10-2016

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Political Turnover, Ownership, and Corporate Investment*

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October 25, 2016

ABSTRACT

We examine the impact of political influence and ownership on corporate investment by exploiting the unique way provincial leaders are promoted in China. The tournament-style promotion system creates incentives for new governors to exert influence over investment in the early years of their term. We find a divergence in investment rates between state owned enterprises (SOEs) and private firms following political turnover. SOEs increase investment by 6.0% following the turnover while investment rates for private firms decline, suggesting that the political influence exerted over SOEs may crowd out private investment.

*We thank Gennaro Bernile, Eitan Goldman, Maria Grith, Jarrad Harford, Keng-Yu Ho, Henry Huang, Nga Pham, Yaxuan Qi, Yuehua Tang, Gary Tian, Alireza Tourani-Rad, Yongxiang Wang, Hong Yan, Bohui Zhang and seminar participants at the 2014 SMU Finance Summer Camp, the 2014 Auckland Finance Meeting, the 2014 Australasian Finance and Banking Conference, the 2015 FSU SunTrust Beach Conference, the 2015 Asian Bureau of Finance and Economic Research Annual Conference, the 2015 China International Conference in Finance, the 2015 World Finance Conference, the 2015 IFABS Corporate Finance Conference, the 2015 FMA Annual Meeting, Jiangxi University of Finance and Economics, Tongji University, and University of Macau for their helpful comments. All remaining errors are our own responsibility. Send correspondence to Brandon Julio, Department of Finance, Lundquist College of Business, University of Oregon, Eugene, OR 97403; Telephone: +1 (541) 346-4449; Email: bjulio@uoregon.edu.

I. Introduction

We exploit a unique feature of political transition in China to examine how the personal incentives of politicians influence real investment. Certain types of politicians are promoted within the Communist party based on the economic performance in the region in which they govern. Since politicians in China exert a great deal of power over state-owned enterprises (SOEs), we hypothesize that the investments of SOEs vary with the political turnover cycle across the provinces in China. The incentive to report strong growth over the political tenure of office combined with time-to-build considerations suggest that investment by SOEs should be highest right after a new politician is appointed as a provincial governor so that these politics-fuelled investment projects can be completed within the politician's term of office. We examine whether these hypothesized dynamics of investment for SOEs are present in China around political turnovers. We also examine the effects of political influence over SOE investment on the investment choices of private listed firms (non-SOEs) in the Chinese economy. We find that political incentives do influence investment behavior and that these effects appear to represent a misallocation of capital over time as the investment of privately owned firms is crowded out by the politically controlled investment of SOEs and capital expenditures become less sensitive to measures of investment opportunities.

China, as the world's largest emerging economy, is unique both politically and economically in several ways. First, the connection between economic activities and political influence in China is extremely close in the sense that political agendas and national priorities often lead economic activities. It has been observed that Chinese leadership transitions at both central and local levels have been accompanied by increases in government spending and corporate investment (e.g., Li (2011) and Chowdhury and Mendelson (2013)). Government leaders at both the central and provincial levels have enormous power in the economy to promote growth through investment projects, especially large infrastructure projects. For example, Wu et al. (2013) show that local politicians have stronger incentives to invest in infrastructure projects over other types of investment projects,

because spending on the former is positively correlated with their chances of promotion.[1] Under China's current political system, government bureaucrats have great control over the allocation of resources such as capital (loans through state-owned banks), land supply and government concessions, contracts, and appointment of executives in SOEs. Research on China's economic and financial issues must take into consideration the relationship between economic and political institutions (Parish and Michelson (1996)). Second, political leaders are appointed rather than elected. National leaders in the central government are changed every ten years and provincial leaders are typically replaced every five years.[2] Finally, investment in China is very high relative to other countries in the world. In 2013, the investment-to-GDP ratio in China was 47.1%. China's investment rate compares to 16.8% in the United States and 27.4% and 21.2% in South Korea and Japan, respectively. The vast amount of resources devoted to investment along with the influence of political leaders make China an interesting and important setting to study how politics influence investment and whether the quality of investment is affected by political involvement.

China is also unique in the way politicians move from one post to another. The promotion of politicians in China follows a tournament system where politicians are rewarded for stimulating economic growth in the region in which they govern. The appointment and evaluation of provincial leaders is done through a process in which the central government has power and discretion over personnel choices. Similarly at the firm level, CEOs of central and local SOEs are appointed by the central and local governments, respectively. The government in most cases remains, directly or indirectly, the largest and controlling shareholder in SOEs.[3] In this sense, corporate decisions of SOEs are often very sensitive to political influences. For example, political leaders can influence SOEs directly through arranging preferential treatment in bank credit, government subsidies, and market entry compared to private enterprises (Faccio, Masulis and McConnell (2006), Claessens,

[1]The idea is that in order to impress their superiors and improve the chances of being promoted, local politicians prefer infrastructure projects as the economic outcomes of these projects are easily quantifiable and more measurable, relative to other projects (Guo (2009)).

[2]Since Mao's death in 1976, central level leadership transition becomes a regular phenomenon.

[3]In 2006, SOEs accounted for more than 30% of the China's GDP and approximately 90% of all publicly listed firms. SOEs play a central role in pivotal industries such as energy, steel, machinery and national defence (Li and Putterman (2008)). The public sector is often dominated by large SOEs, that provide key inputs to facilitate private sector growth and investment, and is regarded as a foundation of national growth.

Feijen and Laeven (2008), Li, Meng, Wang and Zhou (2008)). Political leaders can also cast their influence on SOEs through indirect channels such as affecting personnel decisions. Various levels of governments in China thus often seek to direct investment in order to achieve policy goals, especially in SOEs. It is reported that in many industries, such as natural resources, civil aviation, real estate, and finance, SOE investment has crowded out the investment of private firms.[4] This phenomenon, known as *Guo Jin Min Tui* in Mandarin Chinese, describes how the state advances and the private sector recedes.

We hypothesize that the incentives of politicians arising from provincial political turnovers have a significant impact on local firm-level investment. When the government has great influence on corporate decisions, firm level investment may vary around the timing of political leader changes. Corporate investment policy changes may be due to both political uncertainty ex ante and political influence ex post. Fan, Wong and Zhang (2007) show that newly privatized Chinese firms with politically connected CEOs often have poor governance and performance. Using Indian data, Alok and Ayyagari (2015) show that political interference affects SOE investment and leads to inefficiencies in investment projects as measured by negative announcement returns. Since SOEs make decisions not only to maximize shareholder value but also to serve political interests, we hypothesize that SOEs differ from non-SOE firms and exhibit different investment patterns corresponding with local top leader turnovers. For SOEs, managers often are appointed by government, which means they want to serve the interest of the politicians more than that of shareholders, e.g., helping political leaders to improve economic performance by expansions or increasing capital expenditures. In contrast, non-SOEs, firms with private investors as controlling shareholders, are not directly influenced by provincial governors and are hence less likely to invest based on the wishes of the provincial governor.

Our results are consistent with the hypothesis that political turnover and the incentives of the new provincial politicians influence real corporate decisions through their influence on state-owned firms. The main finding and the primary contribution of this paper is that there is a divergence in investment rates between SOEs and non-SOEs in the period just following the turnover. The

[4]"China's State Sector Urged to Boost Economy", *Financial Times*, December 26, 2008.

investment rates of SOEs increase significantly early in the new term of a provincial governor, consistent with the view that politicians exert their influence on investment in an effort to boost economic growth in the province and increase their likelihood of future political promotion. At the same time, the investment rates of non-SOEs decline after the turnover. The wedge in investment rates between SOEs and non-SOEs is estimated on a within-industry basis, suggesting that the political boost in investment for SOEs has a crowding-out effect on private investment in the post-turnover period. The crowding out effect documented in this paper is novel and consistent with the macro-level evidence in Xu and Yan (2014) that government investment through SOEs crowds out private investment. We also find that corporate investment becomes significantly less sensitive to measures of investment opportunities, suggesting that political influence is a source of capital misallocation.

Top provincial leaders include both governors and party secretaries. Since the dual leadership system is unique in China, it is important to distinguish their functional roles. Governors are mainly responsible for resource allocation and promoting provincial economic development, while party secretaries represent the communist party's interests and ensure the implementation of party policies from higher levels.[5] As such, we examine turnovers of both governors and party secretaries at the provincial level separately. We find evidence suggesting that provincial governors exert more influence over SOEs in the early part of their term as the results are much stronger for governor turnovers compared to the turnovers of party secretaries.

To further tighten the identification of political influence effects on firm investment and to enrich the analysis, we exploit heterogeneity in the strength of the incentive to boost investment across politicians. Politicians' personal attributes such as age, education, birthplace and previous working experience provide variation in the degree to which career concerns affect economic decisions. For example, we exploit the fact that, due to the existence of the mandatory retirement rule, older politicians, especially those approaching the mandatory retirement age of 65 at the time of appointment, become more concerned about their future political careers relative to younger ones,

[5] See, for example, Tan (2006) for a detailed discussion of the different roles played by provincial party secretaries and governors in the Chinese political system.

as retirement is foreseeable and the chances of being promoted are small. As a result of the career concerns, older politicians have stronger incentives to manipulate investment through SOEs to stimulate local economy. In line with this view, we show that the boom in SOE investment following turnovers is mainly caused by older provincial governors whose ages generate an additional incentive to invest. Furthermore, we show that the increase in post-turnover investment among SOEs mainly takes place in provinces where the political turnovers involve normal transitions (being promoted or laterally moved at the same rank) and less-educated immediate successors (having bachelors degrees or less), and when successors are born locally (assuming offices in their birth provinces). These findings are consistent with the cross-sectional identification predictions.

We provide a detailed discussion of the possible underlying mechanisms through which the post-turnover crowding out effect may occur. One possibility is that the results on crowding out are coming through a credit channel through which new political leaders exert their influence on banks and diverts loans disproportionally from banks towards SOEs. Due to data availability, we examine changes in firm leverage instead of bank lending behavior around the turnover cycle to infer a possible credit channel. We find that following a turnover event, SOEs experience a large increase in firm leverage while non-SOE firms do not. Overall, the leverage results provide corroborating evidence that the post-turnover crowding out effect of SOE investment on private investment is coming through a credit channel. In related tests, we also examine changes in firm employment around the turnover events. We show that the patterns for employment largely mirror those of firm leverage and capital investment. This finding is again consistent with our primary hypothesis that political influence exerted over SOEs investment post-turnover acts to crowd out private investment.

In our final set of analyses, we implement several robustness tests to check the consistency of our results. First, we verify that our main results are not spuriously driven by some underlying regional or nonlinear temporal time trends in the data by estimating a placebo (falsification) test with randomly generated political turnover events. Second, we run our baseline tests using only a set of unexpected turnovers where provincial governors are replaced unexpectedly. We obtain the same qualitative results, thereby ensuring that our findings do not simply pick up the effects of

changes in investment opportunities induced by anticipated turnovers coinciding with the national turnover cycles in 1998, 2003 and 2008. Third, we perform two additional tests on the sample selection. We show that our results are not sensitive to excluding the centrally owned SOEs from the sample and/or restricting the sample to the period starting from 2002, the year after the Chinese stock market reform. Fourth, we verify that the results continue to hold when we use the industry mean Tobin's Q and the industry median Tobin's Q as alternative measures of growth opportunities, instead of market-to-book ratio and sales growth. Finally, we show that the results on crowding out are robust to an alternative regression specification that explores whether contemporary non-SOE investment in year t follows lagged SOE investment in year $t-1$ around the political turnover cycle.

Our paper contributes to the literature on the effects of political change on corporate investment in general and in China specifically. Julio and Yook (2012) find that in countries with competitive elections, investment tends to be lower just before the election due to political uncertainty, while Durnev (2010) shows that investment becomes less efficient in an election cycle. Li and Zhou (2005) present empirical evidence on the link between political turnover of top provincial leaders and provincial economic performance (measured by GDP growth). Maskin, Qian and Xu (2000) and Chen, Li and Zhou (2005) show that the economic performance is an important predictor of political promotion of top provincial leaders in China, while Cao et al. (2013) study CEO political promotions as incentive mechanisms in SOEs since they have concerns about future political careers. Both Maskin, Qian and Xu (2000) and Cao et al. (2013) show that the probability of promotion increases with the average economic performance during the tenure term. Our study on firm-level investment behavior around political turnovers sheds lights on the channels through which top provincial leaders attempt to prop up provincial economic performance by affecting the investment policies of SOEs. Chen et al. (2011) show that SOEs invest less efficiently than non-SOEs in China due to government interventions such as state ownership or appointment of top executives. Piotroski and Zhang (2014) show that the incentives of local politicians lead to more IPO volume just before provincial turnover and that these politically motivated IPOs tend to underperform public offerings in other periods. In a similar research setting, Piotroski, Wong

and Zhang (2015) show that political incentives also suppress negative news release of affiliated firms. Cohen, Coval and Malloy (2011) show how increased government activity in the form of exogenous spending increases in the United States crowds out private investment.

The paper also provides new supporting evidence for what Shleifer and Vishny (2002) term the "grabbing hand" view of government. Shleifer and Vishny (2002) argue that privatization of state firms is controlled by politicians who act to maximize their private benefits. Our research also contributes to the strand of literature examining potential over-investment of firms in China. For example, Ding et al. (2010) find that firms in China over-invest in almost all sectors. Liu and Siu (2011) find that SOEs compared to private controlled firms are more severe in over-investment problems. Our paper also contributes to the literature on political connections in China. Chen et al. (2011) find that political connections significantly reduce investment efficiency in SOEs but not in non-SOEs. Geng and N'Diaye (2012) report that investment in China is artificially propped up by low interest rates and an undervalued currency. Our paper highlights that political connections and ownership may contribute to over-investment by Chinese firms.

Following the 2008 financial crisis, many investment projects have been announced as part of Chinese government's initiatives to stimulate the economy. For example, both provincial and municipal governments unveiled ambitious investment plans to spend more than $1.6 trillion on infrastructure and industrial projects, according to the National Development and Reform Commission, a central planning agency. According to Barnett and Brooks (2006), SOEs accounted for two-thirds of total Chinese investment in 1990, while their share remained over one-third by 2004. Given the size of investment in China and its link to economic growth, an understanding of the quality of capital allocation is central to the welfare benefits of China's industrial policy. Our paper suggests that significant investment distortions are present in China and these distortions are caused to some extent by the high degree of influence provincial governors hold over state-owned firms.

The remainder of the paper proceeds as follows. Section II summarizes and describes our sample of firms. Section III discusses the identification strategy and presents our main empir-

ical results related to firm corporate investment dynamics around the political turnover events, including various subsample analyses, multiple robustness checks and a detailed discussion of the possible underlying channels through which politicians influence the investment of both SOEs and non-SOEs in China. Finally, Section IV offers a summary and concludes the paper.

II. Data Description, Variable Definition and Summary Statistics

Our turnover data contains 113 turnovers of top provincial governors that occurred in mainland China's 31 provinces between 1998 and 2012. The data, compiled from a variety of internet sources, contain detailed personnel information regarding each governors age, education, birthplace, previous working experience and most importantly the timing and nature of the turnover and appointment.[6] Macroeconomic data and firm characteristics such as assets, sales, and employment, etc., are obtained from the Chinese Stock Market Accounting Research (CSMAR) database. Our initial sample consists of all domestic firms listed on both the Shanghai Stock Exchange and Shenzhen Stock Exchange for the period 1998 to 2012. We start our sample period from 1998 to match the availability of listed firms' financial statements (especially the cash flow statements) in the CSMAR database. We end the sample period in 2012 because after the unprecedented anti-corruption campaign launched under President Jinping Xi in late 2012, high-level government officials in China had to take their eye off growth problems and devote their primary attention to political corruption instead.[7] Data on firms' headquarter location at the city level come from Wind database

[6]These internet sources include Who's Who in the CCP database of http://xinhuanet.com/, China institutions and leaders' database of http://people.com.cn/ and the Central Peoples' Government of the Peoples' Republic of China website www.gov.cn. In addition, two governor turnovers (Xuenong Meng, governor of Beijing from January 2003 to April 2003 and Jinping Xi, acting governor of Zhejiang province from October 2002 to January 2003) are excluded in our sample as their tenure durations are less than one year.

[7]Upon taking over China's top leadership in late 2012, President Jinping Xi launched the most extensive campaign against corruption in the history of Communist rule in China. According to the statistics of the ChinaFile "Catching Tigers and Flies" database, a total of 159 high-ranking officials (or "tigers") were investigated and prosecuted during the period from 2013 to 2015, including former national security chief, Yongkang Zhou, the first Politburo Standing Committee member that was investigated for corruption in the Communist Party's history. On the other hand, only 4 "tigers" had been caught in 2012, the year before President Jinping Xi assumed office. Here, "tigers" are individuals

and are manually matched to corresponding provinces subsequently. Delisted firms, financial firms and firms with less than three observations (e.g. IPO year $\geq$ 2010) are further excluded from the sample. Finally, all continuous variables, except economic variables, are winsorized at their 1st and 99th percentiles throughout the analysis in order to minimize the impact of data errors and outliers. The results are not sensitive to any of the above filters.

We determine the nature of firm ownership from CSMAR's China listed private enterprise database and divide the full sample into two subgroups according to the ownership type of firms' ultimate controlling shareholder (i.e., state-owned listed versus private listed). We identify the ultimate controlling shareholder by tracing up the control chains of the listed firms. We further supplement the ownership data with hand-collected data from firms' annual reports for cases in which the ownership information is missing or incomplete from CSMAR database. A firm is defined as a SOE if the ultimate controlling shareholder of the listed firm is a government entity including the central government, local governments and other governmental institutions such as State-owned Assets Supervision and Administration Commission (SASAC). On the other hand, a firm is considered to be a non-SOE if its ultimate controlling shareholder is an entrepreneur or a non-government entity, such as a village or a foreign company. By applying these selection criteria, we end up with a sample of 2,578 firms spanning 15 years for a total of 21,552 unique firm-year observations, of which 1,159 firms with 12,823 observations are state-owned listed.

Appendix A lists the detailed definitions and sources of all main variables used in our analysis, including both dependent variables and control variables. The key dependent variable is the firm-level investment rate, defined as capital expenditures divided by beginning-of-year book value of total assets (lagged total assets), where capital expenditures are calculated as cash payments for the acquisition of fixed assets, intangible assets and long-term assets from the cash flow statement minus cash receipts from selling these assets, plus cash pay for operating lease.[8] The key control

whose official rank is at, equivalent to, or above the deputy ministerial or deputy provincial level. The ChinaFile "Catching Tigers and Flies" database is available at https://www.chinafile.com/infographics/visualizing-chinas-anti-corruption-campaign.

[8]Our measure of investment to asset ratio is equivalent to capital expenditures (Compustat data item #128, CAPX) commonly used in U.S. based studies. For example, Chen et al. (2011) use this measure to examine government intervention and changes in investment efficiency in China.

variables include Tobin's Q, calculated as the book value of total assets minus book value of equity plus market value of equity scaled by book value of total assets.[9] Cash flow is measured as earnings before interest and taxes (EBIT) plus depreciation and amortization minus interest expense and taxes scaled by beginning-of-year book value of total assets. State-owned enterprise (SOE) dummy is an indicator variable set equal to one if the ultimate controlling shareholder of the listed firm is a government entity, and zero otherwise. Given that the average length of tenure for governors is about four years in our sample, we further include four turnover event time dummy variables: the pre-turnover year [-1] dummy, the turnover year [0] dummy, the one-year post-turnover [+1] dummy and the two-year post-turnover [+2] dummy, where year zero indicates the actual turnover event year. The timing of the dummy variables is set to capture the firms' investment dynamics during the full political turnover cycle.

Table I reports summary statistics of the number of turnovers and the classification of turnover types for each of the 31 provinces in mainland China for the sample period from 1998 to 2012. Figure 2 further visualizes the geographic distribution of the turnover events across provinces.

[Insert Table I here]

In Table I, we categorize turnovers into normal and abnormal types according to the nature of the turnover. We define normal turnovers as the cases when top provincial leaders are laterally moved to positions of the same rank or promoted. On the other hand, we define abnormal turnovers as the cases when a top leader is dead, demoted, resigned, retired or indicted. Our categorization of normal versus abnormal turnovers follows the identification and classification of Chen, Li and Zhou (2005) and Li and Zhou (2005). There are 113 turnover events of provincial governors for the period 1998 to 2012, distributed quite evenly across the 31 provinces in China. Among the

[9]There are two types of shares in the Chinese stock markets: tradable shares and non-tradable shares, with non-tradable shares decreasing over time due to the split share structure reforms introduced by CSRC at the end of 2005. Chen and Xiong (2001) point out that such non-tradable shares are normally traded at an illiquidity discount of between 70% to 80% of the market value of tradable shares. Following Bai et al. (2004), we discount the market value of non-tradable shares by 70% relative to the value of tradable shares. We sum the market values of both tradable and non-tradable shares to compute the market value of equity of the firm used in the measurement of Tobin's Q. In unreported analysis, we show that our results are robust to using a 80% discount rate for the value of non-tradable shares.

turnovers, 83 are classified as normal type and the rest are classified as abnormal. The distribution of turnovers offers a great deal of cross-sectional variation to test their effects on firm investment. The sample of SOEs consists of 12,667 unique firm-year observations, while the non-SOE sample contains 7,923 firm-year observations. In general, Beijing, Guangdong, Jiangsu, Shandong, Shanghai and Zhejiang have more listed firms than other provinces but a comparable number of political turnovers. Table II reports the distribution of firm-year observations and the turnovers of provincial governors by each calendar year from 1998 to 2012.

[Insert Table II here]

Table II shows that turnovers of provincial governors occur every 4.11 years on average and the average length of tenure for governors is 4.14 years. Peak of turnovers happens in 1998, 2003, and 2007. Firm observations increase over time reflecting increased IPO volume over the sample period. Table II also indicates that governor turnovers are centered on the past Third Plenary Session of the Central Committee of the Communist Party, a key event that often marks new reforming policies for economic and social development. Table III summarizes our full sample.

[Insert Table III here]

Panel A of Table III summarizes firm characteristics used in our analysis. In the full sample, the mean firm investment rate, defined as capital expenditure divided by lagged total assets, is 0.0655 with a median of 0.0387. Tobin's Q has mean of 2.14 and median of 1.70. Cash flow deflated by lagged total asset has mean value of 0.0657 and median value of 0.0608. Firms' sales grow at mean rate of 0.2305 and median rate of 0.1320. These summary statistics are consistent with earlier literature on Chinese firms such as Chen et al. (2011). SOEs have slightly higher investment rates compared to the whole sample. Non-SOEs have slightly lower investment rates compared to SOEs but have a significantly larger average Tobin's Q and experience higher rates of sales growth.

Panel B of Table III reports the mean investment rates for the full sample, SOEs and non-SOEs separately during the turnover event time [-1, +2] period, with year 0 being the calender year the

actual turnover occurred. We first consider the full sample. Unconditionally, firm investment rates are slightly lower in pre-turnover years than in other years. On the other hand, investment rates increase over the turnover event time period and keep rising up to one year post-turnover. The investment rate one year post-turnover has a mean value higher than any other turnover years. For example, the average investment rate is 0.0679 one year post-turnover, representing a 4.6% increase relative to the mean investment rate of 0.0649 in other sample years. On average, firms' investment rates in the full sample show an increasing trend over the turnover event time [-1, +1] period as depicted in Panel B of Table III. For SOEs, the mean investment rate one year pre-turnover is not different much from other years, but SOE investment rates are significantly higher one year post-turnover. The difference amounts to 0.0070, representing approximately a 10% increase from the mean investment rate of 0.0666 in other years. The table also shows that non-SOEs exhibit different patterns in investment from SOEs. Although on average, non-SOEs have lower investment rate than SOEs, the mean investment rate of non-SOEs does not experience significant decrease or increase over the [-1, +1] turnover event time period. In addition, Panel B of Table III indicates that investment rates of non-SOEs drop significantly two year post-turnover, compared with other sample years.

[Insert Figure 1 here]

Figure 1 compares mean investment rates over the turnover event time [-1, +2] period for the full sample, SOEs and non-SOEs separately. A clear pattern emerges from Figure 1: investment rates for the full sample shows an increasing trend and the trend pattern is much more noticeable for SOEs. For SOEs, investment peaks one year post-turnover; while for non-SOEs, investment generally peaks one year pre-turnover and then deteriorates quickly. The wedge between investment rates of SOEs and non-SOEs increase sharply over the [-1, +2] turnover period.

III. Empirical Results

A. Regression Specification

To test for changes in the investment dynamics of firms across the turnover cycle that cannot be explained by standard explanatory variables in a multivariate setting, we follow Julio and Yook (2012) and estimate the following augmented version of the standard investment-Q regression model:

$$\begin{aligned} I_{ijt} &= \alpha_i + \gamma_t + \beta_1 \text{Pre-Turnover}_{j,t-1} + \beta_2 \text{Turnover}_{j,t} + \beta_3 \text{Post-Turnover}_{j,t+1} \\ &\quad + \beta_4 \text{Post-Turnover}_{j,t+2} + \beta_5 Q_{i,t-1} + \beta_6 CF_{i,t} + \beta_7 \%\Delta GDP_{j,t-1} + \beta_8 \%\Delta Sales_{i,t} + \varepsilon_{ijt} \end{aligned} \tag{1}$$

where *i* stands for the firm, *j* indexes the province, and *t* denotes the year. The above specification uses firms in provinces without a political turnover event as the control sample for a treated sample of firms in provinces that have turnover events over the same time period. The dependent variable is firm-level investment rate, defined as capital expenditures scaled by lagged total assets, where capital expenditures are calculated as cash payments for the acquisition of fixed assets, intangible assets and long-term assets from the cash flow statement minus cash receipts from selling these assets, plus cash pay for operating lease. The primary explanatory variables of interest are time-province dummies measuring the periods before and after the political turnover event. First is the turnover year dummy, which equals to one if the firm-year-province pair falls in the period of the turnover event year, when the actual provincial turnover took place.[10] The pre-turnover year dummy is set equal to one if the firm-year-province pair falls in the one year period immediately before the turnover event year. Similar to the construction of the pre-turnover year dummy, the one (two) year post-turnover year dummy takes a value of one if the firm-year-province pair falls

[10] In unreported analysis, we show that our main results are robust to rounding monthly turnover event into year frequency using either June or July as cutoffs. For example, when using June as the cutoff, a successor will be in office for the majority of the year if the turnover event occurred before June. We consider the actual turnover year as the event year. On the other hand, if the turnover event took place after June, the successor will be in office for less than half a year. We then consider the year after the actual turnover year as the event year.

in the one (two) year period immediately after the turnover event year. These turnover event time dummies are designed to capture changes in the conditional investment rate across the [-1, +2] turnover cycle. Other explanatory variables include Tobin's Q, cash flow and provincial-level real GDP growth rates, which are commonly used in the investment literature to control for firm investment opportunities and provincial economic conditions (see, for example, Eberly, Rebelo and Vincent (2009) and Ozbas and Scharfstein (2010)). Section II and Appendix A provide details on variable descriptions as well as variable sources. In addition, we include firm sales growth as an addition control for expected future demand (Bloom, Bond and Van Reenen (2007)).[11]

In order to control for time-variant unobservable variation, we further include both firm and year fixed effects in the baseline investment regression. This specification captures the within-firm variation in conditional investment rate around political turnover event years. Following Petersen (2009), we compute heteroskedasticity-adjusted robust standard errors clustered at the firm level in all specifications, to mitigate serial correlation. This specification is the most appropriate in a panel with a large cross-section of firms but a small number of periods (Petersen (2009)). For robustness, we also repeat our analysis with standard errors alternatively clustered at the province and year levels and obtain slightly weaker but still significant results. To save space, the robustness with alternative standard error estimates are not reported but are available upon request.[12]

B. Investment around Turnover Years

In Table IV, we report the empirical results for our baseline specification separately for the the full sample, the sample of SOEs only, and the non-SOE sample. We estimate panel regressions

[11] We note that *Tobin's Q* is a forward-looking measure of growth opportunity as the market value of equity already incorporates information about expected future growth. While $\%\Delta Sales$ reflects past sales growth, which contains some transitory component.

[12] As pointed out by Petersen (2009) and Thompson (2011), two-way clustering is only valid provided that: (i) Both N and T are "large"; and (ii) The aggregate shocks must dissipate over time. In such cases, clustering by two dimensions will likely produce unbiased standard errors. Our sample fits neither of these two requirements. First, in our sample N exceeds 2,500 firms but the average T is around 11.6 years with a maximum of 15 years. Second, the turnovers are centered around the Third Plenary Session of the Central Committee of the Communist Party as tabulated in Table II.

and include firm and year fixed effects in all specifications. Robust standard errors are clustered at firm level.

[Insert Table IV here]

Table IV reports the estimation results for all three samples. The first two columns report the estimates for the full sample, the third and fourth columns report results for SOEs, and the final two columns report the estimates of the investment regressions for the non-SOE sample. We estimate two specifications for each sample that differ only in whether a two year post-turnover dummy is included.

For the full sample (first two columns of Table IV), we find a negative relationship between the pre-turnover dummy and corporate investment rates, consistent with the prior literature documenting pre-election declines in firm investment rates in the presence of heightened political uncertainty before a turnover event (Julio and Yook (2012) and Jens (2016)). Investment rates are not significantly different from other periods in the turnover year nor in the post-turnover period. The coefficients on the control variables are consistent with the investment literature. Corporate investment is positively related to Q, cash flow, sales growth, and regional economic growth.

As the univariate tests in Table III and as Figure 1 shows, there are important differences in investment behaviors between SOEs and non-SOEs over the provincial turnover cycle. SOEs show a noticeable increasing pattern following political turnovers while non-SOEs exhibit a clear decreasing trend around political turnovers. Given these difference, we divide the full sample into two groups by their ownership type, i.e., SOEs versus non-SOEs, and estimate the baseline regression on these two subsamples separately.

Specifications (3) and (4) of Table IV report the regression results for the sample of SOEs. Corporate investment rates for SOEs are negative but not statistically significantly different in the pre-turnover year and the turnover year. However, we see a large increase in investment rates in the post-turnover year. The negative coefficients of pre-turnover dummy and the positive significant coefficients on the one-year post-turnover dummy together suggest that SOEs exhibit a tendency to

first slightly decrease investment immediately before change in governors but scale up investment right after a new provincial governor takes office. The estimates in specification (3) show that investment rates first decrease by 0.0022 in pre-turnover years and then increase right away by 0.0040 on average in the one-year post-turnover period, after controlling for growth opportunities and macroeconomic conditions. In terms of economic magnitude, the coefficients in specification (3) translates into a 3.2% decrease and a 6.0% increase in investment rates in the one-year pre- and post-turnover years respectively, relative to mean investment rates in other sample years.

Specifications (5) and (6) of Table IV report the regression results for the sample of non-SOE firms. We find that non-SOEs generally invest less in the pre-turnover period. We also find, in contrast to the behavior of SOEs, investment rates for non-SOEs decline in the post-turnover period. In terms of economic magnitude, these coefficient estimates in Specification (5) and (6) translate into an 4.8% to 8.2% drop in investment rates during the one-year post-turnover period, compared with mean investment rates in other sample years. As before, the other coefficient estimates are consistent with the literature in terms of signs and magnitudes. For robustness, we also estimate panel regressions with standard errors double-clustered at both economic region and year levels for non-SOEs and find similar results.

Overall, the regression results highlight an interesting pattern in corporate investment activity around the turnover of provincial governors in China. First, we find a negative relationship between investment and the pre-turnover period for non-SOEs. This is consistent with the findings of Julio and Yook (2012) in the sense that non-SOEs face political uncertainty prior to political leadership changes. We also find a robust increase in investment rates for SOEs following the appointment of a new provincial governor. The investment-to-assets ratio for SOEs increases by approximately 6.0% to 6.9%. The post-turnover increase in investment is a novel finding in the literature. The evidence is consistent with the view that the incentives of provincial governors lead them to exert influence on the investment policy of SOEs very early in their new term. In China, SOEs often follow political leadership and through SOEs, newly appointed bureaucrats stimulate investment activities to showcase their economic agenda for regional development.

The contrasting evidence of the effect of political turnovers on investment between SOEs and non-SOEs is consistent with the unique political institutions in China. Non-SOEs are more immune from political influence as they are more likely to maximize their private shareholders value. Therefore, political turnovers of provincial governors do not necessarily directly interfere in firm decisions or investment activities. Provincial-level SOEs, on the other hand, are sensitive to political interference and political agendas as provincial governors exert a great degree of influence on firm decisions. SOE investment therefore is subject to political uncertainty ex ante and political influence ex post. The results suggest the possibility that the increasing investment rates of SOEs post-turnover crowd out the investment of non-SOEs. The next section examines this hypothesis in detail.

C. Post-turnover Crowding Out Effects

The prior literature focusing on political turnover and investment has largely ignored the widespread concern that political influence exerted over investment policies of SOEs may crowd out the investment of private firms in the post-turnover period. Politically motivated investment booms accompanying both central and local level governor turnovers is highly anticipated and visible (Li (2011) and Chowdhury and Mendelson (2013)). Ambitious government-led investments and expenditure projects are normally announced right after new governors' appointments as stimulus initiatives to prop up the local economy. Given time-to-build considerations, new provincial governors tend to stimulate investment through SOEs at the beginning of their term, so that investment projects can be completed during their term in office and outcomes can be seen. Most of the new investment projects are initiated through SOEs to reinforce their dominant role in the market. As a consequence, non-SOEs rarely participate in post-turnover politically motivated investment projects. Many large SOEs are given massive government subsidies and enjoy significant advantages in resources, personnel, taxes and access to relatively low cost and preferential financing compared to non-SOEs. Therefore, non-SOEs have a disadvantage relative to SOEs in participating in these investment projects. Taken together, we expect that the surge of investment by SOEs

may have a crowding-out effect on private investment post-turnover. In a related study, Xu and Yan (2014) show that at the macro level government investment through SOEs crowds out private investment.

To empirically test for a post-turnover crowding out effect, we include a SOE dummy as well as interaction terms between the SOE dummy and post-turnover indicators in our baseline investment regressions on the full sample. We include industry fixed effect to effectively compare the investment rates of SOEs and non-SOEs within the same industry across the turnover cycle. The industries are defined using two-digit China Industry Classification Standard (CICS) codes issued by the China Securities Index Co., Ltd., a joint venture between the Shanghai Stock Exchange and the Shenzhen Stock Exchange.[13] The estimation results are reported in Table V.

[Insert Table V here]

The first five specifications of Table V report estimates for each turnover period separately. We first note that on average, SOEs tend to invest less than non-SOEs, as demonstrated by the negative coefficients on the SOE dummy variable. Specification (1) compares the pre-turnover investment activity between SOEs and non-SOEs. The interaction term between the pre-turnover dummy and the SOE dummy is insignificant, suggesting that the pre-turnover behavior of the two types of firms is not significantly different. The same is true of the turnover year itself, as reported in Specification (2). The real difference in investment behavior become apparent in the post-turnover period. Specification (3) through (5) report positive and significant interaction terms between the

[13]Similar to the Standard Industrial Classification (SIC) code commonly used in U.S. based studies, CICS classifies Chinese listed firms into 25 second-level industries, including Energy (0001), Materials (0101), Capital Goods (0201), Commercial Services and Supplies (0202), Transportation (0203), Automobiles and Components (0301), Consumer Durables and Apparel (0302), Consumer Services (0303), Media (0304), Retailing (0305), Food and Staples Retailing (0401), Food, Beverage and Tobacco (0402), Household and Personal Products (0403), Health Care Equipment and Services (0501), Pharmaceuticals, Biotechnology and Life Sciences (0502), Banks (0601), Diversified Financials (0602), Insurance (0603), Real Estate (0604), Software and Services (0701), Technology Hardware and Equipment (0702), Semiconductors and Semiconductor Equipment (0703), Telecommunication Services (0801), Communication Equipment (0802), and Utilities (0901). The same CICS industry classification is employed in a recent study by Fang, Qian and Zhang (2016), where the authors use a within industry difference-in-difference analysis to show that media coverage facilitates price discovery and Chinese retail investors respond rationally to media coverage. In results not reported here, we also experiment with industry classifications compiled by the China Securities Regulatory Commission (CSRC) and obtain the same qualitative results.

SOE dummy and the post-turnover indicator variables. Specifications (6) and (7) include the full set of turnover indicator variables in the regression. Specification (6) defines the post-turnover period as two separate years, while Specification (7) combines the two years together. The results are similar to those reported in the earlier regressions. SOE investment increases significantly relative to that of the private firms in various post-turnover periods. For example, in the total post-turnover period, SOEs increase investment significantly relative to non-SOEs.

To summarize, the absolute decline of non-SOE post-turnover investment reported in Table IV and the relative post-turnover decrease in investment for non-SOEs reported in Table V provide consistent evidence that SOE investment acts to crowd out private investment following political turnovers. We note that the crowding out effect documented in this paper is consistent with Xu and Yan (2014) and sheds light on the micro channels of their main findings.

D. Investment Efficiency around Political Turnover

In the previous subsection, we have documented evidence consistent with the hypothesis that the investment of SOEs in the post-turnover period has a crowding-out effect on the investment of non-SOEs. A natural question that arises is whether and to what extent crowding out represents a misallocation of resources. The previous results suggest the possibility that political incentives lead to over-investment by SOEs and under-investment by private firms. Given that investment makes up close to 50% of GDP in China, the degree to which investment is efficient is an important consideration. In this subsection, we examine changes in investment efficiency in the post-turnover period.

We measure investment efficiency as the sensitivity of investment to Tobin's Q. The basic idea is that an efficient investment policy is one in which investment rises when growth opportunities are high and declines when investment opportunities diminish. This metric has been used extensively in the literature. For example, Gertner, Powers an Scharfstein (2002) use this measure to analyze changes in investment efficiency around corporate spinoffs, Ozbas and Scharfstein (2010) investigate the investment efficiency of diversified firms, and Desai and Goolsbee (2005) examine

the relationship between taxes and investment efficiency. Chen et al. (2011) use the sensitivity of investment to Tobin's Q to assess difference in average investment efficiency between SOEs and non-SOEs in China.

To measure changes in efficiency, we add to our baseline investment regression an interaction between the post-turnover dummy variable and Tobin's Q. We conduct separate tests for the whole sample, the subsample of SOEs, and the non-SOEs in order to investigate investment inefficiency after political turnovers. Table VI reports the estimation results from the post-turnover investment inefficiency tests.

[Insert Table VI here]

The coefficient estimates on the interaction terms between the two-year post-turnover dummy and Q are negative and significant in Specifications (1) and (2) of Table VI, while the interaction terms between the one-year post-turnover dummy and Q are not significant. The negative interaction term suggests that investment efficiency declines in the post turnover period in that investment expenditures are less correlated with growth opportunities, consistent with the idea of a potential capital misallocation.

The last four specifications in Table VI compare post-turnover investment efficiency for SOEs and non-SOEs separately. In Specifications (3) and (4), the interaction terms for the SOE sample are negative. The magnitude of the interaction terms in Specification (3) suggests a reduction of nearly 50%, dropping by -0.0022 compared to the non-turnover sensitivity to Q of 0.0046. The last two columns report the results for the non-SOE sample. We also see for the private firms that investment efficiency declines significantly in the post-turnover period. We also include for all specifications a test of whether the post-investment investment efficiency is significantly different from zero. This is simply a test of whether the sum of the coefficients on Tobin's Q and the interaction term are zero. The table shows that investment efficiency, while significantly different from zero in all samples in other periods, is only marginally significant in the post-turnover period and insignificant for the private firms. These results imply that investment expenditures are not

responding to signals about investment opportunities when incentives to invest for politicians are high, resulting in a loss of efficiency. The results are consistent with Alok and Ayyagari (2015) that political interference leads to inefficient investment made by SOEs in India.

E. Cross-Sectional Heterogeneity

In this section, we exploit heterogeneity in the degree to which political incentives are expected to influence the investment decisions of SOEs and non-SOEs around political turnover events. In some cases, the incentives of politicians to boost investment at the beginning of their term are very high, while in other cases the incentives are relatively muted. Incentives vary across the type of office the politician holds, the type of turnover, the education and the age of the politician, and whether or not the politician was born in the region of interest.

We first look at the difference in investment behavior between the appointment of provincial governors and that of party secretaries. Given the different economic and political roles of the two types of provincial leaders as discussed earlier, we expect that turnovers of party secretaries do not have an impact on firm investment post-turnover. As a placebo test, we reestimate the baseline investment regression using the turnovers of party secretaries. To facilitate the analysis, four turnover event time dummies for party secretaries are created in a similar fashion to those for provincial governors defined earlier.

The regression results are reported in Table VII. We find that across all samples that the post-turnover investment behavior of Chinese firms does not change significantly after the turnover of a party secretary. We do find a slight decline in investment in the turnover year for SOEs, but we do not see the divergence in investment activity between SOEs and non-SOEs that is present following the turnover of a provincial governor. The lack of a post-turnover effect is consistent with the fact documented in Tan (2006) that in Chinese institutions the party secretary is typically in charge of the Chinese Communist Party (CCP) personnel decisions but is not directly involved with provincial economic affairs.

[Insert Table VII here]

The promotion and retirement system in Chinese politics also means that there is heterogeneity in the degree to which a governor will have incentives to influence investment. Personal attributes such as age, education, birthplace and previous working experience matter for how politicians influence local economic entities. Since China's economic reform in the late 1970s, an important change in the evaluation criteria for local government officials is the declining role of family class origin and the increasing emphasis on the educational credentials and expertise of applicants (e.g., Bian (2002)). Political conformity and loyalty, which used to be the most important pre-reform criteria for promotion, now gave way to economic performance, ranking among peers and other competence-related indicators such as a strong education background and demonstrated expertise in administrative management. As a result of this adjustment, top provincial governors are now better educated than in the past. For example, in our provincial governor turnover sample over a 15-year period from 1998 to 2012, 59 out of 113 (approximate 52%) immediate successors have an advanced degree (either masters degree or PhD) at the time of appointment. Better educated governors may have a better understanding of capital allocation and consider the possible negative and irreversible effects brought by short-term government stimulus schemes, which often results in inefficiency in investment, misallocation of resources and corruption. This indicates that the incentives to manipulate investment post-turnover should be significantly weaker among better educated new governors.

Post-turnover booms in SOE investment also may be different for provinces led by locally born governors. Locally born governors have a better knowledge of the constituents of local economy and also share the same inherited cultural traits and backgrounds with local people, which may help speed up the transition process and facilitate a faster adoption of new policy. Such a local advantage means that local-born governors are better in mobilizing local economic forces. On the other hand, locally born governors may be subject to the "homeland bias" in that they have a stronger incentive to stimulate economic growth, as well as to benefit local people and to improve their living standards. Thus, the boom in SOE investment is predicted to be larger following provincial turnovers where the new governors are born locally.

Another important determinant of the strength of political incentives is a politician's age. Due to the implementation of a mandatory retirement system in the early 1980s, all provincial leaders are required to retire at the age of 65, if they have not been promoted to higher positions in the central government (Chen, Li and Zhou (2005) and Li and Zhou (2005)).[14] Given the mandatory retirement rule in place, older provincial governors, especially those approaching the retirement age of 65 at the time of appointment, face much stronger career concerns than those relatively younger ones, as retirement is imminent and the former will likely have no further promotion opportunities. As a result, older provincial governors have stronger incentives to show spectacular performance on economic growth in order to stand out. We therefore expect to see that the increase in post-turnover investment is mainly driven by relatively older provincial governors whose ages generate an additional incentive to take more risk and influence local economic performance, in an attempt to maximize their (probably the last) chances of political promotion.

We now investigate the cross-sectional heterogeneity in turnover types (normal turnover vs. abnormal turnover) and characteristics of the immediate successors. Normal turnovers include promotions or lateral moves at the same rank while abnormal turnovers include retirements and terminations due to death or indictment (Li and Zhou (2005)). By definition, 80 out of the 113 (around 71%) turnovers in our sample are classified as normal turnovers (promoted or laterally moved), and the remaining 29% turnovers are classified as abnormal. Further, we manually collect provincial governors' education, birthplace and age information at the time of appointment in order to find out how their personal attributes affect the strength of political incentives. We create an education dummy that takes on a value of one if the immediate successor holds a masters or PhD degree, and zero otherwise. It follows that 59 out of the 113 (approximate 52%) successors have a high education level (Masters or PhD) at the time of appointment. The remaining 54 of 113 have only bachelors degrees or less. We also define a birthplace dummy set equal to one if the immediate successor is born in the same province in which he will take office, and zero if his birth province is from a different region. 28 out of the 113 (approximate 25%) successors are born

[14]These national leadership positions include the Politburo (a group of 25 members who oversee the Communist Party of China) and its Standing Committee (the nation's top decision-making body often composed of five to nine members).

locally and assume offices in their birth provinces. Finally, we define a governor age dummy that takes on a value of one if the new governors are 55 or older at the time of appointment. We use 55 as the age cutoff because the average age of provincial governors at the time of appointment is about 55.2 years, ranging from 42 to 64 (with a median age of 55 years).

[Insert Table VIII here]

Table VIII reports the regression results using the sample of SOEs. The interaction terms between the post-turnover dummy and turnover type, between post-turnover dummy and education, between post-turnover dummy and birthplace, and between post-turnover dummy and governor age are included in the analysis. We find that the interaction terms have great explanatory power. First, when interaction term between post-turnover dummy and normal turnover type dummy is included, the post-turnover dummy is not significant in the regression. This finding suggests that most of increase in investment after turnover is caused by normal turnovers. One explanation is that, compared to abnormal turnovers, immediate successors in normal turnovers have stronger incentives to promote economic development to increase their chances for future promotion. This finding supports the view that the promotion of politicians in China follows more of a tournament system where politicians are rewarded for stimulating economic growth in the region in which they govern (Li and Zhou (2005)). Second, we include the education dummy and interact it with post-turnover indicator. The interaction term is negative and significant while the post-turnover dummy itself is positive and significant, with similar magnitudes. This finding suggests that well-educated new governors are relatively rational and do not abnormally stimulate corporate investment through SOEs, and thus the average increase is mainly caused by the less-educated immediate successors following the governor turnovers. Third, we add an interaction term between the post-turnover dummy and the same birthplace dummy (whether the immediate successor of governor comes from the same province for the new position). The interaction term is significant and positive while the post-turnover dummy does not have a significant coefficient. This result indicates that most of the investment increase following political turnover is caused by politicians who return to govern their home provinces. In the last two columns, we further add to our baseline investment re-

gression the interaction term between the post-turnover dummy and the governor age dummy. We find that the interaction term is positive and statistically significant while the post-turnover dummy is not significant. This finding suggests that the post-turnover investment boom for SOEs is mainly driven by new governors who are 55 years old or older at the time of appointment. The idea is that, as discussed earlier, older politicians become more concerned about their future political careers given the mandatory retirement rule in place. As a result, they have much stronger incentives to stimulate investment through SOEs, relative to younger politicians.

Overall, the results in this section suggest that the degree to which political incentives for stimulating investment are present and can explain differences in the post-turnover investment patterns we see for SOEs in China. Specifically, post-turnover effects on investment are mainly caused by normal turnovers of governors, and by turnovers with less educated immediate successors, and by turnovers in which the new governor was born in the same province, and by turnovers where the new governor is 55 years old or older at the time of appointment.

F. Possible Mechanisms

In this paper we provide evidence that politicians influence the investment of both SOE and non-SOE firms in China. State owned firm invest more just after a provincial political turnover while private listed firms experience a decline in investment. These patterns provide evidence that political incentives of politicians leads to higher investment for SOEs and a crowding out of private investment. An important question that follows from these results is what specifically is the mechanism that leads state-owned firms to boost investment and private firms to cut back?

One possibility is that the results on crowding out are coming through a credit channel through which the new political leader diverts loans from banks towards SOEs. There is evidence that political leaders influence access to finance around the world and that politically connected or state-owned enterprises often get preferred treatment in credit markets (Faccio, Masulis and McConnell (2006), Claessens, Feijen and Laeven (2008), Li, Meng, Wang and Zhou (2008)). For example, Ru (2016) shows evidence that politicians influence bank lending to SOEs at the local level in

China. Thus, diversion of the credit supply towards SOEs and away from non-SOEs can explain the short-run investment dynamics for both types of firms around political turnovers.[15]

[Insert Table IX here]

Due to data availability, we do not observe lending behavior of the banks directly. Instead, we examine changes in leverage ratios for both SOEs and non-SOEs around provincial government turnover events to infer a possible credit channel. We define firm leverage as the sum of short-term and long-term debt scaled by lagged total assets. We then estimate panel regressions to see whether leverage ratios change around the political turnover cycle. To this end, we use leverage ratio as the dependent variable and add to our baseline regression model in equation (1) additional control variables commonly found in leverage regressions (See, for example, Lemmon, Roberts and Zender (2008), and Serfling (2016)). These variables include asset tangibility (PPENT/assets), profitability (EBIT/assets), firm size (log assets), annual stock return and an indicator variable for whether the firm paid a dividend. The first four columns of Table IX report the leverage regression results. We suppress the coefficients on control variables in order to conserve space. The first two columns report the leverage regressions for SOEs and non-SOEs separately. We see in column (1) that the leverage ratio of SOE firms increase significantly on average in the year after the new governor takes office. The economic magnitude is also large, representing a 4.3% increase in the post-turnover debt-to-total assets ratio, relative to the average debt-to-asset ratio in other sample years. In column (2) we see that non-SOE firms exhibit no significant change in leverage ratios after a turnover event. Columns (3) and (4) of Table IX report the results from a pooled regression including both SOE and non-SOE firms with a post-turnover/SOE interaction term to test whether changes in leverage are significantly different between SOEs and non-SOEs. We find that the interaction term is positive and statistically significant. SOEs experience a large increase while non-SOE firms do not, and the effect is concentrated in the year immediately following the turnover. The results are consistent with the credit channel whereby loans are diverted dispropor-

[15]We note that even if without political influence, career concerns of bank managers can also lead to credit misallocation between SOEs and private firms in China (Ho, Li and Tian (2013)).

tionally towards SOEs, thus increasing the investment for SOE firms while limiting options for external finance for the non-SOEs.

On the other hand, as the majority of the credit supply and investment go to capital intensive infrastructure or industrial projects through SOEs, which have the potential to create temporary jobs in a short span of time. As such, we expect that changes in firm employment follow a similar pattern of capital investment following the turnover events. We collect data on the total number of employees from the CSMAR database. We measure firm employment as the total number of employees scaled by lagged total assets in millions of Chinese yuan (RMB). Columns (5)-(8) of Table IX report estimation results from employment regressions, where the dependent variable is firm employment. Consistent with our expectation, the employment results largely mirror those of capital investment reported in Table IV: Following a turnover event, employment at SOEs increases, while it decreases at non-SOEs. The wedge in post-turnover employment rates between SOEs and non-SOEs is also statistically significant, as indicated by the interaction terms. That the patterns for employment and investment are so similar provides support for our main hypothesis that political influence exerted over SOEs acts to crowd out private investment in the post-turnover period.

It is important to note that the leverage results are consistent with the credit channel, whereby political influence over banks leads to higher lending to SOEs, but the evidence does not rule out other mechanisms. An alternative explanation is that SOEs have greater investment opportunities as a result of the new governor's investment plans for the province. This can explain the increase in both investment and employment as well as leverage for SOEs in the post turnover period as SOEs invest and hire because of new, politically directed investment opportunities and banks lend to meet the new demand for funds. Our empirical design does not allow us to distinguish between these two possibilities. However, the results do appear to confirm that the investment, hiring and borrowing behavior of both SOEs and non-SOEs are influenced by the incentives of provincial leaders.

G. Additional Robustness

In this subsection, we perform a series of additional robustness tests to check the consistency of our main results. Specifically, we show that the main results hold up to different measures of investment opportunities, alternative identification strategies, various subsamples analyses and an alternative national political business cycles hypothesis.

While we control for various measures of time-varying firm characteristics as well as calendar year dummies and provincial economic conditions, there is still some concern that our results might be driven by some underlying regional or nonlinear temporal time trends in the data that are not captured by the turnover event time dummy variables alone. To rule out this possibility, we perform a random placebo (falsification) test. Specifically, we randomly assign turnover years within each province. We require that the relative frequency of randomly assigned turnover events each province matches the relative frequency of actual turnovers of provincial governors. In doing this, we end up with a series of random placebo turnover dummy variables that resemble the actual turnover event timing indicators used in the previous regressions, except that the timing is randomly selected across provinces. Thus, if a temporal regional or nonlinear trend were driving the results in our earlier specifications, we would observe similar coefficient estimates on these randomly generated turnover event dummy variables[16]. While all of the estimates on the control variables are similar as in the earlier specifications, we find that the coefficient estimates on the random turnover dummy variables are close to zero and insignificant, indicating that the variation in investment rate between SOEs and non-SOEs is indeed specific to the actual turnover years and not due to some temporal regional or nonlinear trends in the data.

[Insert Table X here]

The political incentives hypothesis is not the only economic channel through which firms' investment decisions can be affected around the timing of provincial governors' turnovers. As discussed earlier, the national political turnover cycle occurs every five years and turnovers of

[16]Results are available upon request.

provincial governors are more likely to occur around the assembly of the National Congress of the China Communist Party in 1998, 2003 and 2008 during our sample period. As such, the turnovers of provincial governors may be largely anticipated and the politics-fuelled investment patterns documented in our paper could be simply driven by changes in investment opportunities or underlying macroeconomics conditions caused by the national political business cycles every five years. To separate our political incentive hypothesis from this alternative hypothesis, we focus only on unexpected turnovers of provincial governors, where the timing of the turnovers does not accord with the national political turnover cycles in 1998, 2003 and 2008. As noted in Table II, 74 out of 113 (about 65.5%) turnovers are classified as unexpected turnovers where provincial governors are replaced unexpectedly. If the national turnover cycles are the driving force behind our main findings, we should expect that the politically fuelled investment patterns do not exist for the subsample of unexpected governors' turnovers. However, columns (1) to (3) of Table X show that our main results continue to hold when we use only a set of unexpected turnovers of provincial governors. This finding confirms that the local political incentive hypothesis best describes the investment patterns documented in our paper.

We next perform two additional robustness tests on the sample selection. First, SOEs can be owned by both provincial governments or the central government. As such, there is some concern that the political incentives of provincial governors may not apply for those large SOEs that are managed directly by the central governments, as the investment decisions of those firms are more likely to be influenced by the leadership transitions of the central governments rather than the provincial governments.[17] To address this issue, we exclude the centrally owned SOEs from our

[17]We include centrally owned SOEs in the main tests because similar to the incentives for local SOEs to invest following turnovers at the provincial level, leadership transitions at the central level also creates such politically motivated incentives for these centrally owned SOEs to invest following the past National Communist Party Congress in 1998, 2003 and 2008 during our sample period. In fact, since Mao's death in 1976, Chinese leadership transitions at both central and local levels have been always accompanied by big jumps in government spending on infrastructure and industrial investment projects. For example, a *Financial Times* (2012) article observed that, shortly after the 18th National Communist Party Congress in November 2012, both central and local leaders have already started to announce ambitious investment plans to prop up the economy. At the central level, the National Development and Reform Commission, a powerful central planning agency, has announced about RMB 1 trillion worth of infrastructure investment projects including urban rail, road and waterway projects. While at the local level, Guizhou province plans to spend RMB 3 trillion on boosting tourism and Chongqing is aiming for an RMB 1.5 trillion investment in strategic industries such as telecommunications.

sample and find our main findings are largely unchanged as shown in columns (4) to (6) of Table X. Second, our sample period begins in 1998 when the Chinese stock market was newly established. There is some possible concern that Tobin's Q based on market valuation of firms in China may not be a good measure for investment opportunities because the 1998 to 2001 period is characterized by rampant speculation, accounting fraud, and flagrant stock price manipulation (Carpenter, Lu and Whitelaw (2015)).[18] To address this issue, we drop sample years from 1998 to 2001 and focus on the sample after the stock market reform in 2002. The last three columns of Table X indicate that our results are not sensitive to the exclusion of early sample years. In unreported regressions, we use the industry mean Tobin's Q and the industry median Tobin's Q as alternative proxies for investment opportunities, instead of market-to-book ratio and sales growth and obtain similar results.

Another identification approach to investigating the post-turnover crowding out effect between SOEs and non-SOEs is to test for whether contemporary non-SOE investment follows lagged SOE investment around the political turnover cycle. To do this, we first match aggregate amount of SOE investment at the province-industry level in year $t-1$ with firm-level non-SOE investment in the same province and same industry in year t. We use firm-level non-SOE investment as the dependent variable and estimate an augmented version of our baseline investment regression specification to alternatively test for a post-turnover crowding out effect. We include the lagged province industry SOE investment as well as its interaction terms between the lagged province industry SOE investment and post-turnover indicators in our baseline investment regressions on

[18] For example, in 2001, a famous Chinese economist, Jinglian Wu, characterized China's stock market as a "casino" manipulated by speculators and without a strong link to fundamentals.

the subsample of non-SOEs (same identification methodology as in the previous crowding out test in Section III). The formal empirical specification is as follows:

$$\begin{aligned}\text{Non-SOE\_Inv}_{ikjt} &= \alpha_i + \gamma_t + \beta_1 \text{Pre-Turnover}_{j,t-1} + \beta_2 \text{Turnover}_{j,t} + \beta_3 \text{Post-Turnover}_{j,t+1} \quad (2)\\ &\quad + \beta_4 \text{Post-Turnover}_{j,t+2} + \beta_5 \text{Post-Turnover}_{j,t+1} \times \text{AggSOE\_Inv}_{kj,t-1}\\ &\quad + \beta_6 \text{Post-Turnover}_{j,t+2} \times \text{AggSOE\_Inv}_{kj,t-1} + \beta_7 \text{AggSOE\_Inv}_{kj,t-1}\\ &\quad + \beta_8 Q_{i,t-1} + \beta_9 CF_{i,t} + \beta_{10} \%\Delta GDP_{j,t-1} + \beta_{11} \%\Delta Sales_{i,t} + \varepsilon_{ijt}\end{aligned}$$

where *i* indexes the firm, *j* indexes the province, *k* indexes the industry and *t* indexes the year. The dependent variable is the contemporary non-SOE investment at the firm level, $Non\text{-}SOE\_Inv_{ikjt}$. The main independent variables of interest in the model above are the interaction terms between post-turnover indicators $Post\text{-}Turnover_{j,t+l}$ for $l = 1, 2$ and the lagged province-industry level SOE investment, $AggSOE\_Inv_{kj,t-1}$. By construction, the coefficient on $AggSOE\_Inv_{kj,t-1}$ alone should capture the effect of SOE investment on non-SOE investment in general over the entire sample period. So, the coefficients on $Post\text{-}Turnover_{j,t+1} \times AggSOE\_Inv_{kj,t-1}$ and $Post\text{-}Turnover_{j,t+2} \times AggSOE\_Inv_{kj,t-1}$ should pick up any added effect of SOE investment in the one-year and two-year post-turnover periods respectively. The regression model includes firm fixed effects α_i and year fixed effects γ_t. Robust standard errors are clustered at the firm level in all regressions.

[Insert Table XI here]

Table XI presents the estimation results from this alternative regression specification. The empirical specification in each column is similar to the corresponding column in Table V, whereby in columns (1) to (4) of Table XI, the four turnover event time indicators are sequentially included one at a time beginning with the pre-turnover indicator. Columns (5) and (6) employ the full set of turnover time variables, differing only in whether the two-year post-turnover variable is included or not. The results indicate that on average non-SOE investment in year *t* is negatively related to SOE investment at the aggregate level in year $t-1$. Columns (5) and (6) further show that the negative relationship between SOE investment and non-SOE investment is not present over the

entire turnover cycle but only exists in the one-year post-turnover period when using this alternative approach. The results are overall consistent with those obtained in the previous identification methodology to test for a post-turnover crowding out effect. The consistency of results obtained from these different identification strategies strengthens the idea that the increasing investment of SOEs post-turnover acts to crowd out the investment of non-SOEs.

IV. Conclusion

This paper studies how state ownership and personal political incentives influence corporate investment in China. Using manually collected information on the transition of top provincial leaders in China for both governors and party secretaries, we find that turnovers of governors have a significant impact on the investment SOEs and non-SOEs. Post-turnover, we find that there is a large wedge between the investment rates of SOEs and private firms. Investment rates for SOEs are abnormally high while investment rates of of non-SOEs are lower than normal. The results are consistent with the view that the incentives of new provincial governors influence the investment rates of SOEs in an effort to boost provincial economic growth and increase the chance of personal promotion. Furthermore, we find that the investment behavior of SOEs post-turnover has a crowding-out effect on the investment rates of private firms and the effect appears to come through a credit channel through which the new political leader diverts loans from banks towards SOEs. These divergent patterns of investment reflect a misallocation of capital as measures of investment efficiency decline significantly following the turnover of a provincial governor.

Our research sheds lights on the interaction between politics and corporate finance in an emerging economy. China, as the largest emerging economy with a unique political system, provides an interesting laboratory for studying how corporations react to leadership turnovers and the incentives politicians face to boost investment. Our empirical findings illustrate that in China, corporate decisions of SOEs often follow political leadership, while non-SOEs face a diminished capacity for investment. Non-SOEs are not equipped with safeguards against political interference from

the government, while SOEs are more likely to serve the interest of political leaders since their personnel decisions are controlled by these leaders and not by the shareholders. Our paper shows how political systems interact with ownership structures in China. It suggests that SOEs, though partially privatized through share issuance, are still subject to the influence of politicians.

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Appendix A: Variable Descriptions

Variable	Definition	Source
Investment	Capital expenditures divided by beginning-of-year book value of total assets, where capital expenditures are calculated as cash payments for the acquisition of fixed assets, intangible assets and long-term assets from the cash flow statement minus cash receipts from selling these assets, plus cash pay for operating lease.	CSMAR
Tobin's Q	Book value of total assets minus book value of equity plus market value of equity scaled by book value of total assets.	CSMAR
Cash Flow	EBIT plus depreciation and amortization minus interest expense and taxes scaled by beginning-of-year book value of total assets.	CSMAR
Sales Growth	Firm level annual sales growth rate.	CSMAR
Leverage	Total debt (long-term and short-term) scaled by beginning-of-year book value of total assets.	CSMAR
Employment	Number of employees scaled by beginning-of-year book value of total assets in millions of Chinese yuan (RMB).	CSMAR
GDP Growth	Annual percentage change in provincial real GDP.	Wind
SOE Dummy	Indicator variable set equal to one if the ultimate controlling shareholder of the listed firm is a government entity including the central government, local governments and other governmental institutions such as State-owned Assets Supervision and Administration Commission (SASAC).	CSMAR and Hand collected
Agg SOE Investment	Aggregate SOE investment at the province-industry level. The industries are defined using two-digit China Industry Classification Standard (CICS) codes.	CSMAR and CICS
Pre-turnover Year (-1)	Indicator variable takes on a value of one if the firm-year-province pair falls in the period of one year immediately before the turnover event year.	Hand collected
Turnover Year (0)	Indicator variable takes on a value of one if the firm-year-province pair falls in the period of the turnover event year.	Hand collected
Post-turnover Year (+1)	Indicator variable takes on a value of one if the firm-year-province pair falls in the period of one year immediately after the turnover event year.	Hand collected
Post-turnover Year (+2)	Indicator variable takes on a value of one if the firm-year-province pair falls in the period of two year immediately after the turnover event year.	Hand collected
Turnover Type Dummy	Indicator variable set equal to one if the provincial governor is promoted or moves laterally after his tenure of service.	Hand collected
Education Dummy	Indicator variable set equal to one if the provincial governor holds a Master or PhD degree at the time of appointment.	Hand collected
Birthplace Dummy	Indicator variable set equal to one if the immediate successor will assume office in his home province.	Hand collected
Governor Age Dummy	Indicator variable set equal to one if the age of the new governor is greater than or equal to 55 at the time of appointment.	Hand collected

Table I

Summary of Firm-Level Observations and Turnovers by Province

The first three columns report the distribution of firm-year observations for SOEs and non-SOEs jointly and separately across provinces. The last three columns report the distribution of provincial governors' turnovers. We split turnovers into normal and abnormal types by nature of the turnover. Normal turnovers include promotions or lateral moves at the same rank, while abnormal turnovers include retirements and terminations due to death, demotion or indictment.

Province	Observations (Total)	Observations (SOEs)	Observations (Non-SOEs)	Turnovers (Total)	Turnovers (Normal)	Turnovers (Abnormal)
Anhui	647	447	200	5	5	0
Beijing	1,378	1,028	350	4	4	0
Chongqing	381	282	99	3	1	2
Fujian	644	387	257	4	3	1
Gansu	238	150	88	4	4	0
Guangdong	2,710	1,599	1,111	2	0	2
Guangxi	306	169	137	3	2	1
Guizhou	211	160	51	4	1	3
Hainan	328	142	186	4	3	1
Hebei	421	266	155	6	6	0
Heilongjiang	362	262	100	4	4	0
Henan	449	301	148	3	3	0
Hubei	884	499	385	4	2	2
Hunan	535	382	153	5	5	0
Inner Mongolia	267	118	149	4	2	2
Jiangsu	1,337	649	688	4	4	0
Jiangxi	319	264	55	3	1	2
Jilin	439	235	204	5	4	1
Liaoning	706	450	256	4	3	1
Ningxia	148	64	84	1	0	1
Qinghai	118	65	53	4	4	0
Shaanxi	362	240	122	5	4	1
Shandong	1,135	687	448	3	1	2
Shanghai	2,565	1,971	594	3	3	0
Shanxi	351	256	95	6	3	3
Sichuan	813	403	410	2	1	1
Tianjin	374	301	73	3	3	0
Tibet	114	26	88	3	2	1
Xinjiang	374	244	130	2	2	0
Yunnan	288	196	92	3	1	2
Zhejiang	1,395	424	971	3	2	1
Total	20,599	12,667	7,932	113	83	30

Table II

Summary of Firm-Level Observations and Turnovers by Year

The first three columns report the distribution of firm-year observations for SOEs and non-SOEs jointly and separately across years. The last three columns report the distribution of provincial governors' turnovers. We split turnovers into normal and abnormal types by nature of the turnover. Normal turnovers include promotions or lateral moves at the same rank, while abnormal turnovers include retirements and terminations due to death or indictment.

Year	Observations (Total)	Observations (SOEs)	Observations (Non-SOEs)	Turnovers (Total)	Turnovers (Normal)	Turnovers (Abnormal)
1998	751	489	262	13	8	5
1999	854	559	295	7	7	0
2000	950	621	329	4	3	1
2001	1,094	704	390	8	3	5
2002	1,180	765	415	9	6	3
2003	1,248	810	438	13	12	1
2004	1,316	852	464	6	4	2
2005	1,413	899	514	1	1	0
2006	1,424	901	523	8	5	3
2007	1,511	943	568	13	9	4
2008	1,634	992	642	5	4	1
2009	1,692	1,006	686	3	2	1
2010	1,844	1,042	802	9	8	1
2011	1,844	1,042	802	8	5	3
2012	1,844	1,042	802	6	6	0
Total	20,599	12,667	7,932	113	83	30

Table III
Summary Statistics

Panel A shows summary statistics for the firm characteristics used in our analysis jointly and separately for SOEs and non-SOEs between 1998 and 2012. Panel B depicts the mean investment rates around turnover event years. Panel B also reports the significance of the difference in mean investment rates for a given year in the [-1, +2] turnover period and the rest of sample years. ***, ** and * denote significance at the 1%, 5% and 10% levels respectively. Year 0 indicates the actual calendar year when turnover event occurs. See Appendix A for variable descriptions as well as the variable sources.

Panel A: Firm Characteristics				
Full Sample				
	N	Mean	Median	Std. Dev.
Investment Rate	20,599	0.0655	0.0387	0.0824
Q	20,385	2.1358	1.7010	1.4708
Cash Flow	19,466	0.0657	0.0608	0.0800
Sales Growth	20,324	0.2305	0.1320	0.6532
SOEs				
	N	Mean	Median	Std. Dev.
Investment Rate	12,667	0.0681	0.0417	0.0815
Q	12,612	1.8742	1.5224	1.2030
Cash Flow	12,073	0.0696	0.0626	0.0746
Sales Growth	12,501	0.2152	0.1349	0.5599
Non-SOEs				
	N	Mean	Median	Std. Dev.
Investment Rate	7,932	0.0615	0.0338	0.0838
Q	7,773	2.5604	2.0164	1.7418
Cash Flow	7,393	0.0593	0.0575	0.0877
Sales Growth	7,823	0.2551	0.1260	0.7789
Panel B: Mean Investment Rates around Turnover Years				
Full Sample				
Year	-1	0	+1	+2
N	4,291	4,706	4,336	3,690
Investment Rate	0.0654	0.0673	0.0679	0.0630
Mean Difference	-0.0001	0.0023	0.0030**	-0.0031**
SOEs				
Year	-1	0	+1	+2
N	2,630	2,882	2,674	2,368
Investment Rate	0.0675	0.0708	0.0736	0.0698
Mean Difference	-0.0007	0.0036**	0.0070***	0.0021
Non-SOEs				
Year	-1	0	+1	+2
N	1,661	1,824	1,662	1,322
Investment Rate	0.0622	0.0617	0.0587	0.0510
Mean Difference	0.0009	0.0002	-0.0035	-0.0127***

Table IV
Corporate Investment around Provincial Turnovers

The unit of observation is at firm-year level. The dependent variable is the firm-level investment rate defined as CAPX/Lagged Assets. Independent variables include the lagged Tobin's Q, cash flow, province-level real GDP growth rate, sales growth and the four turnover event time [-1, 0, +1, +2] dummies, with year 0 being the year the actual turnover event occurred. See Appendix A for variable descriptions as well as the variable sources. The first two columns report results for the full sample. The last four columns present results for SOEs and non-SOEs separately. Variables of interest are the four turnover event time dummies that capture the firms' investment dynamics around the political turnover cycle. We use baseline investment regression and control for firm and year fixed effects. Standard errors are clustered at firm level and corrected for heteroscedasticity. T-statistics are reported in square brackets below coefficient estimates. ***, **, * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent Variable: Firm-level Investment					
	Full Sample		SOEs		Non-SOEs	
	(1)	(2)	(3)	(4)	(5)	(6)
Pre-turnover year (-1)	-0.0027	-0.0029	-0.0022	-0.0019	-0.0035	-0.0044
	[-2.26]**	[-2.39]**	[-1.51]	[-1.30]	[-1.71]*	[-2.14]**
Turnover year (0)	-0.0001	-0.0003	0.0014	0.0017	-0.0023	-0.0034
	[-0.07]	[-0.23]	[0.83]	[0.99]	[-1.04]	[-1.50]
Post-turnover year (+1)	0.0014	0.0009	0.0040	0.0046	-0.0030	-0.0051
	[1.05]	[0.65]	[2.51]**	[2.51]**	[-1.38]	[-2.11]**
Post-turnover year (+2)		-0.0014		0.0019		-0.0077
		[-1.05]		[1.11]		[-3.35]***
Q	0.0044	0.0044	0.0042	0.0042	0.0046	0.0045
	[7.10]***	[7.07]***	[4.38]***	[4.41]***	[5.67]***	[5.56]***
Cash Flow	0.2631	0.2629	0.2563	0.2564	0.2697	0.2684
	[18.88]***	[18.88]***	[13.62]***	[13.62]***	[12.96]***	[12.96]***
Sales Growth	0.0067	0.0067	0.0083	0.0083	0.0052	0.0052
	[5.32]***	[5.32]***	[4.77]***	[4.77]***	[2.94]***	[2.93]***
GDP Growth	0.0273	0.0280	0.0264	0.0251	0.0256	0.0254
	[2.17]**	[2.22]**	[1.75]*	[1.67]*	[1.11]	[1.10]
Constant	0.0363	0.0367	0.0383	0.0378	0.0337	0.0362
	[16.29]***	[16.02]***	[13.79]***	[13.21]***	[8.81]***	[9.23]***
Observations	19,163	19,163	11,982	11,982	7,181	7,181
R^2	20.10%	20.11%	25.23%	25.28%	15.34%	15.69%
Fixed Effects	Firm	Firm	Firm	Firm	Firm	Firm
	Year	Year	Year	Year	Year	Year

Table V
Post-Turnover Crowding Out Effects

The unit of observation is at firm-year level. The dependent variable is the firm-level investment rate defined as CAPX/Lagged Assets. Independent variables include the lagged Tobin's Q, cash flow, province-level real GDP growth rate, sales growth and the four turnover event time [-1, 0, +1, +2] dummies, with year 0 being the year the actual turnover event occurred. See Appendix A for variable descriptions as well as the variable sources. To test for the post-turnover crowding out effect, we further include a SOE dummy as well as interaction terms between the SOE dummy and post-turnover indicators in our baseline investment regression on the full sample. Variables of interest are the interaction terms. We control for industry and year fixed effects. Standard errors are clustered at firm level and corrected for heteroscedasticity. T-statistics are reported in square brackets below coefficient estimates. To save space, we suppress the estimates of firm specific and province economics control variables. ***, **, * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent Variable: Firm-level Investment						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pre-turnover year (-1)	-0.0028					-0.0048	-0.0049
	[-1.49]					[-2.29]**	[-2.34]**
Pre-turnover (-1) × SOE dummy	-0.0012					0.0007	0.0008
	[-0.54]					[0.30]	[0.31]
Turnover year (0)		-0.0014				-0.0041	-0.0044
		[-0.77]				[-1.87]*	[-2.03]**
Turnover year (0) × SOE dummy		0.0014				0.0035	0.0034
		[0.59]				[1.26]	[1.24]
Post-turnover year (+1)			-0.0028			-0.0063	
			[-1.47]			[-2.71]***	
Post-turnover (+1) × SOE dummy			0.0053			0.0081	
			[2.23]**			[2.82]***	
Post-turnover year (+2)				-0.0083		-0.0104	
				[-4.17]***		[-4.65]***	
Post-turnover (+2) × SOE dummy				0.0071		0.0096	
				[2.92]***		[3.49]***	
Post-turnover year (+1,+2)					-0.0072		-0.0083
					[-3.81]***		[-4.08]***
Post-turnover (+1,+2) × SOE dummy					0.0080		0.0088
					[3.53]***		[3.53]***
SOE dummy	-0.0043	-0.0049	-0.0057	-0.0057	-0.0075	-0.0088	-0.0088
	[-2.04]**	[-2.27]**	[-2.65]***	[-2.66]***	[-3.31]***	[-3.29]***	[-3.29]***
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Economy Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,163	19,163	19,163	19,163	19,163	19,163	19,163
R^2	33.01%	33.00%	33.04%	33.23%	33.21%	33.35%	33.26%
Fixed Effects	Industry	Industry	Industry	Industry	Industry	Industry	Industry
	Year	Year	Year	Year	Year	Year	Year

Table VI
Investment Efficiency and Provincial Turnover

The unit of observation is at firm-year level. The dependent variable is the firm-level investment rate defined as CAPX/Lagged Assets. Independent variables include the lagged Tobin's Q, cash flow, province-level real GDP growth rate, sales growth and the two post-turnover event time [+1, +2] dummies, with year 0 being the year the actual turnover event occurred. See Appendix A for variable descriptions as well as the variable sources. To measure changes in post-turnover investment efficiency, we add to our baseline investment regression interaction terms between the two post-turnover dummy variable and Tobin's Q. Variables of interest are the interaction terms. The first two columns report estimation results for the full sample. The last four columns present estimation results for SOEs and non-SOEs separately. We control for firm and year fixed effects. Standard errors are clustered at firm level and corrected for heteroscedasticity. T-statistics are reported in square brackets below coefficient estimates. ***, **, * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent Variable: Firm-level Investment					
	All Firms		SOEs		Non-SOEs	
	(1)	(2)	(3)	(4)	(5)	(6)
Post-turnover year (+1)		0.0019		0.0039		-0.0045
		[0.81]		[1.29]		[-1.19]
Post-turnover (+1) $\times Q$		-0.0003		0.0001		0.0004
		[-0.27]		[0.09]		[0.25]
Post-turnover year (+2)	0.0047	0.0052	0.0045	0.0053	0.0024	0.0012
	[2.11]**	[2.19]**	[1.64]	[1.80]*	[0.65]	[0.31]
Post-turnover (+2) $\times Q$	-0.0032	-0.0032	-0.0022	-0.0020	-0.0035	-0.0034
	[-3.06]***	[-3.04]***	[-1.57]	[-1.37]	[-2.26]**	[-2.18]**
Q	0.0048	0.0049	0.0046	0.0045	0.0049	0.0048
	[7.37]***	[6.94]***	[4.58]***	[4.05]***	[5.75]***	[5.28]***
Cash Flow	0.2625	0.2627	0.2553	0.256	0.2703	0.2693
	[18.89]***	[18.89]***	[13.61]***	[13.64]***	[12.99]***	[12.96]***
Sales Growth	0.0067	0.0067	0.0083	0.0083	0.0051	0.0052
	[5.22]***	[5.33]***	[4.78]***	[4.79]***	[2.89]***	[2.91]***
GDP Growth	0.0299	0.0302	0.0268	0.0265	0.0317	0.0285
	[2.38]**	[2.40]**	[1.77]*	[1.76]*	[1.40]	[1.25]
Constant	0.035	0.0345	0.038	0.0371	0.031	0.0327
	[15.89]***	[14.87]***	[13.50]***	[12.46]***	[8.44]***	[8.36]***
Test: $\beta_Q + \beta_{Int} = 0$	0.0017	0.0017	0.0025	0.0025	0.0014	0.0014
t-statistic	[1.65]*	[1.66]*	[1.83]*	[1.87]*	[0.98]	[0.97]
Observations	19,163	19,163	11,982	11,982	7,181	7,181
R^2	0.2012	0.2019	0.2485	0.2523	0.1588	0.1580
Fixed Effects	Firm	Firm	Firm	Firm	Firm	Firm
	Year	Year	Year	Year	Year	Year

Table VII
Corporate Investment around Party Secretary Turnover

This table presents estimation results of the baseline regression specification for *party secretary* turnovers. The unit of observation is at firm-year level. The dependent variable is the firm-level investment rate defined as CAPX/Lagged Assets. Independent variables include the lagged Tobin's Q, cash flow, province-level real GDP growth rate, sales growth and the four *party secretary* turnover event time [-1, 0, +1, +2] dummies, with year 0 being the year the actual turnover event occurred. The turnover event time dummies of *party secretaries* are created in a similar fashion to those of provincial governors defined earlier. See Appendix A for variable descriptions as well as the variable sources. The first two columns report estimation results for the full sample. The last four columns present estimation results for SOEs and non-SOEs separately. Variables of interest are the four *party secretary* turnover event time dummies. We use baseline investment regression and control for firm and year fixed effects. Standard errors are clustered at firm level and corrected for heteroscedasticity. T-statistics are reported in square brackets below coefficient estimates. ***, **, * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent Variable: Firm-level Investment					
	Full Sample		SOEs		Non-SOEs	
	(1)	(2)	(3)	(4)	(5)	(6)
Pre-turnover year (-1)	-0.0022	-0.0026	-0.0019	-0.0021	-0.0027	-0.0035
	[-1.79]*	[-2.10]**	[-1.23]	[-1.34]	[-1.34]	[-1.68]*
Turnover year (0)	-0.0035	-0.0043	-0.0048	-0.0051	-0.0015	-0.0029
	[-2.79]***	[-3.00]***	[-3.04]***	[-2.94]***	[-0.70]	[-1.18]
Post-turnover year (+1)	0.0003	-0.0005	0.0008	0.0004	-0.0006	-0.0020
	[0.22]	[-0.32]	[0.50]	[0.22]	[-0.25]	[-0.77]
Post-turnover year (+2)		-0.0025		-0.0012		-0.0045
		[-1.74]*		[-0.69]		[-1.91]*
Q	0.0043	0.0043	0.0042	0.0041	0.0045	0.0045
	[6.94]***	[6.88]***	[4.38]***	[4.36]***	[5.51]***	[5.43]***
Cash Flow	0.2625	0.2622	0.2559	0.2558	0.2699	0.2694
	[18.88]***	[18.85]***	[13.64]***	[13.61]***	[12.97]***	[12.98]***
Sales Growth	0.0067	0.0067	0.0083	0.0083	0.0052	0.0052
	[5.34]***	[5.34]***	[4.78]***	[4.78]***	[2.91]***	[2.91]***
GDP Growth	0.0257	0.0254	0.0230	0.0232	0.0299	0.0272
	[2.04]**	[2.01]**	[1.53]	[1.54]	[1.31]	[1.18]
Constant	0.0376	0.0386	0.0408	0.0412	0.0325	0.0347
	[16.83]***	[16.08]***	[14.61]***	[13.85]***	[8.49]***	[8.35]***
Observations	19,163	19,163	11,982	11,982	7,181	7,181
R^2	20.09%	20.05%	24.95%	24.90%	15.40%	15.45%
Fixed Effects	Firm	Firm	Firm	Firm	Firm	Firm
	Year	Year	Year	Year	Year	Year

Table VIII
Heterogeneity in Turnover Type and Politician Characteristics

The unit of observation is at firm-year level. The dependent variable is the firm-level investment rate defined as CAPX/Lagged Assets. Independent variables include the lagged Tobin's Q, cash flow, province-level real GDP growth rate, sales growth and the turnover event time [-1, 0, +1] dummies, with year 0 being the year the actual turnover event occurred. To investigate the cross-sectional heterogeneity in turnover types and governor characteristics, we add to our baseline investment regression an interaction term between post-turnover dummy and turnover type, as well as interaction terms between the post-turnover dummy and various governor characteristics such as education level, birthplace and age. Variables of interest are the interaction terms. Turnover type is an indicator variable that takes on a value of one if the provincial governor is promoted or moves laterally after his tenure of service. Education is set to one if the provincial governor holds a Master or PhD degree. Birthplace is an indicator variable that takes on a value of one if the new governor will assume office in his home province. Governor Age is set to one if the age of the new governor is greater than or equal to 55 at the time of appointment. See Appendix A for variable descriptions as well as the variable sources. We use the sample of SOEs and control for firm and year fixed effects. Standard errors are clustered at firm level and corrected for heteroscedasticity. T-statistics are reported in square brackets below coefficient estimates. ***, **, * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent Variable: Firm-level Investment							
	Turnover Type		Education		Birthplace		Governor Age	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pre-turnover year(-1)		-0.0023		-0.0025		-0.0019		-0.0023
		[-1.54]		[-1.69]*		[-1.32]		[-1.58]
Turnover year (0)		0.0017		0.0013		0.0016		0.0014
		[0.99]		[0.79]		[0.93]		[0.81]
Post-turnover year (+1)	-0.0005	-0.0005	0.0082	0.0085	0.0018	0.0021	0.0002	0.0003
	[-0.18]	[-0.20]	[3.73]***	[3.68]***	[1.11]	[1.20]	[0.10]	[0.13]
Post-turnover year (+1)	0.0061	0.0066						
× Turnover Type	[1.99]**	[2.15]**						
Post-turnover year (+1)			-0.0082	-0.0084				
× Education			[-2.87]***	[-2.96]***				
Post-turnover year (+1)					0.0096	0.0094		
× Birthplace					[2.82]***	[2.77]***		
Post-turnover year (+1)							0.0051	0.0053
× Governor Age							[1.78]*	[1.84]*
Q	0.0042	0.0041	0.0041	0.0040	0.0042	0.0042	0.0042	0.0041
	[4.43]***	[4.38]***	[4.30]***	[4.26]***	[4.45]***	[4.40]***	[4.40]***	[4.36]***
Cash Flow	0.2562	0.2564	0.256	0.2562	0.2555	0.2557	0.2565	0.2567
	[13.67]***	[13.65]***	[13.65]***	[13.62]***	[13.66]***	[13.63]***	[13.68]***	[13.65]***
Sales Growth	0.0083	0.0083	0.0082	0.0083	0.0083	0.0083	0.0082	0.0082
	[4.78]***	[4.78]***	[4.76]***	[4.77]***	[4.78]***	[4.78]***	[4.73]***	[4.74]***
GDP Growth	0.0237	0.0234	0.0277	0.0274	0.0263	0.0264	0.0282	0.0280
	[1.57]	[1.54]	[1.86]*	[1.83]*	[1.76]*	[1.75]*	[1.88]*	[1.86]*
Constant	0.0385	0.0386	0.0382	0.0385	0.0382	0.0382	0.0380	0.0381
	[14.17]***	[13.87]***	[14.13]***	[13.84]***	[14.13]***	[13.77]***	[14.03]***	[13.73]***
Observations	11,982	11,982	11,982	11,982	11,982	11,982	11,982	11,982
R^2	25.02%	25.09%	25.10%	25.16%	25.22%	25.30%	25.06%	25.13%
Fixed Effects	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
	Year	Year	Year	Year	Year	Year	Year	Year

Table IX
Firm Leverage and Employment Regressions

The unit of observation is at firm-year level. The first four columns report results from leverage regressions, in which the dependent variable is book leverage defined as short-term borrowing plus long-term debt scaled by lagged total assets. The last four columns report results from employment regressions, in which the dependent variable is number of employees scaled by lagged total assets in millions of Chinese yuan. In all specifications, the independent variables include the lagged Tobin's Q, cash flow, province-level real GDP growth rate, sales growth and the turnover event time dummies, with year 0 being the year the turnover occurred. We incorporate additional control variables commonly used in leverage regressions (See, for example, Lemmon, Roberts and Zender (2008), and Serfling (2016)). These variables include asset tangibility (PPENT/assets), profitability (EBIT/assets), firm size (log assets), annual stock return and an indicator variable for whether the firm paid a dividend. See Appendix A for the definition of main variables. Columns (1) and (2) report estimation results for SOEs and non-SOEs separately. In columns (3) and (4), we interact post-turnover event time dummies with SOE dummy on the full sample. Columns (5) to (8) replicate the analysis in the first four columns with firm employment as dependent variable. Variables of interest are interaction terms and turnover event time dummies. We use baseline investment regressions and control for firm-year or industry-year fixed effects. Standard errors are clustered at firm level and corrected for heteroscedasticity. T-statistics are reported in square brackets below coefficient estimates. To save space, we suppress the estimates of firm specific and province economics control variables. ***, **, * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Firm Leverage				Firm Employment			
	SOEs	Non-SOEs	Full Sample		SOEs	Non-SOEs	Full Sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Pre-turnover year (-1)	0.0040	0.0071	0.0027	0.0025	0.0885**	-0.1749	-0.0702	-0.0678
	[1.31]	[1.48]	[0.54]	[0.50]	[2.24]	[-1.40]	[-0.88]	[-0.85]
Turnover year (0)	0.0011	0.0036	-0.0019	-0.0020	-0.0084	-0.0994	0.0670	0.0697
	[0.33]	[0.68]	[-0.36]	[-0.38]	[-0.20]	[-0.60]	[0.37]	[0.35]
Post-turnover year (+1)	0.0103***	0.0028	-0.0081	-0.0084	0.0877*	-0.1889*	-0.1412	-0.1356
	[3.02]	[0.48]	[-1.43]	[-1.36]	[1.80]	[-1.91]	[-1.21]	[-1.14]
Post-turnover year (+2)	0.0031	0.0020	-0.0043	-0.0057	0.0194	0.2218	0.1354	0.1622
	[1.09]	[0.36]	[-1.34]	[-0.94]	[0.54]	[0.76]	[1.29]	[0.63]
Pre-turnover year (-1)			-0.0024	-0.0022			0.2301*	0.2259*
× SOE dummy			[-0.39]	[-0.34]			[1.89]	[1.94]
Turnover year (0)			0.0007	0.0010			0.0207	0.0158
× SOE dummy			[0.11]	[0.15]			[0.13]	[0.08]
Post-turnover year (+1)			0.0116**	0.0121*			0.3252***	0.3155***
× SOE dummy			[1.96]	[1.90]			[2.93]	[2.87]
Post-turnover year (+2)				0.0022				-0.0432
× SOE dummy				[0.31]				[-0.17]
SOE dummy			-0.0418***	-0.0425***			-0.1486*	-0.1365
			[-5.67]	[-5.23]			[-1.79]	[-1.14]
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Economy Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,029	7,396	18,425	18,425	10,373	6,919	17,292	17,292
R^2	21.3%	15.8%	28.8%	28.8%	6.5%	4.9%	8.2%	8.2%
Fixed Effects	Firm	Firm	Industry	Industry	Firm	Firm	Industry	Industry
	Year	Year	Year	Year	Year	Year	Year	Year

Table X
Robustness Tests for Main Specification

The unit of observation is at firm-year level. The dependent variable is the firm-level investment rate defined as CAPX/Lagged Assets. Independent variables include the lagged Tobin's Q, cash flow, province-level real GDP growth rate, sales growth and the four turnover event time [-1, 0, +1, +2] dummies, with year 0 being the year the actual turnover event occurred. See Appendix A for variable descriptions as well as the variable sources. To address the robustness of our main specification, we report three sets of estimations. In the first set of estimations, we only use the unexpected turnovers of provincial governors, where the timing of the turnovers does not coincide with the national political turnover cycles in 1998, 2003 and 2008. In the second set of estimations, we exclude the centrally owned SOEs from our sample. In the third set of estimations, we drop sample period between 1998 and 2001 and focus on the sample after the stock market reform in 2002. In each set of estimations, we first run our baseline investment regressions for SOEs and non-SOEs separately. We then include a SOE dummy as well as interaction terms between the SOE dummy and post-turnover dummies in our baseline investment regressions on the full sample. Variables of interest are the interaction terms and the four turnover event time dummies. We control for firm and year fixed effects with standard errors clustered at firm level and corrected for heteroscedasticity. T-statistics are reported in square brackets below coefficient estimates. ***, **, * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent Variable: Firm-level Investment								
	Unexpected Turnovers			Local SOEs			Sample Period $\geq$ 2002		
	SOEs	Non-SOEs	Full Sample	SOEs	Non-SOEs	Full Sample	SOEs	Non-SOEs	Full Sample
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Pre-turnover (-1)	-0.0009	-0.0045**	-0.0031**	-0.0025	-0.0044**	-0.0038**	-0.0014	-0.0075***	-0.0048***
	[-0.57]	[-2.03]	[-2.11]	[-1.49]	[-2.11]	[-2.52]	[-0.84]	[-3.28]	[-3.01]
Turnover year (0)	0.0022	-0.0046*	0.0000	0.0015	-0.0032	-0.0010	0.0011	-0.0007	-0.0014
	[1.09]	[-1.89]	[0.03]	[0.75]	[-1.42]	[-0.65]	[0.56]	[-0.28]	[-0.86]
Post-turnover (+1)	0.0041**	-0.0062**	-0.0066***	0.0037*	-0.0049**	-0.0053**	0.0060***	-0.0032	-0.0045*
	[2.08]	[-2.29]	[-2.64]	[1.90]	[-2.03]	[-2.35]	[3.02]	[-1.44]	[-1.92]
Post-turnover (+2)	0.0032	-0.0068***	-0.0108***	0.0017	-0.0075***	-0.0115***	0.0039**	-0.0036	-0.0109***
	[1.63]	[-2.69]	[-4.35]	[0.95]	[-3.25]	[-4.91]	[2.08]	[-1.49]	[-4.36]
Post-turnover (+1)			0.0078***			0.0091***			0.0071**
$\times$ SOE dummy			[2.66]			[3.34]			[2.57]
Post-turnover (+2)			0.0123***			0.0125***			0.0118***
$\times$ SOE dummy			[4.06]			[4.35]			[3.89]
SOE dummy			-0.0079***			-0.0066***			-0.0063***
			[-3.56]			[-3.02]			[-2.71]
Q	0.0034***	0.0049***	0.0001	0.0045***	0.0044***	0.0006	0.0032***	0.0028***	-0.0005
	[3.16]	[5.13]	[0.14]	[4.01]	[5.51]	[0.98]	[2.97]	[3.33]	[-0.81]
Cash Flow	0.2569***	0.2520***	0.3320***	0.2527***	0.2666***	0.3375***	0.2577***	0.2462***	0.3299***
	[12.74]	[11.65]	[27.87]	[11.99]	[12.73]	[27.35]	[11.40]	[11.05]	[26.74]
Sales Growth	0.0080***	0.0063***	0.0070***	0.0077***	0.0055***	0.0059***	0.0084***	0.0078***	0.0078***
	[4.40]	[3.21]	[5.21]	[3.99]	[3.08]	[4.51]	[3.87]	[4.06]	[5.53]
GDP Growth	0.0293*	0.0174	-0.0109	0.0188	0.0257	-0.0027	0.0754***	0.0954***	0.0558**
	[1.85]	[0.73]	[-0.61]	[1.07]	[1.10]	[-0.14]	[4.21]	[3.64]	[2.46]
Constant	0.0373***	0.0372***	0.0727***	0.0382***	0.0357***	0.0703***	0.0335***	0.0298***	0.0769***
	[12.17]	[9.02]	[9.87]	[11.74]	[9.00]	[8.35]	[10.14]	[6.89]	[9.44]
Observations	9,833	5,977	15,810	9,671	7,084	16,755	9,796	6,087	15,883
R^2	7.4%	9.9%	20.1%	7.5%	10.4%	20.2%	7.6%	9.8%	21.7%
Fixed Effects	Firm	Firm	Industry	Firm	Firm	Industry	Firm	Firm	Industry
	Year	Year	Year	Year	Year	Year	Year	Year	Year

Table XI
Alternative Specification for Post-Turnover Crowding Out Effects

The unit of observation is at firm-year level. The dependent variable is the firm-level investment rate of non-SOEs defined as CAPX/Lagged Assets. Independent variables include the lagged Tobin's Q, cash flow, province-level real GDP growth rate, sales growth and the four turnover event time [-1, 0, +1, +2] dummies, with year 0 being the year the actual turnover occurred. See Appendix A for variable descriptions as well as the variable sources. To alternatively test for whether non-SOEs investment follows SOE investment around the turnover cycle, we include lagged aggregate SOE investment at the industry-province level as well as its interaction terms with the turnover event time dummies in our baseline investment regression on the sample of non-SOEs. Variables of interest are the interaction terms. We control for firm and year fixed effects with standard errors clustered at firm level and corrected for heteroscedasticity. T-statistics are reported in square brackets below coefficient estimates. ***, **, * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent Variable: Non-SOE Investment					
	(1)	(2)	(3)	(4)	(5)	(6)
Pre-turnover year (-1)	-0.0061	-0.0069***	-0.0069***	-0.0069***	0.0009	0.0015
	[-0.30]	[-2.99]	[-3.00]	[-2.99]	[0.04]	[0.07]
Turnover year (0)	-0.0033	-0.0055	-0.0032	-0.0033	0.0077	0.0098
	[-1.32]	[-0.27]	[-1.30]	[-1.32]	[0.32]	[0.38]
Post-turnover year (+1)	-0.0038	-0.0038	0.0339	-0.0038	0.0378	0.0416
	[-1.37]	[-1.38]	[1.58]	[-1.38]	[1.60]	[1.56]
Post-turnover year (+2)	-0.0063**	-0.0063**	-0.0061**	-0.0074	-0.0061**	0.0066
	[-2.38]	[-2.39]	[-2.30]	[-0.31]	[-2.29]	[0.24]
Pre-turnover year (-1)	-0.0000				-0.0004	-0.0004
× Aggregate SOE Investment (t-1)	[-0.04]				[-0.35]	[-0.37]
Turnover year (0)		0.0001			-0.0005	-0.0006
× Aggregate SOE Investment (t-1)		[0.11]			[-0.44]	[-0.50]
Post-turnover year (+1)			-0.0019*		-0.0021*	-0.0023*
× Aggregate SOE Investment (t-1)			[-1.76]		[-1.76]	[-1.69]
Post-turnover year (+2)				0.0001		-0.0006
× Aggregate SOE Investment (t-1)				[0.05]		[-0.46]
Aggregate SOE Investment (t-1)	-0.0025**	-0.0025**	-0.0021*	-0.0025**	-0.0018	-0.0016
	[-2.35]	[-2.29]	[-1.92]	[-2.33]	[-1.44]	[-1.15]
Q	0.0042***	0.0042***	0.0042***	0.0042***	0.0042***	0.0042***
	[4.60]	[4.60]	[4.60]	[4.60]	[4.59]	[4.56]
Cash Flow	0.2525***	0.2524***	0.2517***	0.2525***	0.2518***	0.2518***
	[10.69]	[10.70]	[10.63]	[10.69]	[10.64]	[10.64]
Sales Growth	0.0051***	0.0051***	0.0051***	0.0051***	0.0051***	0.0051***
	[2.88]	[2.89]	[2.88]	[2.88]	[2.88]	[2.89]
GDP Growth	0.0555**	0.0554**	0.0534**	0.0554**	0.0540**	0.0542**
	[2.20]	[2.21]	[2.12]	[2.21]	[2.13]	[2.15]
Constant	0.0854***	0.0861***	0.0772***	0.0858***	0.0719***	0.0678**
	[3.92]	[3.80]	[3.51]	[3.89]	[2.81]	[2.41]
Observations	5,298	5,298	5,298	5,298	5,298	5,298
R^2	9.7%	9.7%	9.8%	9.7%	9.8%	9.8%
Fixed Effects	Firm	Firm	Firm	Firm	Firm	Firm
	Year	Year	Year	Year	Year	Year

Figure 1. Investment Rates around Turnover Years

The figure depicts average investment rates around turnover event years for all listed firms (red line), SOEs (blue line) and non-SOEs (green line) respectively. Year 0 indicates the calendar year in which the actual governor turnover event occurs.

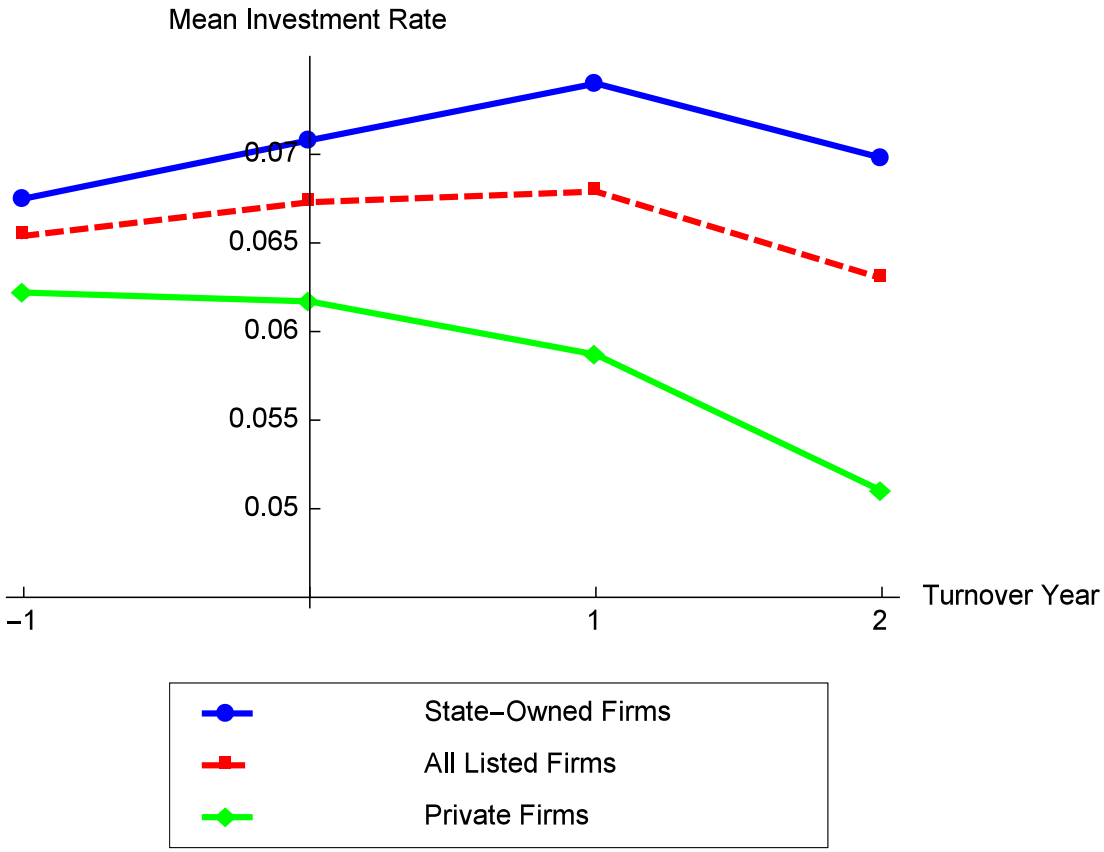

Figure 2. Frequency Distribution of Provincial Governor Turnovers by Province