propensity Score Density for Low-Treated



The figure shows the immediate effect of the revealing of resignation reports. High-treated (blue) and low-treated firms (red) do not present price discontinuities 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: Regression Discontinuity on the Day of Resignations, High-Level and Low-Level Officials

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

Level of Treatment Weight	High High	Control High	Difference	p-value
Market value	21.756 [10.823] (35.180)	21.086 [11.744] (32.702)	0.670 (2.771)	0.809
Net profit	0.485 [0.136] (1.537)	0.506 [0.137] (1.823)	-0.021 (0.127)	0.866
Number of employee	7.021 [2.802] (11.264)	7.874 [2.707] (14.399)	-0.853 (1.168)	0.465
P/E ratio	65.292 (154.825)	59.360 (11.039)	5.932 (11.142)	0.594
P/B ratio	2.843 (2.589)	2.773 (2.616)	0.070 (0.192)	0.712
ROE	5.887 (13.872)	6.811 (12.569)	-0.924 (1.058)	0.383
working capital ratio	1.950 (2.081)	1.883 (1.788)	0.067 (0.156)	0.668
debt asset ratio	49.354 (21.148)	47.612 (20.258)	1.742 (1.623)	0.283
quick ratio	1.489 (1.888)	1.437 (1.614)	0.052 (0.142)	0.714
beta	0.661 (0.281)	0.661 (0.286)	0.000 (0.023)	0.995
Concentration	40.224 (21.908)	40.033 (21.694)	0.191 (1.694)	0.910
ipo price	12.122 (12.056)	11.942 (12.441)	0.180 (0.931)	0.847
Main Composition of Sector Distribution: N,share				
Manufacture	140 (62.22%)	679.47 (58.90%)		
Wholesale and retail	10 (4.44%)	48.53 (5.08%)		
Real estate	10 (4.44%)	48.53 (5.08%)		
Energy	12 (5.33%)	58.24 (5.51%)		
Transportation	15 (6.67%)	72.80 (6.78%)		
Subtotal of above	(83.10%)	(83.10%)		
N	225	1,092		
Sum of Weight	225	225		
N: Out of Support	11	211		

[1] The table shows weight statistics. Weights are acquired from caliper matching with radius 0.01.
[2] Standard deviations in parentheses. For skewed distributions, medians are shown in brackets.
[3] 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.
[4] 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.
[5] The beta is calculated with weekly data from Jan 1, 2013, to Dec 31, 2014. General market movements is measured by CSI 300 index.
[6] Firm are categorized according to SCF standard.
[7] 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 Weight	Low Low	Control Low	Difference	p-value
Market value	15.895 [8.940] (25.175)	14.434 [8.745] (17.273)	1.461 (1.384)	0.291
Net profit	0.406 [0.091] (2.055)	0.284 [0.092] (0.906)	0.122 (0.107)	0.252
Number of employee	4.832 [2.462] (8.371)	4.379 [2.136] (7.492)	0.453 (0.475)	0.340
P/E ratio	65.693 (114.433)	62.896 (119.265)	2.797 (7.059)	0.692
P/B ratio	2.969 (2.994)	2.826 (2.769)	0.143 (0.176)	0.415
ROE	5.946 (11.596)	5.778 (11.841)	0.168 (0.741)	0.820
working capital ratio	2.174 (2.071)	2.205 (2.026)	-0.031 (0.133)	0.809
debt asset ratio	45.611 (20.904)	44.812 (20.729)	0.799 (1.275)	0.531
quick ratio	1.633 (1.820)	1.664 (1.791)	-0.031 (0.119)	0.795
beta	0.614 (0.252)	0.612 (0.264)	0.002 (0.015)	0.910
Concentration	37.428 (20.913)	37.814 (22.116)	-0.386(1.289)	0.764
ipo price	12.668 (13.193)	12.663 (11.921)	0.005 (0.784)	0.995
Main Composition of Sector Distribution: N,share				
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%)		
Subtotal of above	(88.01%)	(88.01%)		
N	392	1,182		
Sum of Weight	392	392		
N: Out of Support	27	121		

[1] The table shows weight statistics. Weights are acquired from caliper matching with radius 0.01.
[2] Standard deviations in parentheses. For skewed distributions, medians are shown in brackets.
[3] 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.
[4] 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.
[5] The beta is calculated with weekly data from Jan 1st, 2013 to Dec 31st, 2014. General market movements is measured by CSI 300 index.
[6] Firm are categorized according to SCF standard.
[7] Concentration is measured by the percentage of share held by the top ten largest shareholders, comes from 2013 Annual Report.

Table A3: Difference-in-Difference Estimation: Global Matching

Dependent variable: Relative price						
Treatment		Treat = High			Treat = Low	
	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A: Caliper Matching			
After×Treat	-0.0934***	-0.0910***	-0.0910***	-0.0325	-0.0324	-0.0324
	(0.0279)	(0.0278)	(0.0278)	(0.0258)	(0.0258)	(0.0258)
After	0.4948***	0.4928***	0.2722***	0.5098***	0.5097***	0.4810***
	(0.0157)	(0.0156)	(0.0165)	(0.0149)	(0.0149)	(0.0166)
Treat	0.0001			-0.0015		
	(0.0089)			(0.0068)		
Time FE			X			X
Stock FE		X	X		X	X
Mean Dep.	1.1352	1.1352	1.1352	1.1616	1.1616	1.1616
Observations	249206	249206	249206	266728	266728	266728
R^2	0.337	0.466	0.509	0.361	0.496	0.525
			Panel B: Pairwise Matching			
After×Treat	-0.1082***	-0.1077**	-0.1077**	-0.0033	-0.0033	-0.0033
	(0.0417)	(0.0417)	(0.0417)	(0.0360)	(0.0360)	(0.0360)
After	0.5062***	0.5062***	0.5784***	0.4731***	0.4731***	0.4696***
	(0.0347)	(0.0347)	(0.0394)	(0.0288)	(0.0288)	(0.0317)
Treat	-0.0000			-0.0084		
	(0.0115)			(0.0088)		
Time FE			X			
Stock FE		X	X			
Mean Dep.	1.1379	1.1379	1.1379	1.1558	1.1558	1.1558
Observations	71149	71149	71149	100897	100897	100897
R^2	0.319	0.445	0.483	0.344	0.475	0.504

[1] Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Sample: Jun-Sept 2013, Sept-Dec 2014.

Table A4: Regression Discontinuity with Different Windows: High-level Official

Dependent variable: Relative price						
Sample	(1)	(2)	(3)	(4)	(5)	(6)
	±7 days	±14 days	±28 days	±7 days	±14 days	±28 days
Excluding				±3 days	±3 days	±3 days
			Panel A: No Matching			
After×High	0.0010	0.0028	-0.0039	0.0022	0.0043	-0.0066
	(0.0027)	(0.0033)	(0.0052)	(0.0071)	(0.0058)	(0.0071)
After	0.0339***	-0.0032**	-0.0385***	-0.0114***	-0.0397***	-0.0619***
	(0.0010)	(0.0013)	(0.0018)	(0.0026)	(0.0022)	(0.0024)
High	0.0002	0.0001	0.0062*	0.0029	0.0007	0.0094*
	(0.0014)	(0.0019)	(0.0034)	(0.0046)	(0.0040)	(0.0051)
Polynomial	1	1	1	1	1	1
Mean Dep.	0.9964	0.9816	0.9748	0.9914	0.9765	0.9717
Observations	23175	44805	88065	15450	37080	80340
R^2	0.152	0.086	0.024	0.155	0.074	0.027
			Panel B: Caliper Matching			
After×High	0.0046	0.0073**	-0.0018	0.0113	0.0105*	-0.0048
	(0.0029)	(0.0036)	(0.0057)	(0.0078)	(0.0063)	(0.0080)
After	0.0320***	-0.0055***	-0.0398***	-0.0161***	-0.0427***	-0.0630***
	(0.0013)	(0.0018)	(0.0026)	(0.0041)	(0.0033)	(0.0036)
High	-0.0007	-0.0014	0.0063*	-0.0004	-0.0020	0.0098*
	(0.0016)	(0.0022)	(0.0038)	(0.0050)	(0.0045)	(0.0056)
Polynomial	1	1	1	1	1	1
Mean Dep.	0.9970	0.9822	0.9746	0.9923	0.9771	0.9715
Observations	19755	38193	75069	13170	31608	68484
R^2	0.148	0.094	0.028	0.157	0.083	0.031
			Panel C: Pairwise Matching			
After×High	0.0043	0.0076*	0.0036	0.0142	0.0127	0.0036
	(0.0035)	(0.0041)	(0.0069)	(0.0098)	(0.0077)	(0.0096)
After	0.0308***	-0.0079***	-0.0461***	-0.0233***	-0.0482***	-0.0724***
	(0.0025)	(0.0028)	(0.0048)	(0.0071)	(0.0055)	(0.0068)
High	-0.0006	-0.0023	0.0013	-0.0017	-0.0044	0.0023
	(0.0018)	(0.0027)	(0.0045)	(0.0063)	(0.0058)	(0.0068)
Polynomial	1	1	1	1	1	1
Mean Dep.	0.9976	0.9830	0.9751	0.9931	0.9781	0.9721
Observations	6750	13050	25650	4500	10800	23400
R^2	0.152	0.093	0.031	0.164	0.086	0.035

[1] Clustered standard errors in parentheses.

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

Table A5: Regression Discontinuity with Different Windows: Low-level Official

Dependent variable: Relative price						
Sample	(1)	(2)	(3)	(4)	(5)	(6)
	±7 days	±14 days	±28 days	±7 days	±14 days	±28 days
Excluding				±3 days	±3 days	±3 days
			Panel A: No Matching			
After×Low	-0.0009	-0.0013	-0.0055	0.0019	-0.0006	-0.0071
	(0.0020)	(0.0025)	(0.0038)	(0.0052)	(0.0044)	(0.0052)
After	0.0339***	-0.0032**	-0.0385***	-0.0114***	-0.0397***	-0.0619***
	(0.0010)	(0.0013)	(0.0018)	(0.0026)	(0.0022)	(0.0024)
Low	-0.0001	-0.0003	0.0031	-0.0011	-0.0009	0.0046
	(0.0009)	(0.0014)	(0.0025)	(0.0031)	(0.0031)	(0.0037)
Polynomial	1	1	1	1	1	1
Mean Dep.	0.9959	0.9813	0.9748	0.9908	0.9761	0.9718
Observations	25815	49909	98097	17210	41304	89492
R^2	0.156	0.086	0.023	0.158	0.074	0.027
			Panel B: Caliper Matching			
After×Low	-0.0017	-0.0002	-0.0041	-0.0000	0.0018	-0.0053
	(0.0022)	(0.0027)	(0.0042)	(0.0054)	(0.0047)	(0.0058)
After	0.0351***	-0.0033**	-0.0384***	-0.0090***	-0.0407***	-0.0620***
	(0.0013)	(0.0016)	(0.0024)	(0.0029)	(0.0028)	(0.0032)
Low	-0.0004	-0.0018	0.0018	-0.0012	-0.0035	0.0029
	(0.0010)	(0.0015)	(0.0027)	(0.0033)	(0.0033)	(0.0039)
Polynomial	1	1	1	1	1	1
Mean Dep.	0.9964	0.9818	0.9754	0.9913	0.9766	0.9724
Observations	23610	45646	89718	15740	37776	81848
R^2	0.155	0.081	0.023	0.157	0.070	0.027
			Panel C: Pairwise Matching			
After×Low	-0.0002	-0.0013	-0.0046	0.0089	0.0013	-0.0053
	(0.0027)	(0.0034)	(0.0053)	(0.0070)	(0.0062)	(0.0072)
After	0.0330***	-0.0031	-0.0392***	-0.0183***	-0.0413***	-0.0635***
	(0.0020)	(0.0027)	(0.0041)	(0.0053)	(0.0049)	(0.0055)
Low	-0.0006	-0.0027	0.0003	-0.0053	-0.0061	0.0007
	(0.0013)	(0.0020)	(0.0033)	(0.0043)	(0.0043)	(0.0048)
Polynomial	1	1	1	1	1	1
Mean Dep.	0.9970	0.9822	0.9753	0.9922	0.9771	0.9723
Observations	11100	21460	42180	7400	17760	38480
R^2	0.152	0.089	0.027	0.158	0.079	0.031

[1] Clustered standard errors in parentheses.

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

Table A6: Difference-in-Difference with Various Samples: High-level Official

Dependent variable: Relative price						
Sample	(1)	(2)	(3)	(4)	(5)	(6)
Before Treatment	Aug-Sept 2013		Jun-Sept 2013		Apr-Sept 2013	
After Treatment	Nov-Dec 2014		Sept-Dec 2014		Jul-Dec 2014	
Panel A: No Matching						
After×High	-0.0823***	-0.0799***	-0.0881***	-0.0854***	-0.0848***	-0.0823***
	(0.0283)	(0.0282)	(0.0264)	(0.0263)	(0.0241)	(0.0240)
After	0.5068***	0.5045***	0.4903***	0.4881***	0.3966***	0.3944***
	(0.0129)	(0.0127)	(0.0122)	(0.0120)	(0.0113)	(0.0111)
High	-0.0017		-0.0065		-0.0050	
	(0.0068)		(0.0079)		(0.0095)	
Stock FE		X		X		X
Mean Dep.	1.1988	1.1988	1.1543	1.1543	1.1160	1.1160
Observations	129737	129737	251732	251732	381423	381423
R^2	0.343	0.501	0.342	0.480	0.257	0.360
Panel B: Caliper Matching						
After×High	-0.1074***	-0.1072***	-0.0924***	-0.0919***	-0.0798***	-0.0795***
	(0.0341)	(0.0341)	(0.0315)	(0.0316)	(0.0282)	(0.0282)
After	0.5297***	0.5297***	0.4979***	0.4978***	0.3954***	0.3954***
	(0.0210)	(0.0210)	(0.0192)	(0.0192)	(0.0167)	(0.0167)
High	0.0051		-0.0015		-0.0019	
	(0.0076)		(0.0088)		(0.0106)	
Stock FE		X		X		X
Mean Dep.	1.1890	1.1890	1.1394	1.1394	1.1012	1.1012
Observations	110585	110585	214568	214568	325095	325095
R^2	0.339	0.486	0.331	0.459	0.245	0.334
Panel C: Pairwise Matching						
After×High	-0.0979**	-0.0977**	-0.0870**	-0.0866**	-0.0743**	-0.0740**
	(0.0440)	(0.0440)	(0.0398)	(0.0398)	(0.0354)	(0.0354)
After	0.5198***	0.5198***	0.4878***	0.4878***	0.3852***	0.3852***
	(0.0359)	(0.0359)	(0.0320)	(0.0320)	(0.0281)	(0.0281)
High	-0.0009		-0.0033		-0.0004	
	(0.0093)		(0.0106)		(0.0126)	
Stock FE		X		X		X
Mean Dep.	1.1859	1.1859	1.1337	1.1337	1.0937	1.0937
Observations	37757	37757	73268	73268	111024	111024
R^2	0.329	0.470	0.324	0.447	0.239	0.325

[1] Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: Difference-in-Difference with Various Samples: Low-level Official

Dependent variable: Relative price						
Sample	(1)	(2)	(3)	(4)	(5)	(6)
Before Treatment	Aug-Sept 2013		Jun-Sept 2013		Apr-Sept 2013	
After Treatment	Nov-Dec 2014		Sept-Dec 2014		Jul-Dec 2014	
			Panel A: No Matching			
After×Low	-0.0072	-0.0050	-0.0106	-0.0084	-0.0138	-0.0116
	(0.0244)	(0.0243)	(0.0228)	(0.0228)	(0.0209)	(0.0208)
After	0.5068***	0.5045***	0.4903***	0.4881***	0.3966***	0.3944***
	(0.0129)	(0.0127)	(0.0122)	(0.0120)	(0.0113)	(0.0111)
Low	-0.0007		-0.0014		-0.0008	
	(0.0051)		(0.0061)		(0.0070)	
Stock FE		X		X		X
Mean Dep.	1.2047	1.2047	1.1617	1.1617	1.1217	1.1217
Observations	144564	144564	280502	280502	425004	425004
R^2	0.350	0.508	0.350	0.489	0.263	0.368
			Panel B: Caliper Matching			
After×Low	-0.0107	-0.0107	-0.0140	-0.0139	-0.0167	-0.0167
	(0.0265)	(0.0265)	(0.0247)	(0.0247)	(0.0226)	(0.0226)
After	0.5183***	0.5183***	0.5012***	0.5012***	0.4061***	0.4060***
	(0.0153)	(0.0153)	(0.0143)	(0.0143)	(0.0133)	(0.0133)
Low	-0.0002		-0.0001		0.0005	
	(0.0055)		(0.0065)		(0.0075)	
Stock FE		X		X		X
Mean Dep.	1.2088	1.2088	1.1645	1.1645	1.1241	1.1241
Observations	132173	132173	256459	256459	388569	388569
R^2	0.369	0.523	0.371	0.505	0.280	0.382
			Panel C: Pairwise Matching			
After×Low	-0.0228	-0.0228	-0.0267	-0.0267	-0.0334	-0.0335
	(0.0411)	(0.0411)	(0.0386)	(0.0386)	(0.0363)	(0.0363)
After	0.5212***	0.5212***	0.5053***	0.5053***	0.4156***	0.4157***
	(0.0355)	(0.0355)	(0.0334)	(0.0334)	(0.0317)	(0.0317)
Low	0.0010		0.0026		0.0047	
	(0.0070)		(0.0081)		(0.0092)	
Stock FE		X		X		X
Mean Dep.	1.2140	1.2140	1.1674	1.1674	1.1257	1.1257
Observations	62160	62160	120620	120620	182746	182746
R^2	0.344	0.496	0.347	0.481	0.264	0.367

[1] Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A8: Treatment Effects over Time

Dependent variable: Relative price	(1)	(2)	(3)	(4)
Post-Treated Period	Sept-Dec 14	Jan-Apr 15	May-Aug 15	Sept-Dec 15
Panel A: Treatment Effects with High-level Officials				
After×High	-0.0924***	-0.1433***	-0.1660*	-0.0849
	(0.0316)	(0.0503)	(0.0855)	(0.0715)
Time FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	1.1394	1.3287	1.6092	1.3658
Observations	214568	209226	218359	213090
R^2	0.358	0.487	0.436	0.319
Panel B: Treatment Effects with Low-level Officials				
After×Low	-0.0140	-0.0085	-0.0585	-0.0352
	(0.0247)	(0.0387)	(0.0616)	(0.0566)
Time FE	X	X	X	X
Stock FE	X	X	X	X
Mean Dep.	1.1643	1.3423	1.6325	1.4110
Observations	256459	250011	261008	254724
R^2	0.392	0.497	0.471	0.344

[1] This table shows results from propensity score estimation with caliper matching. Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Pre-treated Sample: Jun-Sept 2013.

Table A9: Difference-in-Difference Estimation: By Sector

Dependent variable: Relative price	Treat = High		Treat = Low	
Treatment	Coefficient	N of firm treated	Coefficient	N of firm treated
Panel A: Caliper Matching				
After×Treat×				
Manufacturing	-0.0197	140	-0.0276	273
	(0.0380)		(0.0296)	
Non-manufacturing	-0.2102***	85	0.0175	119
	(0.0536)		(0.0446)	
Stock FE	X		X	
Mean Dep.	1.1394		1.1643	
Observations	214568	256459		
R^2	0.465	0.506		
Panel B: Pairwise Matching				
After×Treat×				
Manufacturing	-0.0351	143	-0.0401	275
	(0.0518)		(0.0525)	
Non-manufacturing	-0.1620***	97	-0.0006	140
	(0.0616)		(0.0480)	
Stock FE	X		X	
Mean Dep.	1.1337		1.1604	
Observations	73268	120620		
R^2	0.451	0.483		

[1] Coefficients for $Sector\# \times After$ and $Sector\# \times Treat$ are not shown.
[2] The following sectors are not included due to insufficient sample size: Education, Finance, Science and technology, Medical and social work and General.
[3] Clustered standard errors in parentheses.
[4] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[5] Sample: Jun-Sept 2013, Sept-Dec 2014.

Table A10: Placebo Test for Anticipation

Dependent variable: Relative price	(1)	(2)	(3)	(4)	(5)	(6)
		Treat=High			Treat=Low	
After×High	-0.0033	-0.0036	-0.0035			
	(0.0200)	(0.0200)	(0.0200)			
After×Low				-0.0156	-0.0152	-0.0152
				(0.0135)	(0.0135)	(0.0135)
After	-0.0005	-0.0006		0.0074	0.0073	
	(0.0102)	(0.0102)		(0.0075)	(0.0075)	
High	0.0084					
	(0.0224)					
Low				0.0154		
				(0.0152)		
Time FE			X			X
Stock FE		X	X		X	X
Mean Dep.	0.9465	0.9465	0.9465	0.9462	0.9462	0.9462
Observations	99897	99897	99897	119394	119394	119394
R^2	0.000	0.000	0.036	0.001	0.001	0.039

[1] $After = 1$ if the date is after Mar 14, 2013; otherwise, $After = 0$.
[2] Cluster-matched sample.
[3] Clustered standard errors in parentheses.
[4] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[5] Sample: Jan-Feb 2013, Aug-Sept 2014.

Table A11: Regression Discontinuity on Resignation Day: High-level Official

Dependent variable: Relative price	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A: No Control			
After	0.0097*	0.0085	0.0087*	0.0092	0.0007	0.0079*
	(0.0058)	(0.0059)	(0.0044)	(0.0058)	(0.0038)	(0.0047)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	1.1613	1.1613	1.1613	1.1613	1.1613	1.1613
Observations	4959	4959	4959	4959	4959	4959
R^2	0.005	0.004	0.005	0.005	0.005	0.005
			Panel B: Controlling for Stock Fixed Effect			
After	0.0097*	0.0085	0.0087*	0.0092	0.0007	0.0079*
	(0.0058)	(0.0059)	(0.0044)	(0.0058)	(0.0038)	(0.0047)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	1.1613	1.1613	1.1613	1.1613	1.1613	1.1613
Observations	4959	4959	4959	4959	4959	4959
R^2	0.087	0.086	0.088	0.087	0.088	0.087

[1] Clustered robust standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Sample period: ±14 days.

Table A12: Regression Discontinuity on Resignation Day: Low-level Official

Dependent variable: Relative price	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A: No Control			
After	0.0073	0.0052	0.0017	0.0066	-0.0047	0.0036
	(0.0050)	(0.0050)	(0.0035)	(0.0050)	(0.0037)	(0.0038)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	1.2407	1.2407	1.2407	1.2407	1.2407	1.2407
Observations	9048	9048	9048	9048	9048	9048
R^2	0.003	0.003	0.003	0.003	0.003	0.003
			Panel B: Controlling for Stock Fixed Effect			
After	0.0073	0.0052	0.0017	0.0066	-0.0047	0.0036
	(0.0050)	(0.0050)	(0.0035)	(0.0050)	(0.0037)	(0.0038)
Polynomial Order	1	1	2	2	3	3
Interactions	X		X		X	
Mean Dep.	1.2407	1.2407	1.2407	1.2407	1.2407	1.2407
Observations	9048	9048	9048	9048	9048	9048
R^2	0.063	0.060	0.063	0.063	0.063	0.063

[1] Clustered robust standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
[3] Sample period: ±14 days.

Table A13: Change in Capital-Labor Ratio

Dependent variable: Log difference of K/L ratio		
Treatment	(1)Treat = High	(2)Treat = Low
	Panel A: No Matching	
Treat	0.0242	0.0152
	(0.0253)	(0.0212)
Constant	-0.4740***	-0.4740***
	(0.0100)	(0.0103)
Observations	1737	1913
R^2	0.001	0.000
	Panel B: Pairwise Matching	
Treat	0.0409	0.0080
	(0.0378)	(0.0259)
Constant	-0.5037***	-0.4733***
	(0.0268)	(0.0183)
Observations	450	740
R^2	0.003	0.000
	Panel C: Caliper Matching	
Treat	0.0024	0.0055
	(0.0199)	(0.0183)
Constant	-0.4689***	-0.4779***
	(0.0141)	(0.0129)
Observations	1317	1574
R^2	0.000	0.000

[1] Clustered standard errors in parentheses.
[2] * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.