

Dang, Tri Vi; He, Qing

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Bureaucrats as successor CEOs

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Tri Vi Dang and Qing He

Bureaucrats as successor CEOs



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Tri Vi Dang and Qing He

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Abstract

Chinese companies sometimes appoint a government official (bureaucrat) as CEO on the expectation of benefiting from the political connections of the new hire. Based on a sample of 2,454 CEO transitions our empirical findings are consistent with the implications of a simple contract model in oligopolistic markets. Firms that appoint a bureaucrat as CEO obtain more credit and subsidies. They have positive abnormal announcement returns, negative abnormal long-run returns and larger variance of long-run returns. Furthermore, they experience a deterioration in operating performances, increased rent-seeking behavior of the management and weakening of corporate governance. The results from the split share structure reform in 2005 corroborate the supportive findings for the preferential treatment hypothesis.

Keywords: bureaucrat, corporate political connections, CEO successions in China, governance.

JEL Classifications: G32, G34, M13.

Tri Vi Dang, orcid.org/0000-0002-8848-4163. Department of Economics, Columbia University, 420 West 118th Street, New York, NY 10027 . Email: td2332@columbia.edu. Phone: 212 – 854 4092.

Qing He, orcid.org/0000-0002-6782-099X. School of Finance & China Financial Policy Research Center, Renmin University of China, No.59, Zhongguancun street, Beijing, China. Phone +86–10–8250059.

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1 Introduction

The economics and finance literature has recently devoted increased attention to politically connected firms, a fairly common feature of larger firms (Faccio, 2006). For example, about a third of S&P 500 firms in the US were politically connected at the time of the 2000 election (Goldman et al., 2009). Politically connected companies may expect and receive preferential treatment or competitive advantages from the political establishment, favors that can be returned with subsequent hiring of official departing public service. This is particularly true in emerging market countries, where legal systems and corporate governance are weak (Fisman, 2001). Politically connected firms in emerging market countries may enjoy a variety of benefits, including preferential access to financial resources (Johnson and Mitton, 2003; Khwaja and Mian, 2005; Amore and Bannedsen, 2013), favorable regulatory treatment (Agrawal and Knoeber, 2001; Morck et al., 2005), and extended opportunities to contract with public sector entities (Kim et al., 2012).

Because of the key economic role played by the chief executive officer (CEO), it would seem straightforward to hire a bureaucrat as the successor CEO to enhance the firm's political connections. However, the literature on agency conflicts within firms widely documents evidence that the incentives and actions of such new hires may not necessarily align with the objectives and interests of shareholders (Jensen and Meckling, 1976). Rather than maximizing shareholder value, a politically connected CEO may pursue a government agenda or seek to accumulate personal wealth using political cover (Shleifer and Vishny, 1989, 1994; Rajan and Zingales, 2003; Piotroski and Zhang, 2014). Bureaucrats may also loot the firm (e.g. tunneling of assets out of the firm), engage in rent-seeking behavior, or reward their political base with personal-favor projects. Former government officers also tend to have fewer managerial skills than their corporate counterparts, which may erode the disciplining forces of internal monitoring in the firm. In other words, the issue of whether appointment of a former bureaucrat as CEO is a good way to enhance firm value over the long term is an open question.

To shed light on the benefits and drawbacks of political connections, this paper addresses the costs and benefits of appointing a former bureaucrat as CEO and the net effect on shareholders. CEO transitions, in particular, are likely to play a key role in determining a firm's relationship with government, so there is at least a colorable argument to be made that hiring a current or former government officer or bureaucrat as successor CEO is an effective approach to connecting with government.

Because of their ties with government, bureaucrats bring to the CEO job an unusual combination of authority and experience. We propose two hypotheses on how this might be evident. On one hand, the incoming bureaucrat CEO may get preferential treatment from the government that is useful to the firm in obtaining cheap credit or government subsidies (preferential treatment hypothesis). Alternatively, it is possible that the bureaucrat has private insider information about firms and cherry-picks among top firms in his or her job search. If a bureaucrat CEO is known to have access to such inside information, his or her appointment as CEO may be interpreted by outside shareholders and markets as an endorsement of the firm's financial condition (cherry-picking hypothesis). Although the appointment of a bureaucrat CEO has few tangible effects on corporate operations, this cherry-picking effect may also be useful to the appointing firm in affirming its current value. Thus, the benefits produced by bureaucrats might arise through preferential treatment or cherry-picking certification effects.

We first provide a contract model of CEO appointments in oligopolistic markets to illustrate the economic tradeoffs involved in hiring a bureaucrat CEO. In the first stage, the firm decides whom to employ to make a production decision. We assume that a bureaucrat can potentially generate higher sales in the public (government) sector and help in gaining access to cheap loans and obtaining subsidies. However, the effectiveness of a bureaucrat is not known or observable *ex ante*. We posit that a "high effectiveness" bureaucrat CEO boosts total sales and lowers total costs compared to a non-bureaucrat CEO. Similarly, a "low effectiveness" bureaucrat CEO generates lower total sales and raises total costs compared to a non-bureaucrat CEO. A bureaucrat CEO might also extract more rents (*i.e.* steal more output) than a non-bureaucrat CEO.

In the second stage, the CEO makes a production decision. If there is a preferential treatment effect, hiring a bureaucrat has an option value because of higher uncertainty about potential benefits and costs. Due to the option value, hiring a bureaucrat increases the share price *ex ante* and there is a higher probability that the share price drops *ex post*. In other words, our model predicts a firm with a bureaucrat as its new CEO will have positive abnormal announcement returns, but is more likely to experience underperformance of its stock price over the long run.¹ Because embedded option value is priced *ex ante*, the probability that the stock price of a bureaucrat firm declines in the long run, *ceteris paribus*, is higher than a non-bureaucrat firm.² Therefore, the preferential treatment hypothesis implies that on average, the long run returns of

¹ We also show that the hiring decisions of firms are interdependent in oligopolistic markets. Depending on industry parameters, asymmetric equilibria can exist in which *ex ante* identical firms make different hiring decisions.

² As short-hand notation, we call a firm that hires a bureaucrat (non-bureaucrat) a bureaucrat successor CEO (non-bureaucrat) firm.

bureaucrat firms are negative. The cherry-picking hypothesis has no particular implications for long run returns. If at all long run returns might be positive as bureaucrats are picking better firms to work for. The second testable implication that distinguishes the preferential treatment hypothesis from the cherry-picking hypothesis is that only the former predicts higher cross-sectional variance in long run abnormal returns.

The Chinese economy, which features government intervention on a large scale (Fan et al., 2007), provides a unique natural laboratory for testing the two hypotheses. The political capital of a CEO, measured by whether he or she is a former central or regional government official, is likely to be a factor of importance in a firm's operation. We collect detailed information about government working experience, education, professional backgrounds and other important demographic characteristics of both departing and incoming CEOs for 2,454 CEO successions in the period from 2000 to 2010.

We show that bureaucrat successor CEOs accounted for approximately 14.71% of all successor CEOs. Bureaucrat successors in our sample tend to be older and have less industry and overseas experience than their non-bureaucrat counterparts. The majority of bureaucrat successors were recruited externally, and firms were more likely to appoint a bureaucrat successor CEO when the departing CEO was also a former bureaucrat. We find no significant differences in financial performance between firms that hire bureaucrat CEOs and those that hire non-bureaucrats, i.e. no evidence to support the presence of a cherry-picking effect.

As we expect, stock markets react positively to the appointment of a bureaucrat CEO. The average cumulative abnormal return (CAR) for the three days event windows $(-1, +1)$ is 1.49%. The CAR is +2.31% if a bureaucrat replaces a non-bureaucrat CEO, and increases further to 4.1% if a non-state-owned firm appoints a bureaucrat CEO. The abnormal announcement returns for hiring non-bureaucrat CEOs are around zero and the differences between the two groups are statistically significant in all three cases. This observation is consistent for both preferential treatment and cherry-picking effects. However, our preferential treatment hypothesis predicts that, *ceteris paribus*, stock prices of bureaucrat firms decline on average and the cross-sectional variance of long-run abnormal returns is larger. Indeed, we find that the average buy-and-hold market adjusted monthly returns from month 4 after the CEO succession to month 36 is -6.94% , and that the difference between the two groups is large and significant. Also the variance of abnormal returns for bureaucrat firms is more than twice as larger as the one for non-bureaucrat firms.

We further test to see if there is support for a preferential treatment effect by analyzing changes in long-term loans and government subsidies after the appointment of a bureaucrat CEO. Our cherry-picking hypothesis predicts no changes in these variables as the bureaucrat selects a better firm from the start. In contrast, our option value hypothesis states that a bureaucrat comes to the firm with potential financial benefits. Our empirical results show that firms appointing bureaucrat CEOs have more long-term loans and receive more government subsidies than firms that appointed non-bureaucrat CEOs.

In addition, we consider whether bureaucrat CEOs are associated with changes in the firm's operating performance. To address potential endogeneity concerns, we adopt a performance-based matching method that combines a difference-in-differences approach and the matching procedure proposed by Abadie and Imbens (2006). Our results indicate that when a bureaucrat joins a firm as CEO, the firm's profitability deteriorates and its sales growth rate slows in subsequent years, and that these deteriorations in performance are accompanied by changes in rent-seeking behaviors of corporate insiders. Among firms that have CEO transitions, firms that appointing bureaucrat CEOs are more likely to get involved in related-party transactions and increase the amount of "other receivables".³

To corroborate the supportive findings for the preferential treatment hypothesis we provide an additional test that focuses on an event that likely conferred government benefits from appointing a bureaucrat as successor CEO. During our 2000–2010 sample period, almost all sample firms (all listed non-financial Chinese companies) are affected by the split share structure reform in April 2005, which opened the way for converting non-tradable shares held by state-owned enterprises (SOEs) to exchange-tradable shares. This event exerted a significant impact on the apparent benefits of appointing a bureaucrat CEO.

Before the reform, free trading of government-owned shares was strictly prohibited. The non-tradability of government-owned blocks of shares created numerous incentive problems. Managers, especially those with close relationships to government, may have sought to pursue political and social objectives over profit maximization as they gained little benefit from increases in market value. The aftermath of the split share structure reform allowed most non-tradable shares to be converted to tradable shares. In such an environment, the market valuation of company stock become particularly important as the impact on corporate market values of the reform exacerbated incentives of managers to engage in "helping hand" transactions ((Firth et

³ Jiang et al. (2010) document the widespread use of corporate loan guarantees by controlling shareholders to extract benefits from minority shareholders in Chinese listed firms. Reporting of such loans is typically included in the accounting category "other receivables."

al., (2010), Liao et al., (2014)). Thus, the split share structure reform is of particular interest in disentangling preferential treatment and cherry-picking effects when comparing behaviors before and after the reforms.

We find that the difference in market reaction for firms that hire bureaucrats compared to those that hire non-bureaucrats is 0.07% in the pre-reform period. This is inconsistent with the cherry-picking hypothesis but consistent with the preferential treatment hypothesis as the benefit of hiring a bureaucrat is low because of the non-tradability of shares. In contrast, in the post-reform period, the CAR is +4.28% and the difference between the two groups of firms is large and statistically significant. We further find that bureaucrat firms obtain more credit and subsidies in particular in the post reform period. This finding supports the preferential treatment hypothesis.

Our study contributes to various strands of the literature on corporate political connections. Since earlier studies either focus on the benefits or costs to firms with ties to the government (Khwaja and Mian, 2005; Faccio, 2006; Amore and Bannedsen, 2013), the net effects of hiring politically connected managers remain largely uninvestigated. We thus analyze short and long term stock price behaviors, the changes in operating performances loans and subsidies (benefits) as well as rent seeking behavior (costs) to measure the net effect for firms that hire bureaucrats compared to non-bureaucrats at CEO transition (turnover). Given the presence of the state in Chinese business, it is clearly prudent for boards to consider government and agency problems during a CEO transition. For this reason, CEO turnovers provide a discrete setting for testing the consequences of political connections. We contribute to the literature by modeling and empirically examining the tradeoffs between hiring bureaucrats and non-bureaucrats in terms of political value and management skills.

The most relevant studies here are those of Fan et al. (2007) and Fan et al. (2008). These papers deal with how political connections in China affect post-IPO performance of firms and access to credit. Fan et al. (2007) find that firms that hired politically connected CEOs underperform firms that do not hire politically connected CEOs. Such firms also display weaker post-IPO financial performance. We provide novel empirical results on costs and benefits of CEO choices, and thus highlight the mechanisms through which a bureaucrat successor CEO may influence short-run and long-run performance.⁴ Fan et al. (2008) take 23 corruption scandals as a natural

⁴ Unlike Fan et al. (2007), who document a negative effect of a CEO's political ties on IPO initial (first-day) stock return, we show that the stock market reacts positively to the appointment of a bureaucrat CEO. This effect is most significant if the bureaucrat is an external hire and the departing CEO is a non-bureaucrat.

experiment and investigate the leverage and debt maturity of bribers and connected firms. Notably, their study focuses on changes in financial condition, while we focus on how changes in financial condition relate to long-run performance.

Our paper also has implications for the literature on managerial succession (Denis and Denis, 1995; Huson et al., 2004; Perez and Gonzalez, 2006) by offering novel evidence that political capital and rent-seeking behavior are important consideration in choosing a successor CEO.

Finally, this paper extends the literature on the role of government relationships and rent-seeking behavior (Shleifer and Vishny, 1989, 1994; Rajan and Zingales, 2003; Piotroski and Zhang, 2014). We show that after the appointment of a bureaucrat CEO, long-term borrowing of the firm rises and government subsidies increase while rent-seeking behavior also increases. The net effect is negative for shareholders.

The remainder of the paper is organized as follows. Section 2 develops a model and the testing hypotheses. Section 3 describes the data, and provides summary statistics on CEOs appointments. Sections 4 to 8 present the empirical results. Section 9 concludes.

2 Theoretical analysis

In this section we develop a theoretical model to formalize the tradeoffs between potential (unobservable) value of political connections and (observable) management skills and derive the testable implications.

2.1 Model and testing hypotheses

We consider a contract model where a monopolistic firm produces one product.⁵ The demand for the product is given by the (inverse) demand function $p = \max[\theta - q, 0]$, where q denotes the quantity, p the market price, and θ is a random variable that can be interpreted as a demand parameter. In stage 1, the firm decides whether to hire a bureaucrat (B) or non-bureaucrat (N) as manager. In stage 2, the incoming manager chooses the quantity $q \geq 0$ to produce. The production cost is given by $C(q) = cq$. In stage 3, the demand state θ realizes. The price and the profit of the firm is

⁵ In Appendix C, we analyze contracting and oligopolistic competition. We show that hiring decisions of firms can be strategic complements or substitutes. In a duopoly with two identical firms, an equilibrium can exist in which one firm hires a non-bureaucrat and the other hires a bureaucrat as manager.

given as $\pi=p \cdot q-cq-\gamma+s$, where s is government subsidies and γ is a parameter that captures salaries plus rent-seeking and other fraudulent behavior of the manager.

In addition, we assume that demand θ has two components: θ^G (government or public sector demand) and θ^P (private sector demand). Variable cost c also has two components c^F (borrowing or funding cost) and c^P (production cost). The manager type i is characterized by $(\theta_i^G, \theta_i^P, c_i^F, c_i^P, s_i, \gamma_i)$, where $i=B, N$. These parameters are random variables. We analyze different cases where the realization of types can be private information of the manager or publicly observable. All proofs are given in Appendix B.

Proposition 1

Suppose the type of the manager is publicly observable before hiring. The firm hires a bureaucrat if $\Delta\theta^G + \Delta\theta^P - \Delta c^F - \Delta c^P \geq 2\sqrt{\Delta\gamma - \Delta s}$ where Δ measures the difference between a bureaucrat and non-bureaucrat in the respective parameters.

Proposition 1 has an intuitive interpretation. Hiring a politically connected CEO has a net effect on public sector sales of $\Delta\theta^G = \theta_B^G - \theta_N^G$ and a net effect on funding costs of $\Delta c^F = c_B^F - c_N^F$. Similarly, the net effect on sales to the private sector is $\Delta\theta^P = \theta_B^P - \theta_N^P$ and the net effect on production costs is $\Delta c^P = c_B^P - c_N^P$. If these differences are positive and outweigh the costs of rent-seeking $\Delta\gamma = \gamma_B - \gamma_N$ net government subsidies $\Delta s = s_B - s_N$ then the firm hires a bureaucrat.

Now we analyze the case where manager has private information about his type. We define $\theta_B \equiv \theta_B^G + \theta_B^P$ and $\theta_N \equiv \theta_N^G + \theta_N^P$ and we assume $\theta_B = \theta_N + \varepsilon$ where θ_N has distribution $F_N(\theta_N)$ and $E[\varepsilon] = 0$ and $Var(\varepsilon) = \sigma^2$. This assumption states that a bureaucrat firm faces a demand that is a mean-preserving spread of the demand of a non-bureaucrat firm. If the political connection turns out to be valuable, sales increase. But if the bureaucrat has inferior management skills and his connections are worthless, sales decline. The ceteris paribus assumption here is that both bureaucrat and non-bureaucrat CEOs otherwise generate the same expected sales. This highlights the mechanism and comparative static results regarding the embedded option value, but it is not crucial for the qualitative results.

Proposition 2

Suppose $C(q)=0$ and the type, θ , of the bureaucrat CEO is private information and uniformly distributed on $[X-d, X+d]$ with $0 < d \leq \frac{1}{2}X$. The realized profit is $\pi^* = \frac{1}{4}\theta^2$. The value of the firm (expected profit) is $E[\pi^*] = \frac{1}{4}X^2 + \frac{1}{12}d^2$ and the variance of profit is $Var[\pi^*] = \frac{1}{48}X^2d^2 + \frac{1}{18}d^4$.

Proposition 2 shows that a mean-preserving spread of θ (i.e. the higher uncertainty about the demand that comes with a bureaucrat) has an option value of $\frac{1}{12}d^2$. It is efficient to hire a bureaucrat rather than a non-bureaucrat with the same expected sales if $\Delta\gamma < \frac{1}{12}d^2 + \Delta s$. Furthermore, the realized profit and thus stock price is more volatile.

Proposition 3

Ex post there is a higher probability that the stock price decreases if the firm hires a bureaucrat.

The following numerical example illustrates Propositions 2 and 3. Suppose $\Delta\gamma = \Delta s_B = 0$ and $\theta \sim u[50,150]$. The market value of a firm with a non-bureaucrat CEO ($d=0$) is $E[\pi^*] = \frac{1}{4} \cdot 100^2 = 2500$. A firm with a bureaucrat has $E[\pi^*] = \frac{1}{4} \cdot 100^2 + \frac{1}{12}50^2 = 2708.33$. To justify the market price of 2708.33 ex post, realized demand must be $\theta = \sqrt{4 \cdot 2708.33} = 104.08$. (At this demand $\pi^* = \frac{1}{4}\theta^2 = 2708.33$.) The probability that the share price drops is $prob(\theta < 104.08) = \frac{104.08 - 50}{100} = 0.5408$. The higher the upside potentials, the higher the option value and the higher the probability that the share price drops when demand realizes.⁶

To summarize, our model formalizes the preferential treatment hypothesis and generates five testing hypotheses.

- H1: The announcement to appoint a bureaucrat CEO leads to positive abnormal announcement returns.*
- H2: Bureaucrat firms are more likely to have negative long-run returns than non-bureaucrat firms.*
- H3: The variance of long run returns of bureaucrat firms is larger than non-bureaucrat firms.*
- H4: Bureaucrat firms obtain more loans and subsidies than non-bureaucrat firms.*
- H5: There is more rent-seeking of management in bureaucrat firms than non-bureaucrat firms.*

⁶ The maximum risk-induced value gain ($d=100$) is $E[\pi^*] = \frac{1}{27d}(X+d)^3 = 2962$ or 18.52% and ex post the stock price drops with 55.6%.

Hypotheses H2 to H4 are unique to the preferential treatment hypothesis and thus distinguish it from the cherry picking hypothesis. In addition, our model also provides an explanation as to why not all firms choose to hire bureaucrats as CEOs. In Appendix C, we analyze CEO appointments and oligopolistic competition and show that hiring decisions of firms can be strategic substitutes.

2.2 On the robustness of predictions

The convexity-induced option value is the driver of our model. Technically, the price function is convex (i.e. $p = \max[\theta - q, 0]$). The option value effect is not an artifact of the specific functional form of the model, but is consistent with general option-pricing logic. Equity can be interpreted as a call option and it is well known that the option value increases in the variance of the underlying asset.

Our benchmark model formalizing the preferential treatment effect assumes that Chinese shareholders are fully rational. Potential behavioral biases are expected to reinforce preferential treatment effects. A main assumption of our theoretical analysis is that there is more uncertainty about the type of bureaucrat CEO than in the case of a non-bureaucrat CEO. This is because it is easier to observe the previous performance of a CEO candidate with business experience. Investors and the board can examine the manager's track record and typically even have an opportunity to evaluate his or her management skills and style. In other words, investors and boards can roughly foresee the implications for corporate financial policy and investment decisions in hiring a non-bureaucrat successor CEO.⁷

In contrast, there may be very little information available on the abilities of a government officer or military officer concerning his or her ability to run a company or take advantage of political connections. In China's case, information about bureaucrats is even harder to come by as officials may report information selectively to avoid the scrutiny from their own government branch or other government agencies.

The lack of information also means that investors and boards may entertain more diverse range of view about the abilities of the incoming bureaucrat. There is likely to be more disagreement among investors (and analysts) about a possible option value in the stock price. As a result, we expect the announcement of the appointment of a bureaucrat as successor CEO to generate

⁷ Bertrand and Schoar (2003) find that manager fixed effects matter for a wide range of corporate decisions. For example, they show that on average managers holding an MBA degree follow more aggressive strategies. Dittmar and Duchin (2015) show that professional experiences affect financial policy. See also Malmendier and Tate (2005) and Malmendier, Tate, and Yan (2011).

positive abnormal announcement returns and bureaucrat firms have lower long-term stock returns. Diether et al. (2002), document that high dispersion among analyst opinions about a firm is a predictor of lower long-term stock returns. Furthermore, if investors are not fully rational, they may be attracted to high potential upside gains while ignoring downside risks. This can lead to overly optimistic expectations that reinforce high announcement returns. However, when information about the abilities of the bureaucrat is gradually revealed, the stock price declines. Pan et al. (2015) show that stock volatility decreases as investors gradually learn about the abilities of the CEO. These effects strengthen the implications of the rational benchmark model.

3 Data and descriptive statistics

Our sample consists of all non-financial firms listed on the Shanghai and Shenzhen stock exchanges from 1998 to 2013. Financial and management information are drawn from the Chinese Stock and Market Accounting Research (CSMAR) database. As our tests require firm data before and after the CEO appointment, we restrict our sample to CEO successions that occurred between 2001 and 2010 and to appointing firms with information for three consecutive years after the CEO succession. We use China Corporate Governance Research Database (CCGRD) developed by the GTA Information Technology Co. to identify CEO turnover.

From this dataset, we construct our turnover sample, which consists of 2,454 CEO successions that satisfy the following conditions: (1) The incumbent and successor held in his or her position for at least one year. (2) As our tests require firm data before and after the CEO succession, the financial information for the firms had to be available around the time of the CEO transition. (3) The succession are not be directly related to a merger, acquisition, or spin-off.

Information about the CEO such as name, gender, age, tenure, professional background, and working experience was manually collected from company annual reports. Following Fan et al. (2007), working experience was used to construct bureaucrat CEO backgrounds, including whether they were current or former government officials or military officers. To ensure that bureaucrat experience captures actual political capital, we do not consider successor CEOs who worked for an SOE as having bureaucrat experience. Each succession is classified as either bureaucrat or non-bureaucrat. If the incoming CEO is a current or former bureaucrat, the CEO is classified as a bureaucrat successor CEO. Following the literature on CEO turnover, we also examine the importance of other human specific capital on the succession decision (Adams et al., 2005). Specifically, we consider the educational, occupational, industrial, and professional characteristics of both the departing and incoming CEO.

We classify each succession as forced or voluntary. The CSMAR database provides the reasons stated for each succession. The voluntary group includes 875 cases for which the stated reasons are retirement, health, legal disputes, corporate governance, and change in controlling shareholder. For the remaining successions, we trace the destination of the departing CEO. We consider 654 departures voluntary. We add six cases to our “forced out” group in which the stated reason for leaving was retirement, but the age of the departing CEO was under 60. In the end, our category for forced departures totals 933 cases.

The literature shows that firms are likely to hire an external CEO candidate when the internal candidate lacks specific “human capital,” i.e. skill sets (see e.g. Huson et al., 2004). We designate a successor CEO as an outsider if the incoming CEO has been working for the firms for one year or less at the time of their appointment. Other successors are classified as insiders.

We use the ratio of accounting earnings before interest and taxes to book value of assets (*ROA*) as a measure of corporate performance. We also include a group of control variables. Firm size (*Lnasset*) is measured as the natural logarithm of total assets. Board size (*Board_size*) is measured by the number of directors on the board. Board independence is measured by the percentage of independent directors in the board (*Independent*). Bai et al. (2006) show that SOEs in China are treated favorably by commercial banks, especially state-owned commercial banks. Hence, we include *State* as a control variable that equals one if the ultimate owner is the government, and zero otherwise. *TOP1* is the percentage of shares held by the largest shareholder. *Foreign* indicates the percentage of shares owned by the foreign investors. Growth opportunity is measured by *Tobin’s Q*, calculated as the ratio of market value of equity plus the book value of debt divided by total assets. To minimize the effects of outliers on results, all financial variables are winsorized at the top and bottom 2.5%. The definitions of all variables are presented in the Appendix A.

To control for industry and time effects, we calculate for each variable the industry-adjusted measure, i.e. the difference between the unadjusted value of the variable and the median value of the variable for all firms in the same industry. Changes in performance is likely related with pre-appointment firm characteristics rather than the talents of successor. To control for possible endogeneity, we use the performance-based matching method described by Barber and Lyon (1996). This allows us to identify a group of control companies with similar prior performance from the same industry. Specifically, each sample firm is matched to comparison firms in the same industry with ROA within $\pm 20\%$ and closest in size in the year before CEO turnover.

We estimate the control-group-adjusted measure by subtracting the median value of the corresponding measure for its control group for each variable.

Panel A of Table 1 shows the number of successors per year and how these successors are divided among bureaucrat successor CEO and non-bureaucrat successor CEO. Between 2001 and 2010, new CEO hires average about 245 a year. This number is quite stable over time. The percentage of bureaucrats is also fairly evenly distributed across years with a mean of 14.71%. Panel B of Table 1 documents the industry distribution of firms in the sample of CEO successions. The industries with the largest (smallest) number of CEO turnovers are manufacturing (culture industry). Bureaucrat successions are unevenly distributed across industries. While all industries contain firms that appoint bureaucrat CEOs, the industries with the largest percentage of firms that hire bureaucrat successor CEOs are Utilities and Transportation.

Table 1 Distribution of CEO succession from 2001 to 2010

This sample consists of 2,454 successor CEOs during the period 2001–2010. If the successor is current or former official in government or an army officer, he or she is classified as a bureaucrat successor. The rest are unrelated successors. Panel A reports the year distribution of CEO successions in our sample. Panel B displays the sample frequency distribution by industry. The industry classification is based on the CSRC industry classification. The financial industry is excluded.

Panel A Year distribution of CEO successions

Year	Number	Bureaucrat	Non-bureaucrat	Percentage
2001	233	33	200	14.16%
2002	249	39	210	15.66%
2003	237	38	199	16.03%
2004	228	36	192	15.79%
2005	249	23	226	9.24%
2006	236	39	197	16.53%
2007	277	45	232	16.25%
2008	245	34	211	13.88%
2009	261	41	220	15.71%
2010	239	33	206	13.81%
Total	2,454	361	2,093	14.71%

Panel B Industry distribution of CEO successions				
Industry	Total	Bureaucrats	Non-bureaucrat	Percentage
Agriculture, forestry, animal husbandry and fishery	59	15	44	25.42%
Mining	40	9	31	22.50%
Manufacturing	1,433	141	1,292	9.84%
Utilities	84	26	58	30.95%
Construction	48	8	40	16.67%
Transportation	101	32	69	31.68%
Information technology	150	15	135	10.00%
Wholesale and retail trade	158	33	125	20.89%
Real estate	125	31	94	24.80%
Social service	59	14	45	23.73%
Communication and culture	21	5	16	23.81%
Comprehensive	176	32	144	18.18%
Total	2,454	361	2093	14.71%

Table 2 reports the univariate comparisons on the characteristics of firms making different types of CEO appointments (bureaucrat or non-bureaucrat as successor CEO). We find that a firm with departing bureaucrat CEO is more likely to hire another bureaucrat as replacement. 34.1% of firms that choose a bureaucrat as new CEO also had a bureaucrat as the outgoing CEO, while only 15.2% of firms that chose a non-bureaucrat as successor CEO had a bureaucrat as their former CEO. 55.1% of the new CEOs in firms that hire bureaucrats were external hires. In contrast, 38.2% of new CEOs in firms that hire non-bureaucrats were external hires. These results suggest that political connections play a role in the appointment of a new CEO. There is also evidence that a bureaucrat was less likely to join a firm if the resigning CEO planned to stay on in the same firm in some other capacity. We also find that incoming bureaucrat CEOs tended to be older, have less overseas experience, and possess fewer professional skills at the time of their appointment.

Furthermore, firms appointing a bureaucrat as CEO are more likely to be state-owned and have less foreign ownership. These facts suggest that government control contributes to a tendency to select for individuals with political backgrounds to fill top positions. In addition, firms where the largest shareholder holds the majority of shares are more likely to hire a non-bureaucrat CEO. Interestingly, there is no evidence that bureaucrat CEOs are more likely to join better performing firms, as captured by return on asset (ROA), sales growth, or Tobin's Q control variables. Thus, these findings do not support the cherry-picking hypothesis.⁸

⁸ Table A1 in Appendix D provides regression results which confirm the descriptive results.

Table 2 Summary statistics

This table reports the descriptive statistics of key variables for a sample of 2,454 CEO successions between 2001 and 2010. Columns 1 and 2 show means and medians for the whole sample. Columns 3 and 4 show means and medians for appointments of bureaucrat CEOs, while columns 5 and 6 give values for appointments of non-bureaucrat CEOs. Columns 7 and 8 present the difference. Medians are not reported for indicator variable. The firm information is measured at the beginning of the appointment year. Two-sample t-tests (Wilcoxon-Mann-Whitney tests) are conducted to see there is significant difference between the means (medians) of firms with or without banker director appointment. The definitions of all variables are presented in the Appendix A. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	All		Bureaucrat		Non-Bureaucrat		Difference	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Outgoing CEO								
Oversea	0.083	–	0.061	–	0.087	–	–0.026	–
Profession	0.711	–	0.734	–	0.706	–	0.028	–
Age	47.5	47.000	48.0	47.000	47.4	47.000	0.573	0.000
Tenure	3.370	3.000	3.458	2.900	3.354	3.000	0.104	–0.100
Education	3.228	3.000	3.213	3.000	3.230	3.000	–0.017	0.000
Stay	0.511	–	0.455	–	0.521	–	–0.066**	–
Bureaucrat	0.178	–	0.341	–	0.150	–	0.190***	–
Gender	0.042	–	0.039	–	0.042	–	–0.004	–
Forced	0.380	–	0.380	–	0.380	–	0.000	–
Incoming CEO								
Oversea	0.105	–	0.069	–	0.111	–	–0.042**	–
Profession	0.671	–	0.615	–	0.680	–	–0.065**	–
Age	44.3	44.000	46.6	46.000	43.9	43.000	2.723**	3.000***
Education	3.357	3.000	3.319	3.000	3.364	3.000	–0.046	0.000
Outsider	0.407	–	0.551	–	0.382	–	0.169***	–
Gender	0.048	–	0.042	–	0.050	–	–0.008	–
Governance variables								
State	0.613	–	0.659	–	0.605	–	0.054**	–
Top1share	0.405	0.384	0.389	0.367	0.408	0.387	–0.019**	–0.020
Independent	0.276	0.333	0.275	0.333	0.276	0.333	–0.001	0.000
Dual	0.147	–	0.154	–	0.146	–	0.009	–
Board_size	9.398	9.000	9.309	9.000	9.414	9.000	–0.105	0.000
Foreign	0.036	–	0.026	–	0.038	–	–0.012**	–
Lis_dur	7.846	8.000	8.136	8.000	7.796	8.000	0.339	0.000
Financial variables								
ROA	0.037	0.045	0.040	0.046	0.036	0.045	0.004	0.001
Sale_growth	0.263	0.096	0.320	0.110	0.253	0.092	0.067	0.018
Leverage	0.514	0.508	0.515	0.486	0.514	0.511	0.002	–0.025
Tobins'Q	2.452	1.984	2.452	1.998	2.452	1.981	0.000	0.017
Lnasset	21.13	21.03	21.12	21.03	21.14	21.03	–0.017	–0.002

4 Short-run price reaction to CEO appointments

Our first hypothesis states that the announcement to appoint a bureaucrat CEO leads to positive abnormal announcement returns. In order to test this prediction we conduct an event study. CEO appointments are usually recorded in the corporate announcements of listed firms. We use the precise announcement date of the appointment as the event day. Abnormal announcement returns are calculated based on a market model using the equal-weighted market index. The estimation window of the market model is $[-250, -21]$. We exclude those CEO appointment announcements with less than 100 observations in the estimation window. This leaves us with a total of 2,292 announcements, including 338 announcements of appointments of bureaucrat CEOs and 1,954 of appointments of non-bureaucrat CEOs. We estimate the average cumulative abnormal returns (CARs) over event windows $(-1, 1)$ and $(-2, 2)$, where day 0 is the announcement date.

Table 3 shows that there is a significant difference in mean abnormal returns between the announcements of bureaucrat and non-bureaucrat CEO appointments. The average CAR in the event window $(-1, 1)$ is 1.49% for the former and an average of around 0 for the latter. Similar results are obtained when we use CAR over the event window $(-2, +2)$. When we restrict announcements to cases where the departing CEO is a non-bureaucrat, we find a larger mean difference of 2.25%. This suggests that the market expect greater benefits when firms recruit a bureaucrat CEO to replace a non-bureaucrat CEO. We also find that the market takes a positive view on hiring a bureaucrat CEO externally. In the sample of external hires, the mean difference is 3.1% and statistically significantly different from zero. A further subsample test shows that the CAR is 4.49% if the bureaucrat is an external hire and replaces a leaving non-bureaucrat. When we test the differences across SOEs and private firms, the mean difference of market reaction between a bureaucrat and non-bureaucrat CEO appointment is more pronounced (4.1%) in private firms. This suggests that the market considers a bureaucrat CEO more valuable for private firms with few government connections before the appointment.

The stronger market reaction for a bureaucrat CEO appointment than a non-bureaucrat appointment in various subsample tests is consistent with the preferential treatment hypothesis. But it is also consistent with the cherry-picking hypothesis. Investors may believe that the appointment of a bureaucrat CEO is good news because the bureaucrat has access to private insider information about the appointing firm and would be unlikely to join a poor-performing firm. The next sections test the hypotheses H2 to H4 which are unique to the preferential treatment hypothesis and thus can be used to distinguish it from the cherry picking hypothesis

Table 3 Short-run price reaction

This table is based on stock price performance and appointments of 338 bureaucrat CEOs and 1,954 non-bureaucrat CEOs during our 2001–2010 sample period. It reports short-run market reaction. Abnormal returns are predicting errors in the market model based on the equal-weighted return of all stocks listed in the Shanghai and Shenzhen stock exchanges. The estimation window is the interval $[-250, -21]$ from the announcement date. We estimate the mean values of cumulative abnormal returns over the event window $[-1, 1]$ and $[-2, 2]$, where day 0 is the announcement date. M is the mean value, sd is the standard error. N is the number of observations. Standard errors are in parentheses and the numbers of successions is reported in square brackets. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

		All	Type of successor		Difference	t-value
			Bureaucrat	Non-bureaucrat		
All successions (-1, 1)	M	0.0027	0.0149	0.0006	0.0142	1.7815*
	sd	0.0028	0.0182	0.0011	0.0080	
	N	[2292]	[338]	[1954]		
All successions (-2, 2)	M	0.0022	0.0155	-0.0001	0.0155	1.8179*
	sd	0.0030	0.0186	0.0015	0.0085	
	N	[2292]	[338]	[1954]		
Departing CEO is a bureaucrat (-1, 1)	M	0.0001	-0.0008	0.0005	-0.0013	-0.2396
	sd	0.0024	0.0042	0.0029	0.0052	
	N	[407]	[117]	[290]		
Departing CEO is a non-bureaucrat (-1, 1)	M	0.0033	0.0231	0.0006	0.0225	2.1236*
	sd	0.0034	0.0278	0.0012	0.0106	*
	N	[1885]	[221]	[1661]		
Successions in SOEs (-1, 1)	M	0.0021	-0.0009	0.0027	-0.0036	1.0469
	sd	0.0013	0.0471	0.0013	0.0034	
	N	[1314]	[211]	[1103]		
Successions in private firms (-1, 1)	M	0.0035	0.0410	-0.0021	0.0431	2.2549*
	sd	0.0064	0.0482	0.0017	0.0191	*
	N	[977]	[127]	[850]		
Internal succession (-1, 1)	M	0.0004	-0.0048	0.0010	-0.0058	-1.4791
	sd	0.0012	0.0037	0.0013	0.0040	
	N	[1381]	[151]	[1230]		
External succession (-1, 1)	M	0.0062	0.0307	-0.0001	0.0308	1.8106*
	sd	0.0069	0.0328	0.0018	0.0170	
	N	[911]	[187]	[724]		
External succession& Departing CEO is non-bureaucrat (-1, 1)	M	0.0069	0.0449	-0.0010	0.0458	2.0442*
	sd	0.0085	0.0486	0.0020	0.0224	*
	N	[738]	[126]	[632]		

5 Bureaucrat CEO appointments and preferential treatment

The causal mechanism behind our preferential treatment hypothesis implies that firms appointing bureaucrat CEOs obtain more favorable treatment from the government. If our cherry-picking hypothesis holds, in contrast, we would not expect to observe differences in changes of government favorable treatment across bureaucrat and non-bureaucrat firms.

The literature suggests several ways in which a firm might benefit from political ties with government. Charumilind et al. (2004) show that firms with connections to politicians have easier access to bank lending, e.g. they get more long-term loans with less collateral compared to firms without connections. Faccio (2006) finds that politically connected firms tend to rely more on debt financing and are more likely to receive bailouts when they are in financial distress. The literature also provides evidence that politically connected firms are better situated for obtaining government subsidies and economic favors such as tax exemptions, government contracts, government grants, and favorably drafted legislation (Claessens et al., 2008; Goldman et al, 2013; Amore and Bennedsen 2013).

Government support is particularly important in a country like China, which has weak legal protections and underdeveloped institutions. Since the Open Door policy was announced in 1978, Chinese authorities have used subsidies extensively to promote domestic businesses and help them become more productive and competitive through industrial upgrades and restructuring. Government subsidies come in many forms, including government mandates, subsidies for purchasing products made by local firms, financial help, and tax exemptions. To provide direct empirical evidence, we investigate whether the bureaucrat CEO influences bank credit decisions or the awarding of government subsidies to the appointing firm.

We extract loan information from annual financial reports and classify loans into short-term and long-term (maturity over one year) loans. Government grants or “government subsidy revenue” are reported as non-operating revenue in the corporate annual reports we analyze.

We explore the changes in the ratio of total loans to total assets (*Loan size*), long-term and short-term loans scaled by the total assets (*Long structure*) and the ratio of government subsidy revenue to total sales (*Subsidy*) around the time of CEO succession. Following Huson et al. (2004), we use the changes in *Loan size*, *Loan structure* and *Subsidy* from year -1 to year $+3$ to measure changes in favorable government treatment following CEO succession.⁹ To control for

⁹ We obtain similar results when we examine the average of years -1 , -2 and -3 versus the average of years $+1$, $+2$ and $+3$.

industry and time effects, as well as possible endogeneity, we use the *unadjusted* measure, *industry-adjusted* measure (adjusted by subtracting industry level median) and *control-group-adjusted* measure (adjusted by subtracting the median for a control group matched by industry, prior ROA performance and size) for each variable.¹⁰

Analyzing the changes in these variables around the time of CEO succession should provide an estimate for the impact of bureaucrat CEO that is unaffected by unobserved time-invariant characteristics. However, government treatment could get less favorable around the time of a non-bureaucrat CEO's appointment. To alleviate this concern, we use a difference-in-difference (diff-in-diff) analysis, in which we compare changes in these variables for firms appointing bureaucrat and non-bureaucrat CEOs.

The diff-in-diff results are reported in Table 4. Panel A reports the mean and median changes in *Loan size* around CEO successions from year -1 to year $+3$. We observe that the size of outstanding bank loan clearly does not exhibit significant changes around the time of CEO succession. Moreover, we see no evidence of changes in loan size for either group of appointments.

However, when loans are classified by maturity, Panel B shows that firms that appointed bureaucrat CEOs enjoy a significant increase in long-term bank loans and that there is no similar effect for firms appointing non-bureaucrat CEOs.¹¹ The difference is about 2%, which is substantial. This result is consistent with the prediction of the preferential treatment hypothesis, whereby firms benefit from appointing bureaucrat CEO through easier access to long-term bank loans. We also find that there is a significant link between government subsidy revenue and the CEO appointed.

The results in Panel C indicate that the increase in *Subsidy* is more pronounced for firms that appoint bureaucrat CEOs than that for firms appointing non-bureaucrat CEOs. When using the industry and control-group-adjusted ratios, we obtain similar results. Overall, these findings suggest that firms appointing bureaucrat successor CEOs receive more favorable treatment from government than those that appoint non-bureaucrats.

¹⁰ Each sample firm is matched to comparison firms from the same industry with ROA within $\pm 20\%$ and closest in the size in the year prior to the turnover.

¹¹ In unreported findings, we show that differences in long-term loans between bureaucrat and non-bureaucrat appointing firms are largest and significant in the Utilities and Transportation industries.

Table 4 Changes in loans and subsidies

This table reports changes in the ratio of total loans to total assets (*Loan size*), the difference between long-term loan and short-term loan, scaled by total assets (*Long structure*) and the ratio of government subsidy revenue to total sales (*Subsidy*) around the time of CEO succession during the period from year -1 to year $+3$. Three measures are reported. (1), (2) and (3) represent the unadjusted, industry-adjusted (adjusted by subtracting industry-level median), and control-group-adjusted (adjusted by subtracting the median for a control group matched by industry and prior performance and size) measure based on the control variables. The control firm is the firm from the same industry with an ROA in event year -1 that shows similar performance and is closest in size. Two-sample t-tests (Wilcoxon-Mann-Whitney tests) are conducted to see if there is significant difference between the means (medians) of firms appoint bureaucrat successors and non-bureaucrat successors.

		All successors		Bureaucrat successors		Non-bureaucrat successors		Difference	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Panel A: Loan size									
(t=3)–(t=-1)	(1)	-0.0095	-0.0083	-0.0051	-0.0129	-0.0103	-0.0073	0.0052	-0.0056
	(2)	0.0257	0.0287	0.0275	0.0274	0.0254	0.0291	0.0020	-0.0017
	(3)	-0.0274	-0.0239	-0.0223	-0.0225	-0.0283	-0.0241	0.0060	0.0016
(3-year average after) –(t=-1)	(1)	-0.0023	-0.0016	0.0018	-0.0038	-0.0031	-0.0016	0.0049	-0.0022
	(2)	0.0225	0.0243	0.0238	0.0203	0.0222	0.0261	0.0016	-0.0058
	(3)	-0.0240	-0.0198	-0.0186	-0.0206	-0.0249	-0.0195	0.0063	-0.0010
Panel B: Loan structure									
(t=3)–(t=-1)	(1)	0.0344	0.0156	0.0524	0.0420	0.0313	0.0120	0.0211**	0.0300***
	(2)	-0.0072	-0.0172	0.0044	-0.0046	-0.0092	-0.0180	0.0136*	0.0134*
	(3)	0.0109	0.0007	0.0267	0.0195	0.0081	-0.0026	0.0186**	0.0222**
(3-year average after) –(t=-1)	(1)	0.0213	0.0093	0.0357	0.0270	0.0188	0.0077	0.0169**	0.0193**
	(2)	-0.0096	-0.0174	0.0003	-0.0060	-0.0113	-0.0193	0.0116*	0.0132*
	(3)	0.0088	0.0001	0.0222	0.0208	0.0064	-0.0041	0.0157**	0.0249 ***
Panel C: Subsidy									
(t=3)–(t=-1)	(1)	0.0033	0.0005	0.0049	0.0010	0.0030	0.0004	0.0019***	0.000***
	(2)	0.0018	-0.0001	0.0035	0.0002	0.0015	-0.0001	0.0019***	0.0003***
	(3)	0.0018	-0.0003	0.0036	0.0000	0.0015	-0.0005	0.0021***	0.0004***
(3-year average after) –(t=-1)	(1)	0.0036	0.0007	0.0046	0.0009	0.0034	0.0007	0.0013**	0.0002*
	(2)	0.0021	0.0000	0.0032	0.0002	0.0019	0.0000	0.0013**	0.0002**
	(3)	0.0023	0.0000	0.0036	0.0000	0.0021	0.0000	0.0014**	0.0000

In Table 5, we report multivariate regressions for changes in Loan structure and Subsidy around CEO appointments from year -1 to year $+3$.¹² We also employ the unadjusted measure, industry-adjusted measure, and control-group-adjusted measure for each variable. Column 1 of Table 5 shows that, after controlling for CEO personal characteristics, ownership structure, and other firm characteristics, firms that appoint a bureaucrat CEO have about 2.31% larger changes in long-term bank loans than firms that appoint non-bureaucrat CEOs. Interestingly, we find state-owned firms have a larger change in long-term loans than private firms. This lends further support on the role of political connections in access to bank lending. These results remain robust to our alternative industry-adjusted and control-group-adjusted specifications (columns 2 and 3).

Turning to the changes in *Subsidy* around CEO succession, we obtain similar results. Column 4 of Table 5 shows that firms appointing bureaucrat CEOs have a 0.2% larger changes

¹² We also use the differences in the three-year average values after CEO successions minus the value in year -1 as dependent variables. Similar results are obtained.

in receiving government subsidies than firms that appoint non-bureaucrat CEOs after controlling for CEO-specific and firm-specific factors, as well as governance variables. This effect is statistically significant at the 1% confidence level. Somewhat surprisingly, there is no relation between state-owned firms and changes in *Subsidy* around the appointment. When using industry-adjusted and control group-adjusted ratios, we obtain similar results. Overall, these results suggest that bureaucrat firms obtain more longterm loans and subsidies than non-bureaucrat firms.

Table 5 Multivariate regression results on changes in loans and subsidies

This table relates the change of loan structure with the presence of bureaucrats as managerial successor. The dependent variables in column 1, 2 and 3 is the changes in *Long-short* ratio during the period from year -1 to year $+3$, measured using the unadjusted, industry-adjusted and control-group-adjusted policy variables, respectively. The dependent variables in column 4, 5 and 6 are the changes in the government subsidy, scaled by total sales, during the period from year -1 to year $+3$ (unadjusted, industry-adjusted and control-group-adjusted). The control variables relate to personal information about the incoming CEO, i.e. *Bureaucrat*, *Oversea*, *Outsider*, *Education*, and *Industry_exp*. The governance and financial variables are measured in event year -1 . The definitions of all variables are presented in the Appendix A. The regression contains year and industry fixed effects. Standard errors corrected for heteroskedasticity and clustered at firm level, are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Loan structure			Subsidy		
	(1)	(2)	(3)	(4)	(5)	(6)
Bureaucrat	0.0231** (0.0102)	0.0176* (0.0100)	0.0225** (0.0102)	0.0022*** (0.0007)	0.0020*** (0.0007)	0.0023*** (0.0008)
Bureaucrat_dep	0.0051 (0.0095)	0.0064 (0.0095)	0.0061 (0.0096)	-0.0001 (0.0006)	0.0001 (0.0006)	-0.0003 (0.0007)
Outsider	0.0057 (0.0075)	0.0029 (0.0074)	0.0041 (0.0075)	-0.0011** (0.0005)	-0.0009** (0.0005)	-0.0010* (0.0005)
Industry_exp	-0.0061 (0.0169)	-0.0082 (0.0177)	-0.0169 (0.0172)	-0.0008 (0.0013)	-0.0001 (0.0012)	0.0007 (0.0014)
Oversea	0.0021 (0.0080)	-0.0001 (0.0078)	0.0013 (0.0080)	0.0004 (0.0006)	0.0002 (0.0006)	0.0002 (0.0006)
State	0.0233*** (0.0080)	0.0253*** (0.0079)	0.0209*** (0.0080)	-0.0005 (0.0005)	-0.0002 (0.0005)	-0.0001 (0.0006)
Top1	-0.0001 (0.0002)	0.0001 (0.0002)	-0.0000 (0.0002)	-0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Foreign	-0.0090 (0.0392)	0.0025 (0.0389)	-0.0142 (0.0393)	0.0019 (0.0023)	0.0031 (0.0023)	0.0041 (0.0027)
Independent	0.0590 (0.0559)	0.0284 (0.0252)	-0.0024 (0.0256)	0.0032 (0.0034)	0.0005 (0.0027)	0.0004 (0.0030)
ROA	-0.0529 (0.0503)	-0.0445 (0.0499)	-0.0480 (0.0504)	-0.0031 (0.0033)	-0.0053 (0.0033)	-0.0063 (0.0040)
Leverage	0.1136*** (0.0184)	0.1100*** (0.0185)	0.1262*** (0.0187)	-0.0004 (0.0011)	-0.0009 (0.0011)	-0.0011 (0.0014)
Lnasset	-0.0176*** (0.0033)	-0.0149*** (0.0033)	-0.0172*** (0.0033)	0.0003 (0.0002)	0.0000 (0.0002)	-0.0001 (0.0003)
Constant	0.2596*** (0.0660)	0.2203*** (0.0673)	0.3039*** (0.0670)	-0.0041 (0.0046)	0.0018 (0.0044)	0.0029 (0.0050)
Observations	2,326	2,326	2,326	1,877	1,877	1,877
R-squared	0.1001	0.0506	0.0649	0.1121	0.0097	0.0096

6 Long-run performances

6.1 Changes in stock returns

As it takes time for the managerial talents of a bureaucrat CEO to be revealed, market reactions over short-event windows can only reflect the expected benefits of the incoming bureaucrat CEO. According to hypothesis H2 and the preferential treatment effect, firms appointing bureaucrat CEOs are more likely to have negative long run (abnormal) returns. To examine long-run stock performance, we follow Barber and Lyon (1997) and use market-adjusted holding returns. Specifically, we estimate market-adjusted returns over 36 months before and after CEO successions, where month 0 is the event month. We use the buy-and-hold abnormal returns (BHAR) measure over the same period as our metric for long-run stock performance.

Figure 1 Buy-and-hold abnormal returns (BHAR) around CEO successions for event window month [-36, 36]

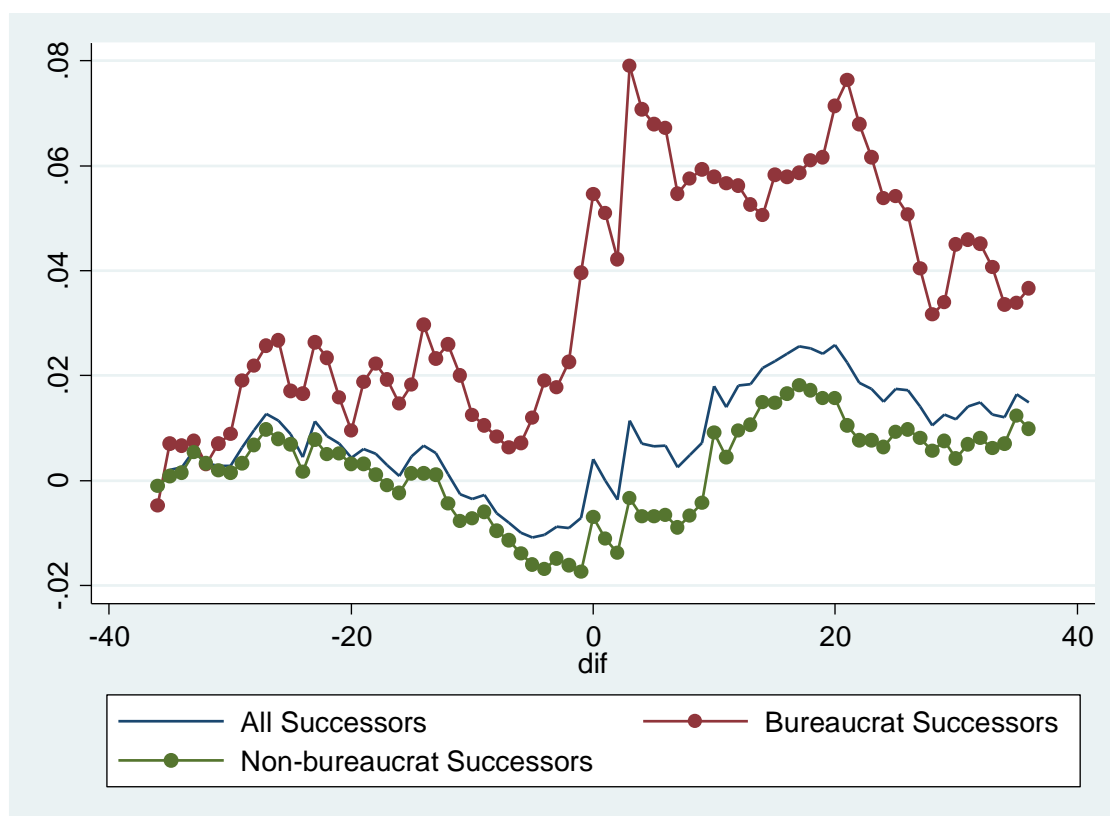


Figure 1 shows the average BHAR of the sample firms from 36 months before to 36 months after the announcement of a CEO succession. The announcement month (month 0) is the month when the CEO succession news is publicly announced. On average, the BHAR gradually declines from

–36 months to the lowest point (–0.44%) around two months preceding the replacement announcement. The BHAR then slowly increases from 0 to 36 months after the announcement of CEO succession, rising from –0.44% in month –2 to around 2% in month 3 after the succession announcement. From month 3 to 36, the BHAR remains relatively unchanged for all firms in the sample.

To examine more closely the stock price pattern before hiring a new CEO, we split the period into three sub-periods (months), the pre-event window (–36, –3), the event window (–2, 3) and post-event window (4, 36). We then calculate the sub-periods BHARs for the bureaucrat and non-bureaucrat firms. The results are reported in Table 6.

Considering all appointments, we see that before the appointment, both types of firms experienced a deterioration in stock performance. The BHAR (–36, –3) is –1.82% for firms appointing a bureaucrat CEO, but –5.89% for firms that hire a non-bureaucrat CEO. Although firms in the latter group experienced a larger decline in stock performance, the difference across the two groups is statistically insignificant. Looking at the stock performance in the sub-period around CEO appointment, we find that markets generally react positively to the announcement of the appointment of a new CEO; the BHAR(–2, 3) is 1.13%. Consistent with our previous findings, the stock-price reaction is primarily driven by the appointment of bureaucrat CEOs. The BHAR (–2, 3) is 4.5% for the announcement appointing a bureaucrat CEO. This is significantly larger than in the case of a non-bureaucrat CEO appointment announcement (0.37%). The positive average price reaction around the announcement of a bureaucrat CEO hire indicates that investors expect benefits from political connections. However, firms that appoint bureaucrat CEOs do not continue to outperform firms that appoint non-bureaucrat CEOs in the post succession period. The BHAR (4,36) for the former group turns negative (–9.74%) and is much lower than that for the latter group (–2.32%).

This is consistent with the prediction of our model (Hypothesis H2), which predicts a higher probability of an ex post decline in the stock price. Furthermore, the cross-sectional variance for the group of bureaucrat firms is larger than for the non-bureaucrat bureaucrat. This observation is consistent with Hypothesis 3. Table 6 also shows that our qualitative results are robust if we conduct separate sample tests with only state-controlled firms or only private (non-state controlled) firms.

Table 6 Long-run stock performance

This table reports long-run buy and hold market adjusted returns (BHAR) around CEO succession events. The average cumulative market-adjusted monthly returns over the event window $[-36, -3]$, $[-2, 3]$ and $[4, 36]$ months are reported. Month 0 is the announcement month of CEO succession. Standard errors are reported in parentheses. The market-adjusted monthly return is measured as the difference between the stock return and the equal-weighted return of all stocks listed on the Shanghai and Shenzhen stock exchanges.

	Type of successor			Difference	t-statistics
	All	Bureaucrat	Non-bureaucrat		
All successions					
Month (-36, -3)	-0.0528 (0.0126)	-0.0182 (0.0383)	-0.0589 (0.0132)	0.0407 (0.0354)	1.1502
Month (-2, 3)	0.0113 (0.0094)	0.045 (0.0331)	0.0037 (0.0088)	0.0413 0.0242	1.7033*
Month (4, 36)	-0.034 (0.0129)	-0.0974 (0.0300)	-0.0232 (0.0141)	-0.0741 (0.0365)	-2.0289**
Successions in state firms					
Month (-36, -3)	-0.0328 (0.0156)	-0.0362 (0.0361)	-0.0321 (0.0172)	-0.0041 (0.0435)	0.0941
Month (-2, 3)	-0.0033 (0.0077)	-0.0034 (0.0245)	-0.0033 (0.0077)	0.0001 (0.0200)	0.0072
Month (4, 36)	-0.0517 (0.0149)	-0.1118 (0.0389)	-0.0404 (0.0161)	-0.0715 (0.0408)	-1.7543*
Successions in private firms					
Month (-36, -3)	-0.086 (0.0214)	0.0134 (0.0843)	-0.103 (0.0204)	0.1163 (0.0604)	1.9255*
Month (-2, 3)	0.0372 (0.0213)	0.1178 (0.0738)	0.0178 (0.0195)	0.0999 (0.0538)	1.8579*
Month (4, 36)	-0.0053 (0.0233)	-0.0694 (0.0457)	0.0039 (0.0258)	-0.0733 (0.0703)	-1.0417

6.2 Changes in operating performances

To examine the implications of appointing a bureaucrat CEO on a firm's operating performance, we use three measures of operating performances: sales growth, earnings before interest and taxes (EBIT) per employee and return on assets (ROA) where ROA is defined as the ratio of EBIT to the book value of asset.

Following Denis and Denis (1995), and Huson et al. (2004), we consider changes of these performance variables during the CEO transition period (year -1 to year $+3$).¹³ For each variable, we provide the unadjusted, industry-adjusted (adjusted by subtracting industry level

¹³ To calculate the means and related test statistics, ROA is winsorized at 2.5% and 97.5%.

median), and control-group-adjusted measures. Panel A of Table 7 shows a clear worsening of operating efficiency for firms that appointed bureaucrat CEOs. These firms display significant declines in terms of sales growth rate. Similarly, firms that hired bureaucrat CEOs exhibit no salient increase EBIT per employee. In contrast, the control-group-adjusted figures for non-bureaucrat successor sample are all positive, suggesting an operating efficiency improvement in firms that appointed non-bureaucrat CEOs. The diff-in-diff results are economically large and statistically significant across both bureaucrat and non-bureaucrat groups. In terms of ROA, after bureaucrat succession the mean (median) changes in unadjusted ROA from year -1 to $+3$ is -1.29% (-0.068%). The decreases in the mean and median industry-adjusted ROA of -1.28% and -0.98% , over the same period are both significant, while the control-group-adjusted performance does not change significantly. The difference-in-difference results of the performance changes show that firms that appoint non-bureaucrat successors perform better than bureaucrat-appointing firms. The differences on mean changes are economic large, ranging from -1.71% (industry-adjusted ROA) to -1.81% (control-group-adjusted ROA).¹⁴

Table A2 in Appendix D shows there are no significant differences between two successor samples in terms of changes in book asset, capital expenditure, and leverage ratio. This suggests that firms that appointed bureaucrat CEOs did not embark on different financial strategies or restructuring activities. The results indicate long-run underperformance for firms that appointed bureaucrat successors.

¹⁴ IROA is measured by the ROA minus the median of the corresponding ratio in the same industry, where the industry classification is based on the China Securities Regulatory Commission (CSRC) industry classification. Control-group-adjusted ROA is defined as the unadjusted ROA adjusted by subtracting the performance of its control firm.

Table 7 Changes in operating performances

Panel A reports mean and median changes in sales growth and earnings before interest and tax (EBIT) per employees and return on assets (ROA) around CEO succession from year –1 to year +3. ROA, defined as the ratio of EBIT (earnings before interest and tax) to the book value of assets. (1), (2) and (3) represent the unadjusted, industry-adjusted and control-group- adjusted performance variables, respectively. Industry-adjusted ROA is the difference between ROA and median ROA of the relevant industry. Control-group adjusted ROA is the difference between the unadjusted ROA and the ROA of a control firm. The control firm is a firm from the same industry with an ROA in event year –1 that shows similar performance and is closest in size. Two-sample t-tests (Wilcoxon-Mann-Whitney tests) are conducted to see if there is a significant difference between the means (medians) of firms that appoint bureaucrat successors and those that appoint non-bureaucrat successors. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel B reports regression results. The dependent variable is the change in ROA over the period from year –1 to year +3, based on unadjusted (column 1), industry-adjusted (column 2), and control-group-adjusted (column 3) variables. In column 4 and 5, we use two-stage Heckman selection model to correct selection bias. In the first stage, we use a probit model to predict the probability of CEO turnover (*Selection* equation). The second stage regresses alternative measures of changes in corporate performance on the types of Successor CEOs, but includes the inverse Mill's ratio from the first stage and other explanatory variables (*Main* equation). The dependent variable (*Main*) is the change in ROA over the period from year –1 to year +3, measured using industry-adjusted (column 4) and control-group-adjusted (column 5) variables. Industry-adjusted ROA (IROA) is the difference between ROA and median ROA of the relevant industry. Control-group-adjusted ROA (CROA) is the difference between the unadjusted ROA and the ROA of a control firm. The control firm is a firm from the same industry with an ROA in event year –1 that displays similar performance and is closest in size.

Panel C reports Abadie-Imbens bias-adjusted matching estimations. The definitions of the variables are presented in the Appendix A. The regression contains year and industry fixed effects. Standard errors corrected for heteroskedasticity and clustered at firm level, are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A

		All successors		Bureaucrat successors		Non-bureaucrat successors		Difference	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Sales growth	(1)	0.0030	–0.0024	–0.0255	0.0024	0.0080	–0.0025	–0.0335*	0.0049
	(2)	–0.0068	–0.0151	–0.0382	–0.0251	–0.0013	–0.0130	–0.0369*	–0.0120*
	(3)	0.0491	0.0083	–0.0281	–0.0037	0.0624	0.0123	–0.0905*	–0.0160*
EBIT per employee	(1)	47.73	15.70	38.54	13.22	49.32	16.30	–10.77**	–3.08*
	(2)	20.72	–2.78	7.13	–6.19	23.07	–1.92	–15.94**	–4.27**
	(3)	40.33	0.27	13.62	–4.71	44.94	2.10	–31.32***	–6.82**
ROA	(1)	0.0019	–0.0001	–0.0129	–0.0068	0.0044	0.0012	–0.0173***	–0.0080***
	(2)	0.0018	–0.0032	–0.0128	–0.0098	0.0043	–0.0015	–0.0171***	–0.0083***
	(3)	0.0206	0.0121	0.0051	0.0030	0.0232	0.0139	–0.0181***	–0.0109***

Panel B

	(1)	(2)	(3)	(4)	(5)		
				Selection	Main	Selection	Main
Bureaucrat	-0.0126** (0.0054)	-0.0120** (0.0050)	-0.0107** (0.0047)		-0.0127** (0.0051)		-0.0112** (0.0050)
Bureaucrat_dep	-0.0055 (0.0055)	-0.0045 (0.0052)	-0.0040 (0.0050)		-0.0036 (0.0048)		-0.0031 (0.0046)
Outsider	-0.0003 (0.0039)	0.0001 (0.0037)	0.0013 (0.0036)		0.0002 (0.0036)		0.0012 (0.0035)
Industry_exp	0.0133 (0.0097)	0.0125 (0.0090)	0.0110 (0.0088)		0.0099 (0.0093)		0.0077 (0.0090)
Oversea	0.0036 (0.0038)	0.0029 (0.0038)	0.0013 (0.0038)		0.0025 (0.0043)		0.0014 (0.0042)
CEO age				0.0123*** (0.0020)		0.0122*** (0.0020)	
State	0.0008 (0.0044)	-0.0014 (0.0042)	-0.0017 (0.0040)	-0.0812*** (0.0301)	-0.0014 (0.0042)	-0.0789*** (0.0301)	-0.0020 (0.0040)
Top1	0.0003** (0.0001)	0.0003** (0.0001)	0.0002 (0.0001)	0.0018** (0.0009)	0.0003** (0.0001)	0.0017** (0.0009)	0.0002 (0.0001)
Independent	-0.0418 (0.0359)	-0.0346 (0.0331)	-0.0421 (0.0302)	-0.4218** (0.2146)	-0.0188 (0.0305)	-0.4298** (0.2145)	-0.0317 (0.0293)
Dual	0.0057 (0.0049)	0.0047 (0.0047)	0.0029 (0.0046)	0.0107 (0.0384)	0.0024 (0.0051)	0.0102 (0.0384)	0.0009 (0.0049)
Boardsize	-0.0008 (0.0009)	-0.0007 (0.0008)	-0.0007 (0.0008)	-0.0046 (0.0065)	-0.0007 (0.0009)	-0.0047 (0.0065)	-0.0007 (0.0008)
Foreign	-0.0044 (0.0215)	-0.0018 (0.0203)	0.0002 (0.0201)	-0.5741*** (0.1171)	0.0112 (0.0205)	-0.5728*** (0.1171)	0.0096 (0.0196)
Leverage	0.0029 (0.0094)	0.0060 (0.0089)	0.0047 (0.0095)	0.1206** (0.0550)	0.0039 (0.0075)	0.1127** (0.0560)	0.0039 (0.0072)
Lnsasset	0.0003 (0.0018)	0.0004 (0.0018)	0.0002 (0.0018)	-0.0199 (0.0132)	0.0006 (0.0018)	-0.0190 (0.0132)	0.0004 (0.0017)
ROA	-0.7385*** (0.0296)						
IROA		-0.7396*** (0.0278)		-1.0272*** (0.1708)	-0.7232*** (0.0300)		
CROA			-0.6644*** (0.0240)			-0.8778*** (0.1550)	-0.6597*** (0.0254)
IML					-0.0247 (0.0267)		-0.0150 (0.0257)
Constant	-0.0439 (0.0378)	-0.0650* (0.0371)	-0.0474 (0.0372)	-0.9512*** (0.2819)	-0.0322 (0.0504)	-0.9744*** (0.2828)	-0.0290 (0.0489)
Observations	2,323	2,323	2,323	13,300	22,72	13,330	22,72
R-squared	0.3939	0.4091	0.4411				
Wald test				1169.85***		1375.96***	

Panel C Performance changes – average treatment effects (matching estimators) of appointing a bureaucrat CEO

	ROA	IROA	CROA
(t=+3)-(t=-1)	-0.0157** (0.0065)	-0.0145** (0.0062)	-0.0151** (0.0060)

Panel B of Table 7 reports results of a multivariate regression model where the dependent variable is the change in ROA over the period from year -1 to year +3, measured in the unadjusted (column 1), industry adjusted (column 2) and control group adjusted (column 3), respectively. The regression analysis shows that the underperformance of firms with bureaucrat successor

CEOs remains significant after controlling for CEO-specific and firm-specific factors, as well as governance variables.

As appointing a bureaucrat or non-bureaucrat CEO is observed only when turnover occurs, a selectivity concern arises in the estimation of the impact of the bureaucrat CEO on firm performance. To the extent that the selection of successors to fill the vacancy of CEO position might not be random, we use a two-stage Heckman model to correct for a potential selection bias. At the first stage, we model the probability that a firm experienced CEO turnover (*Selection equation*), where the dependent variable is one if the CEO changes in a given year and 0 otherwise. At the second stage, we include the inverse Mills' ratio from the first stage and regress the performance changes on firm characteristics (*Main equation*). The selection equation primarily considers the firm characteristics. In addition, we use CEO age as a variable that plays a role in the first stage selection process but not in the second stage analysis of performance changes.¹⁵ The performance equation in the same column shows that our estimation results remain unchanged. The appointment of bureaucrat CEO still predicts a negative change in firm performance.

Although our diff-in-diff regression also controls for unobserved time-invariant effects and pre-appointment firm characteristics, it can be argued that variables that predict bureaucrat CEO appointment explain performance changes after succession. To address this endogeneity concern, we employ a diff-in-diff matching estimator. This estimator involves constructing a group of control observations from the population of non-treated observations (firms appointing non-bureaucrat CEOs) by selecting the closest match to the treated observations (firms appointing bureaucrat CEOs) in terms of pre-appointment firm characteristics. We then compare performance changes of treated and control groups to evaluate the impact of bureaucrat CEOs on firms' performance.

In particular, we use the matching procedure proposed by Abadie and Imbens (2006). This matching procedure is based on all firm characteristic covariates included in the estimation of the firm characteristics of bureaucrat CEO appointments in Column 5 in Panel B of Table 7. We require that the treatment and control group firms be engaged in the same China Securities Regulatory Commission (CSRC) industry classification category. For continuous variables such as logarithm of firm size, leverage and ROA, our matching procedure tries to find the control firm with the closest value to the treated firm. For categorical variables such as *Dual* (duality in

¹⁵ We include similar variables into our CEO turnover regressions consistent with those reported in Borokhovich et al. (1996).

CEO and board chairperson), this matching approach requires that matched firms have the same value as the treatment firms. This gives us a quasi-natural experiment in which both treated and control firms have equal propensity to be targeted by bureaucrats. The control firms constitute a good counterfactual scenario for the target firms if the latter had not been targeted by bureaucrat. Hence, the differences in the posterior performance between the treatment and control groups may be attributed to the firm's decision to hire a bureaucrat CEO.¹⁶ The average treatment effect on treated (ATT) results in Panel C of Table 7 confirm that firms appointing bureaucrat successors experienced a striking deterioration in their operating performance relative to our control firms.

Overall, the evidence is consistent with a worsening in managerial quality following the appointment of a bureaucrat CEO. Despite favorable government treatment in terms of access to long-term credit and subsidies, bureaucrat CEOs do not capitalize on these advantages and fail to adjust corporate policy to deal with declining firm performance. The poorer financial performances of bureaucrat-appointing firms comports with our finding that appointment of a bureaucrat leads to a deterioration of the firm's stock performance in subsequent years.

7 Rent seeking behavior and corporate governance

7.1 Changes in rent seeking behaviors

The causal mechanism behind our hypothesis that appointing a bureaucrat CEO negatively affects the long-run performance of the firm implies that the bureaucrat CEO has a significant influence over the firm's day-to-day operations. Hypothesis 5 states that rent-seeking behavior on the part of the management increases for bureaucrat firms. In an environment with weak investor protections such as China, controlling shareholders in poorly governed firms may tunnel corporate financial resources out of the firm through a variety of financial arrangements (Jian and Wong, 2010; Peng et al., 2011).

We use abnormal related-party transactions to measure the extent of rent-seeking activities (Jian and Wong, 2010). We collect all the related-party transactions from CSMAR, and construct the variable *RPT* (related-party transactions), defined as the total amount of transactions to related parties scaled by the firm's sales. To determine abnormal related-party transactions,

¹⁶ The ordinary least squares (OLS) estimation allows for outliers in the regression. This may lead to biased estimates. By utilizing matching with replacement, the Abadie-Imbens (2006) matching procedure can produce matches of high quality and mitigate this bias in the estimation of average treatment effect, at least in the sense that the distributions of the treatment and control samples are virtually identical and exclude extreme outliers. In addition, the matching process does not require consistent nonparametric estimation of unknown functions.

we run a set of ordinary least squares (OLS) year-by-year regression models with *RPT* as the dependent variable. Our explanatory variables are those associated with industry and firm characteristics, including the natural log of total assets (*Size*), the ratio of market value to book value (*Tobin's Q*), and the ratio of total debt to total assets (*Leverage*). The residuals obtained from these regressions are used to proxy for abnormal related-party transactions (*AB_RPT*). Alternatively, Jiang et al. (2010) show that a large amounts of financial resources may be siphoned off by corporate insiders using “intercorporate loans.” Firms typically report such “loans” under the category “Other receivables.” Thus, we construct another indicator *Other receivables*, defined as the ratio of total other receivables to market value of equity, to proxy the extent of tunneling.

Panel A of Table 8 provides mean and median changes of the two alternative proxies around CEO successions from year -1 to year $+3$. We employ unadjusted, industry-adjusted, and control-group-adjusted measures for both variables. For the use of other receivables, we find a reduction in this ratio for the entire sample firms and firms that appoint non-bureaucrat CEOs. This is probably a consequence of a government mandate that firm's reduce other receivables. To protect the interests of minority shareholders, the CSRC required that corporate insiders repay any “other receivables” they might owe by the end of 2006 (Jiang et al., 2010). Despite CSRC restrictions, however, firms appointing bureaucrat CEOs increased in their use of other receivables so that they had around 2% larger changes in other receivables than firms with non-bureaucrat CEOs, a difference that is large and statistically significant. Similar results are obtained when we examine changes in related-party transactions across bureaucrat and non-bureaucrat firms. Our diff-in-diff results suggest that a firm that appoints a bureaucrat CEO will have more related-party transactions than a firm with a non-bureaucrat CEO. The results of our two rent-seeking proxies are robust under industry-adjusted and control-group-adjusted specifications.

In Panel B of Table 8, we report multivariate regressions of changes in tunneling activities around the period of CEO transition (year -1 to year $+3$). In columns (1)–(3), appointment of a bureaucrat CEO is associated with an increase in the use of other receivables after controlling for CEO-specific and firm-specific factors, as well as governance variables. Interestingly, we also find that the change in the use of other receivables is significantly higher when the departing CEO is also a bureaucrat. This suggests that bureaucrat CEOs are associated with heavier reliance on the use of other receivables.

Furthermore, columns (4)–(6) reveal that the appointment of a bureaucrat CEO is associated with a larger increase in related-party transactions. These results are robust for various specifications. Overall, our results suggest that it is easier for corporate insiders to engage in rent-

seeking behavior and tunnel financial resources out of the firm in the presence of a CEO with government experience.

Table 8 Rent-seeking

The table reports changes in rent seeking behavior around CEO turnover.

Panel A reports changes in corporate rent-seeking behaviors, proxied by other receivables and related-party transactions. *Other receivables* is the firm's other receivables deflated by lagged market value of the equity. *Related-party transactions* is a measure of abnormal related-party transactions, computed as in Jian and Wong (2010). Three measures are reported: (1) unadjusted changes; (2) changes adjusted by subtracting industry median changes; and (3) changes adjusted by subtracting changes for a control group.

Panel B shows changes in rent-seeking behaviors in the presence of a bureaucrat as managerial successor. The dependent variable in column 1–3 is the change in the use of other receivables, scaled by market value of equity during the period from year –1 to year +3 in unadjusted, industry-adjusted and control-group-adjusted form. The dependent variable in columns 4–6 is the changes in abnormal related-party transactions, during the period from year –1 to year +3 is given in unadjusted, industry-adjusted and control-group-adjusted form. The definitions of all variables are defined in the Appendix A. The regression contains year and industry fixed effects. Standard errors corrected for heteroskedasticity and clustered at firm level, are reported in parentheses. ***, **, and *, indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A Rent-seeking around time of CEO succession; difference-in-difference

		All successors		Bureaucrat successors		Non-bureaucrat successors		Difference	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Other re- ceivables	(1)	-0.0118	-0.0013	0.0065	0.0005	-0.0152	-0.0016	0.0217***	0.0021**
	(2)	-0.0042	0.0037	0.0109	0.0017	-0.0070	0.0043	0.0179**	-0.0026
	(3)	-0.0114	-0.0015	0.0051	0.0016	-0.0145	-0.0023	0.0196***	0.0039*
Related- party transacti- ons	(1)	0.1707	0.0799	0.4566	0.1373	0.1247	0.0663	0.3319***	0.0710**
	(2)	0.0911	-0.0083	0.3665	0.0998	0.0468	-0.0238	0.3198***	0.1235***
	(3)	0.1558	0.0315	0.4044	0.0680	0.1158	0.0220	0.2886***	0.0460*

Panel B Regression

	Other receivables			Related-party transactions		
	(1)	(2)	(3)	(4)	(5)	(6)
Bureaucrat	0.0167** (0.0076)	0.0151** (0.0075)	0.0148** (0.0071)	0.2400** (0.1106)	0.2425** (0.1082)	0.2462** (0.1096)
Bureaucrat_dep	0.0145** (0.0066)	0.0136** (0.0066)	0.0130** (0.0061)	0.1577 (0.0988)	0.1447 (0.0974)	0.1457 (0.0972)
Oversea	0.0093 (0.0066)	0.0100 (0.0066)	0.0077 (0.0063)	-0.0954 (0.0669)	-0.1055 (0.0661)	-0.0912 (0.0661)
Outsider	-0.0113* (0.0060)	-0.0121** (0.0060)	-0.0118** (0.0054)	0.1192* (0.0685)	0.1343** (0.0677)	0.1148* (0.0677)
Profession	0.0092 (0.0063)	0.0095 (0.0063)	0.0076 (0.0056)	-0.0095 (0.0759)	-0.0038 (0.0749)	-0.0161 (0.0753)
State	-0.0090 (0.0063)	-0.0092 (0.0063)	-0.0079 (0.0058)	-0.1619** (0.0742)	-0.1670** (0.0733)	-0.1615** (0.0738)
Top1	-0.0003 (0.0002)	-0.0002 (0.0002)	-0.0003 (0.0002)	-0.0023 (0.0023)	-0.0020 (0.0022)	-0.0023 (0.0022)
Independent	0.0109 (0.0412)	0.0172 (0.0408)	0.0023 (0.0378)	0.0368 (0.5563)	0.1301 (0.5514)	0.0706 (0.5544)
Foreign	-0.0224 (0.0267)	-0.0218 (0.0265)	-0.0224 (0.0244)	-0.2123 (0.2156)	-0.2096 (0.2086)	-0.2021 (0.2142)
Dual	0.0072 (0.0076)	0.0084 (0.0076)	0.0056 (0.0070)	0.1324 (0.0998)	0.1222 (0.0985)	0.1316 (0.0990)
Boardsize	0.0004 (0.0013)	0.0002 (0.0013)	0.0003 (0.0012)	0.0004 (0.0154)	0.0039 (0.0153)	0.0008 (0.0154)
ROA	0.2481*** (0.0467)	0.2377*** (0.0467)	0.2330*** (0.0419)	1.1910** (0.4978)	1.1154** (0.5001)	1.2385** (0.4976)
Lnasset	0.0072** (0.0033)	0.0071** (0.0033)	0.0066** (0.0028)	0.0269 (0.0346)	0.0232 (0.0342)	0.0250 (0.0339)
Constant	-0.1343** (0.0611)	-0.1327** (0.0606)	-0.1195** (0.0525)	-0.4587 (0.6919)	-0.4562 (0.6829)	-0.5019 (0.6799)
Observations	2,169	2,169	2,169	1,598	1,598	1,598
R-squared	0.2179	0.1286	0.1533	0.0482	0.0405	0.0705

7.2 Changes in corporate governance

One argument for why bureaucrat CEO can potentially extract more rents is because the bureaucrat might enjoy some “protection” and has special power due to the political connections. Another way is to effect corporate governances such that monitoring is weakened.

Our first assessment of corporate governance considers general indicators of firm ownership and board structure. There is a growing body of literature showing that ownership structure affects investor protections (La Porta et al., 1999; Djankov et al., 2008). We consider the following ownership characteristics: percentage of shares held by the largest shareholder (*TOP1*), the percentage of shares held by foreign investors (*Foreign*), and whether the firm is owned by the

central or local government (*State*). We also consider the following board characteristics: board size, the proportion of independent board members, whether the CEO also serves as board chairman, and executive compensation.

The diff-in-diff results of the governance policy change are reported in Table 11. For general indicators reflecting ownership and board characteristics, we find that the bureaucrat successors are also more likely to serve as board chairmen. Firms that appoint a bureaucrat CEO are more likely to be controlled by the government or a government entity. Surprisingly, we find that executive compensation goes up if the firm appoints a bureaucrat CEO, even though operational performance is likely to be worse than that of a non-bureaucrat CEO.

Our second assessment uses an indirect indicator to measure the overall quality of corporate governance. We initially explore how the presence of bureaucrat CEO affects earnings management of the firm. If corporate governance practices weaken, we might expect the firm's reporting to become less transparent and likelihood that the firm manipulates its earnings reporting to increase (Leuz et al., 2003). Following Kothari et al (2005), we use discretionary accruals, estimated with a modified Jones (1991) model, to measure the extent of earnings management. We use residuals from a cross-sectional regression for each industry and year as the proxy of earnings management. The model is

$$TA_{it} = \beta_0 + \beta_1(1/Asset_{it-1}) + \beta_2(\Delta REV_{it} - \Delta AR_{it}) + \beta_3 PPE_{it} + \beta_4 ROA_{it} + \varepsilon_{it}$$

TA is total accruals, defined as the change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization, scaled by lagged total assets (Kothari et al., 2005). *Asset* is total assets. $(\Delta REV - \Delta AR)$ is changes in total sales minus the changes in accounts receivable, scaled by lagged total assets. *PPE* is property, plant and equipment, scaled by lagged assets. *ROA* is return on assets.

Table 9 reports the changes in corporate earnings management around CEO turnover. For firms appointing bureaucrat CEOs, there is a significant increase in both mean and median changes of the index of earnings management from year -1 to year $+3$. However, we do not find significant changes in the index of earnings management over the same period, when firms appoint a non-bureaucrat. The difference-in-difference results show that bureaucrat firms are more likely to manipulate their earnings than non-bureaucrat firms. In Table 9, we report multiple regressions of the change of earnings management around CEO succession, whether the dependent variables are measured using unadjusted (column 1), industry-adjusted (column 2), and control-group-adjusted earnings management (column 3). We see that appointment of a bureaucrat

CEO is associated with a higher degree of earnings management, suggesting a deterioration in corporate governance.

Table 9 Corporate governance

This table reports changes in corporate governance practices in the period around the time of CEO succession.

Panel A reports changes in aspects of corporate governance and earnings management computed as in Kothari et al. (2005). Three measures are reported: (1) unadjusted changes; (2) changes adjusted by subtracting industry median changes; and (3) changes adjusted by subtracting changes for a control group. Two-sample t-tests (Wilcoxon-Mann-Whitney tests) are conducted to see if there is significant difference between the means (medians) of firms that appoint bureaucrat successors and non-bureaucrat successors.

Panel B considers changes in corporate governance in the presence of a bureaucrat successor CEO. The dependent variable in columns 1, 2, and 3 is the change in the proxy of earnings management, computed as in Kothari et al. (2006) in the period from year -1 to year +3 based on unadjusted, industry-adjusted and control-group-adjusted variables. The regression contains year and industry fixed effects. Standard errors corrected for heteroskedasticity and clustered at firm level, are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A Governance policies around CEO successions; difference-in-difference

		All successors		Bureaucrat successors		Non-bureaucrat successors		Difference	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Board size	(1)	-0.2944	0	-0.1856	0	-0.3126	0	0.1270	0*
	(2)	-0.2748	0	-0.1392	0	-0.2975	0	0.1583	0*
	(3)	0.2007	0	0.2156	0	0.1982	0	0.0174	0
Independent	(1)	0.0862	0.0238	0.0861	0.0262	0.0862	0.0202	-0.0001	0.0060
	(2)	0.0068	0	0.0042	0	0.0072	0	-0.0031	0
	(3)	0.0007	0	-0.0011	0	0.0010	0	-0.0021	0
State	(1)	-0.2182		-0.1936		-0.2223		0.0286	
	(2)	0.1650		0.1980		0.1595		0.0385	
	(3)	0.3012		0.3526		0.2928		0.0598*	
Top1	(1)	-3.4224	-2.1400	-2.9232	-1.0600	-3.5070	-2.3750	0.5837	1.3150
	(2)	-0.0955	0.0850	-0.5525	-0.0450	-0.0181	0.1550	-0.5344	-0.2000
	(3)	2.6255	1.2928	2.2778	1.6818	2.6844	1.1900	-0.4067	0.4917
Dual	(1)	-0.0212		0.0205		-0.0280		0.0486*	
	(2)	-0.0337		0.0191		-0.0424		0.0614**	
	(3)	-0.0346		0.0205		-0.0437		0.0642**	
Foreign	(1)	-0.0053	0	-0.0047	0	-0.0054	0	0.0007	0
	(2)	-0.0052	0	-0.0047	0	-0.0053	0	0.0006	0
	(3)	-0.0053	0	-0.0047	0	-0.0054	0	0.0007	0
Compensation	(1)	44.18	25.41	47.62	25.31	43.62	25.56	4.00	-0.25
	(2)	1.24	-11.06	4.33	-10.75	0.73	-11.08	3.60	0.33
	(3)	-2.38	-13.41	1.67	-12.73	-3.05	-13.73	4.72	1.00
Earnings management	(1)	-0.0006	-0.0060	0.0283	0.0055	-0.0056	-0.0079	0.0339**	0.0134*
	(2)	0.0043	0.0002	0.0326	0.0149	-0.0006	-0.0023	0.0332**	0.0173*
	(3)	-0.0196	-0.0254	0.0115	-0.0007	-0.0250	-0.0282	0.0365**	0.0275**

Panel B	Regression		
	(1)	(2)	(3)
Bureaucrat	0.0295* (0.0153)	0.0300** (0.0151)	0.0318** (0.0152)
Bureaucrat_dep	0.0066 (0.0140)	0.0043 (0.0138)	0.0084 (0.0140)
Oversea	-0.0130 (0.0142)	-0.0139 (0.0139)	-0.0175 (0.0143)
Outsider	0.0154 (0.0111)	0.0146 (0.0110)	0.0177 (0.0112)
Profession	0.0055 (0.0120)	0.0064 (0.0120)	0.0044 (0.0122)
State	0.0326*** (0.0121)	0.0320*** (0.0120)	0.0319*** (0.0123)
Top1	0.0005 (0.0003)	0.0005 (0.0003)	0.0003 (0.0003)
Independent	0.0116 (0.0848)	0.0246 (0.0847)	0.0266 (0.0404)
Foreign	0.1077* (0.0561)	0.1062* (0.0551)	0.1024* (0.0567)
Dual	0.0052 (0.0159)	0.0052 (0.0159)	0.0082 (0.0161)
Board_size	0.0026 (0.0024)	0.0028 (0.0024)	0.0022 (0.0024)
ROA	0.3723*** (0.0723)	0.3711*** (0.0720)	0.3822*** (0.0722)
Lnasset	-0.0400*** (0.0060)	-0.0405*** (0.0060)	-0.0363*** (0.0058)
Constant	0.7470*** (0.1217)	0.7409*** (0.1212)	0.6665*** (0.1199)
Observations	2,182	2,182	2,182
R-squared	0.0509	0.0588	0.0445

8 The effect of the split share structure reform in 2005

In this section we provide a further test to distinguish the preferential treatment effect from the cherry picking effect by exploiting an event that allows for more direct identification of the two competing hypotheses.

Economic reforms in China include the “corporatization” of state-owned enterprises (SOEs), whereby fully state-owned firms (SOEs of central and local governments) could sell some of their shares to the public. These shares were listed on the Shanghai and Shenzhen stock exchanges. China’s privatization program, however, differs substantially from those pursued in many countries in that existing shareholders elsewhere are typically prohibited from selling their

shares before an initial public offering (IPO). Ownership diversification worked through secondary offerings (Megginson and Netter, 2001, Djankov and Murrell, 2002). From the beginning, the split share structure was supposed to secure the state's dominance in corporate decisions. The Chinese government only allows SOEs to partially privatize by issuing minority exchange-listed "tradable" shares to institutional and individual investors.

Most government-owned shares and shares issued to other investors before public offerings were unavailable for trading in secondary markets. Indeed, free trading of government-owned shares was strictly prohibited before the split share structure reform in 2005. This non-tradability of government-owned blocks of shares created incentive problems. Managers, especially those with close relationships to government, could pursue political and social objectives over profit maximization as they gained little benefit from increases in market value (Liao et al., 2014).¹⁷

In April 2005, the Chinese government launched a reform aimed at converting non-tradable shares in state-owned firms to exchange-listed tradable shares. In the post-reform period, market performance has become the main performance measure. Liao et al. (2014) show that the reform had a strong positive influence on the market performance of SOEs that implemented the reforms as intended. Politicians became more willing to inject assets and assist firms in obtain subsidies and cheap credit. See also Firth et al. (2010).

We examine this issue by splitting our sample period into two sub-periods, i.e. pre-reform (2001–2004) and post-reform (2005–2010) periods. Table 10 shows that the differences in market reaction for firms that hire bureaucrats compared to those that hire non-bureaucrats was as small as 0.07% in the pre-reform period. In contrast, in the post-reform period, the CAR is +4.28% and the difference between the two groups of firms is large and statistically significant. We further find that in particular after the reform firms that appointed bureaucrat CEOs were able to gain more access financial resources, measured in terms of their long-term loan portfolios and amounts of government subsidies, compared to their non-bureaucrat counterparts. This finding supports our preferential treatment hypothesis.

¹⁷ Non-tradable shares are priced at the book value of assets. Rather maximizing shareholder value, the controlling shareholders tend to engaged in a variety of party related transactions to benefit themselves (Li et al., 2011). Sun and Tong (2003) show that government implemented various policies, such as interest rate cut, debt-equity swap and write-off debt to reduce SOEs' financial burden. Allen et al. (2005) show that the majority of external financing is extended by state-owned banks in China and an informal financing sector has emerged. For example, the shadow banking system provides trust loans to some borrowers who have limited access to bank finance (Dang et al, 2014).

Table 10 Effects of the split share structure reform

This table presents the mean changes in the market reaction, operating performance, long-term loan, government subsidies, earnings management, other receivables and related-party transactions around CEO succession from year -1 to year $+3$ in both pre-and post-reform periods. *Before* indicates the pre-reform period (2001–2004). *After* indicates post-reform period (2005–2010). All variables are measured based on the control-group adjusted method. Two-sample t-tests are conducted for significant differences between the means of firms appointing bureaucrat successors and those appointing non-bureaucrat successors. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Bureaucrat successor			Non-bureaucrat successor			Dif
	N	Mean	Std.	N	Mean	Std.	
1. Market reactions $[-1, 1]$							
Before	88	-0.0021	0.0031	487	-0.0028	0.0015	0.0007
After	124	0.0428	0.0495	732	0.0012	0.0532	0.0416**
2. Changes in operating performance from year -1 to year $+3$							
Before	138	-0.0043	0.0080	777	0.0163	0.0038	-0.0207**
After	210	0.0114	0.0071	1274	0.0274	0.0030	-0.0160**
3. Changes in <i>loan structure</i> from year -1 to year $+3$							
Before	137	0.0133	0.0147	772	0.0058	0.0064	0.0075
After	208	0.0320	0.0121	1263	0.0006	0.0050	0.0314**
4. Changes in <i>subsidies</i> from year -1 to year $+3$							
Before	109	0.0027	0.0007	571	0.0014	0.0002	0.0013***
After	210	0.0034	0.0009	1289	0.0014	0.0004	0.0020**
5. Changes in <i>earnings management</i> from year -1 to year $+3$							
Before	129	-0.0013	0.0214	713	-0.0187	0.0094	0.0174
After	206	0.0169	0.0174	1208	-0.0246	0.0074	0.0415**
6. Changes in <i>other receivables</i> from year -1 to year $+3$							
Before	144	0.0496	0.0096	718	0.0187	0.0039	0.0309***
After	205	-0.0262	0.00798	1179	-0.0374	0.0037	0.0085
7. Changes in <i>AB_RPT</i> from year -1 to year $+3$							
Before	49	0.1645	0.2092	302	0.0131	0.0669	0.1514
After	180	0.4697	0.1140	1121	0.1435	0.0374	0.3262***

9 Concluding remarks

In this paper we provided a theoretical analysis, an empirical cost-benefit analysis, and a performance analysis of the implications of appointing a government official (bureaucrat) as a CEO of a listed non-financial company in China during the period 2001 to 2010. Using a large, hand-collected dataset with detailed information about the departing and incoming CEOs in 2,454 managerial successions, we test two competing hypotheses of CEO appointments. The novel and nuanced empirical findings provides supportive evidence for the preferential treatment hypothesis and are consistent with the implications of a simple contract model in oligopolistic markets.

We document that abnormal announcement stock returns reflect characteristics of the departing and incoming CEOs. For firms that announce a non-bureaucrat as successor CEO, the announcement returns are not different from zero. In contrast, the announcement returns for a bureaucrat CEO are positive in general and largest if the firm replaces its non-bureaucrat CEO with a bureaucrat recruited from outside the company. This effect is particularly strong in the period after the split share structure reform of 2005. On the other hand, long-term stock returns and operating performances of firms that appoint bureaucrat CEOs tend to deteriorate. The positive abnormal announcement returns and negative long-term stock returns as well as higher volatility of long term returns are consistent with the predictions of our theoretical model and the preferential treatment hypothesis that hiring a bureaucrat CEO has an option value.

In our cost-benefit analysis, we show that firms obtain more long-term loans and more government subsidies after installing a bureaucrat CEO. On the other hand, operating performance declines, and bureaucrat firms face more rent-seeking of management. Our results also suggest that the benefits of access to preferential financial resources are smaller than the costs; firms with bureaucrat CEO do not capitalize on their relative competitive advantage, and instead squander the extra financial resources or allow them to be expropriated by corporate insiders. Our cost-benefit analysis also helps clarify the factors behind observed positive announcement returns and negative long-term stock returns. Thus, our results cast doubt on the notion of a long-term net benefit from appointing a bureaucrat as CEO from the perspective of long term (external) investors.

The next round of privatization of large state-owned companies in the coming years will significantly alter ownership structures in China's traditional production sectors. Thus, the issues of management style and corporate governance will become increasingly important for institutional shareholders and in CEO hiring decisions. Our main empirical findings suggest that bureaucrat CEOs in Chinese listed companies have had significant impacts on firm performances. As in all economies, corporate political connections tend to be valuable, but improving the corporate governance structure is essential so that the benefits of such connections are not expropriated by corporate insiders but extend to all shareholders.

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Appendix A Definitions of variables

Personal variables	Definitions
Oversea	A dummy variable that equals 1 if the executive has overseas education or overseas work experience; 0 otherwise.
Profession	A dummy variable that equals 1 if the executive has worked in a formal profession such as professor, scholar, lawyer, accountant, engineer, or economist; 0 otherwise.
Age	The age of the CEO.
Tenure	Years in current CEO position.
Education	Scored 5, 4, 3, 2, or 1, depending on whether the independent director's highest academic achievement, respectively, is a PhD degree, master's degree, bachelor's degree, some post-tertiary schooling, or secondary education or less.
Stay	A dummy variable that equals 1 if the departing CEO stays on in the same company.
Bureaucrat	A dummy variable that equals 1 if the CEO used to be a government official or military officer; 0 otherwise.
Bureaucrat_stay	A dummy variable that equals 1 if the departing CEO used to be a government official or military officer and has remained in the same company.
Gender	A dummy variable that equals 1 if the CEO is a woman; 0 otherwise.
Force	A dummy variable that equals 1 if the departing CEO has been forced out; 0 otherwise.
Outsider	A dummy variable that equals 1 if the incoming CEO has been working for the firm for less than a year at the time of their appointment; 0 otherwise.
Firm-level variables	
Dual	A dummy variable that equals 1 if the CEO also serves as the chairman of the board; 0 otherwise.
Top1	The percentage of shares owned by the largest shareholder.
State	A dummy variable that equals 1 if the controlling shareholder is the government; 0 otherwise.
Foreign	The percentage of shares owned by foreign investors.
Board_size	The number of directors on the board.
Independent	The percentage of independent directors on the board.
Compensation	The total compensation (salary, bonus, and other cash payments) of the top three executives.
Board_hold	The percentage of shares owned by board members.
ROA	The ratio of EBIT over total assets.
Leverage	The ratio of total liabilities over total assets.
TobinQ	Market-to-book ratio, the sum of market value of equity and total liabilities, divided by total assets.
Other_receivables	The total other receivables scaled by the lagged market value of equity.
Earnings Management	Kothari et al.'s (2005) measure of discretionary accruals, constructed as the residuals from a cross-sectional regression for each industry and year: $TA_{it} = \beta_0 + \beta_1(1/Asset_{it-1}) + \beta_2(\Delta REV_{it} - \Delta AR_{it}) + \beta_3 PPE_{it} + \beta_4 ROA_{it} + \varepsilon_{it}$ TA is total accruals, defined as the change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization, scaled by lagged total assets (Kothari et al., 2005). <i>Asset</i> is the total assets. $(\Delta REV - \Delta AR)$ is the changes in total sales minus the changes in accounts receivable, scaled by lagged total assets, <i>PPE</i> is property, plant and equipment, scaled by lagged assets. <i>ROA</i> is the return on assets.

Appendix B Proofs

Proof of proposition 1

We solve the game by backward induction. A manager chooses q to maximize profit

$$\pi = (\theta - q)q - cq + s - \gamma = (\theta^G + \theta^P - c^F - c^P)q - q^2 + s - \gamma$$

The FOC yields

$$q^* = \frac{1}{2}(\theta^G + \theta^P - c^F - c^P)$$

$$\pi^* = \frac{1}{4}(\theta^G + \theta^P - c^F - c^P)^2 + s - \gamma$$

Anticipating the behavior of the manager in the production stage, the firm hires a bureaucrat if

$$\pi_B^* = \frac{1}{4}(\theta_B^G + \theta_B^P - c_B^F - c_B^P)^2 + s_B - \gamma_B \geq \frac{1}{4}(\theta_N^G + \theta_N^P - c_N^F - c_N^P)^2 + s_N - \gamma_N = \pi_N^*$$

$$\Leftrightarrow (\theta_B^G - \theta_N^G) + (\theta_B^P - \theta_N^P) - (c_B^F - c_N^F) - (c_B^P - c_N^P) \geq 2\sqrt{(s_N - s_B) + (\gamma_B - \gamma_N)}$$

$$\Leftrightarrow \Delta\theta^G - \Delta\theta^P - \Delta c^F + \Delta c^P \geq 2\sqrt{\Delta\gamma - \Delta s}. \text{ QED}$$

Proof of proposition 2

A manager who faces demand θ , maximizes $\pi = (\theta - q)\theta$ and chooses $q^*(\theta) = \frac{1}{2}\theta$ and generates

$\pi^* = \frac{1}{4}\theta^2$. For θ , uniformly distributed on $[X-d, X+d]$ with $0 \leq d \leq \frac{1}{2}X$ and $f(\theta) = \frac{1}{2d}$, the expected profit is given by:

$$E[\pi^*] = \int_{X-d}^{X+d} \frac{1}{4}\theta^2 f(\theta) d\theta = \frac{1}{4} \int_{X-d}^{X+d} \theta^2 \cdot \frac{1}{2d} d\theta = \frac{1}{8d} \int_{X-d}^{X+d} \theta^2 d\theta = \frac{1}{8d} \left[\frac{1}{3}(X+d)^3 - \frac{1}{3}(X-d)^3 \right]$$

$$\Leftrightarrow E[\pi^*] = \frac{1}{24d} [(X+d)(X^2 + 2Xd + d^2) - (X-d)(X^2 - 2Xd + d^2)]$$

$$\Leftrightarrow E[\pi^*] = \frac{1}{4}X^2 + \frac{1}{12}d^2. ^{18}$$

The variance of profit is given by:

$$\text{Var}[\pi^*] = \int_{X-d}^{X+d} \left(\frac{1}{4}\theta^2 - E[\pi^*] \right)^2 f(\theta) d\theta = \int_{X-d}^{X+d} \left(\frac{1}{16}\theta^4 - \frac{1}{2}\theta^2 E[\pi^*] + E[\pi^*]^2 \right) \cdot \frac{1}{2d} d\theta$$

$$\Leftrightarrow \text{Var}[\pi^*] = \frac{1}{2d} \left[\frac{1}{80}\theta^5 - \frac{1}{6}\theta^3 E[\pi^*] + E[\pi^*]^2 \theta \right]_{X-d}^{X+d}$$

¹⁸ Note $E(\theta) = X$ and $\text{Var}(\theta) = d^2/3$.

\Leftrightarrow

$$Var[\pi^*] = \frac{1}{2d} \left(\frac{1}{80} (10X^4 d + 10X^2 d^3 + 2d^5) - \frac{1}{6} (6X^2 d + 2d^3) \left(\frac{1}{4} X^2 + \frac{1}{12} d^2 \right) + \left(\frac{1}{4} X^2 + \frac{1}{12} d^2 \right)^2 2d \right)$$

$$\Leftrightarrow Var[\pi^*] = \frac{1}{2d} \left(\frac{1}{24} X^2 d^3 + \frac{1}{9} d^5 \right)$$

Remark

Both types of CEO face the mean demand X . So $\Delta = E[\pi_B^*] - E[\pi_N^*]$
 $= \frac{1}{4} X^2 + \frac{1}{12} d^2 - \gamma_B + s_B - \left(\frac{1}{4} X^2 - \gamma_N + s_N \right) = \frac{1}{12} d^2 - (\gamma_B - \gamma_N) + (s_B - s_N) = \frac{1}{12} d^2 - \Delta\gamma + \Delta s$.

QED

Proof of proposition 3

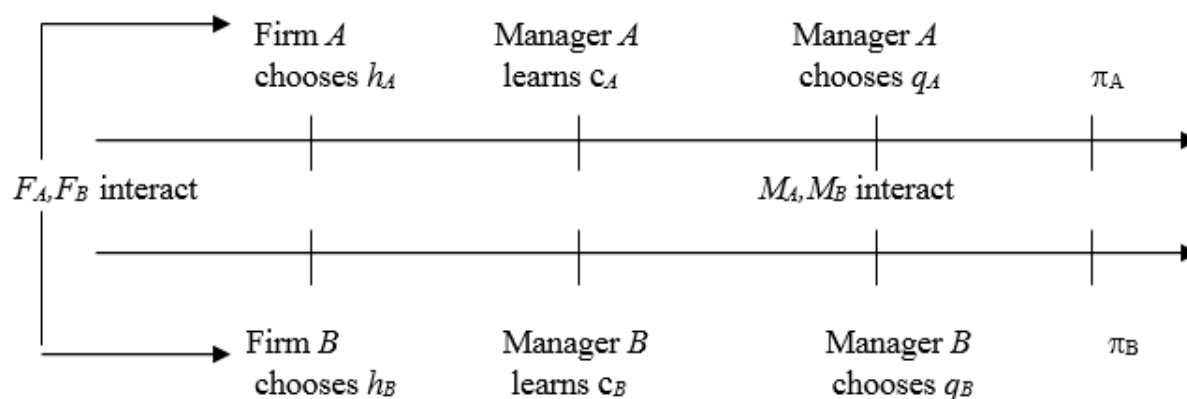
The expected profit (market value) is $E[\pi^*] = \frac{1}{4} X^2 + \frac{1}{12} d^2$. The price decreases if the realized profit associated with demand θ is $\pi^* = \frac{1}{4} \theta^2 < \frac{1}{4} X^2 + \frac{1}{12} d^2$, i.e. $\theta^2 < X^2 + \frac{1}{3} d^2$ or $\theta < \sqrt{X^2 + \frac{1}{3} d^2}$. Since $prob(\theta \leq X) = 0.5$ and X is mean demand and $\sqrt{X^2 + \frac{1}{3} d^2} > X$, the probability that the share price drops is larger than 0.5 and increases with d . **QED**

Appendix C Analysis of Cournot competition

In this appendix, we analyze CEO appointment and Cournot competition between two firms $\{A, B\}$. We solve for a perfect equilibrium of the overall game between four players. In stage 1, firm A hires agent A and firm B hires agent B . Agent A interacts with agent B in stage 2. To simplify the notation and analysis, we parameterize the model in terms of production costs. There are two types of bureaucrat: low-cost c_L (efficient) or high-cost c_H (inefficient), with equal probability. A non-bureaucrat has cost c_M . We interpret a low-cost bureaucrat as an efficient manager who obtains cheaper funding thanks to his political connections. A high-cost bureaucrat is an inefficient manager if his political connections turn out to be worthless, i.e. he faces high production costs without access to cheap funding.

Figure A depicts the sequence of moves. Firms first hire managers simultaneously and the hiring decision is observable. Next, the type of bureaucrat is revealed and publicly observable.¹⁹ The manager now plays a Cournot game by choosing quantities simultaneously. Through a contractual externality, firm A and firm B also interact with each other, i.e. when hiring the manager, firm A takes into account what firm B is doing and vice versa.

Figure A



Proposition A

Depending on $\{\theta, c^L, c^M, c^H, \gamma^B, \gamma^N, s^B, s^N\}$, equilibrium has the following properties: (i) Both firms hire bureaucrats. (ii) One firm hires a bureaucrat and the other firm hires a non-bureaucrat. (iii) Both firms hire non-bureaucrats.

¹⁹ If the manager type is withheld private information, this becomes a Bayesian game. However, the qualitative results are identical.

Proof

We assume that $prob(c_L)=prob(c_H)=0.5$. We solve the game by backward induction.

Step 1: At the production stage, the equilibrium outcome is given by (q_A, q_B) , which solves

$\frac{d\pi_A}{dq_A} = \frac{d\pi_B}{dq_B} = 0$, where $\pi_i = (\theta - q_i - q_{-i}) \cdot q_i - c_i q_i$ for $(i=A, B)$. The two resulting FOC equations

are:

$$\theta - 2q_i - q_{-i} = c_i$$

$$\theta - 2q_{-i} - q_i = c_{-i}$$

The solution is

$$q_i = \frac{\theta + c_{-i} - 2c_i}{3},$$

where if $i=A$ then $-i=B$ or vice versa.

The profit is

$$\pi_i = \left(\theta - \frac{\theta + c_{-i} - 2c_i}{3} - \frac{\theta + c_i - 2c_{-i}}{3} - c_i \right) q_i = \left(\frac{\theta}{3} - \frac{2c_i}{3} + \frac{c_{-i}}{3} \right)^2$$

$$\pi_i = \frac{1}{9} (\theta - 2c_i + c_{-i})^2,$$

where if $i=A$ then $-i=B$ or vice versa.

Step 2: Anticipating the Cournot game, there are various constellations when the firm decides to hire a manager.

Case 1a: Both firms have hired bureaucrats and both managers are efficient. We denote this as

(c_A^L, c_B^L) then $\pi_i^{LL} = \frac{1}{9} (\theta - c^L)^2$ for $(i=A, B)$.

Case 1b: Both firms have hired bureaucrats and both managers are not efficient. We denote this

as (c_A^H, c_B^H) then $\pi_i^{HH} = \frac{1}{9} (\theta - c^H)^2$ for $(i=A, B)$.

Case 1c: Both firms have hired bureaucrats; one manager is efficient and the other manager is

inefficient. We denote this as (c_i^L, c_{-i}^H) then $\pi_i^{LH} = \frac{1}{9} (\theta - 2c^L + c^H)^2$ and

$\pi_{-i}^{LH} = \frac{1}{9} (\theta - 2c^H + c^L)^2$ where if $i=A$ then $-i=B$ or vice versa.

Case 2a: One firm hires an efficient bureaucrat and the other firm hires a non-bureaucrat. We denote this as (c_i^L, c_{-i}^M) then $\pi_i^{LM} = \frac{1}{9}(\theta - 2c^L + c^M)^2$ and $\pi_{-i}^{LM} = \frac{1}{9}(\theta - 2c^M + c^L)^2$, where if $i=A$ then $-i=B$ or vice versa.

Case 2b: One firm hires an inefficient bureaucrat and the other firm hires a non-bureaucrat. We denote this as (c_i^H, c_{-i}^M) then $\pi_i^{HM} = \frac{1}{9}(\theta - 2c^H + c^M)^2$ and $\pi_{-i}^{HM} = \frac{1}{9}(\theta - 2c^M + c^H)^2$, where if $i=A$ then $-i=B$ or vice versa.

Case 3: Both firms hire non-bureaucrats. We denote this as (c_A^M, c_B^M) then $\pi_i^{MM} = \frac{1}{9}(\theta - c^M)^2$ for $(i=A, B)$.

Step 3: Ex ante if both firms hire bureaucrats, the expected profit is

$$E[\pi_i^{BB}] = \frac{1}{9}[\frac{1}{4}(\theta - c^L)^2 + \frac{1}{4}(\theta - 2c^L + c^H)^2 + \frac{1}{4}(\theta - 2c^H + c^L)^2 + \frac{1}{4}(\theta - c^H)^2] - \gamma_B + s_B$$

$$E[\pi_i^{BB}] = \frac{1}{9}[\theta^2 - \theta(c^L + c^H) + (c^L + c^H)^2] - \gamma_B + s_B$$

Ex ante if one firm hires a bureaucrat and the other a non-bureaucrat, then the expected profits of the firm that hires the bureaucrat and the firm that hires the non-bureaucrat are

$$E[\pi_i^{BN}] = \frac{1}{9}[\frac{1}{2}(\theta - 2c^L + c^M)^2 + \frac{1}{2}(\theta - 2c^H + c^M)^2] - \gamma_B + s_B,$$

$$E[\pi_{-i}^{BN}] = \frac{1}{9}[\frac{1}{2}(\theta - 2c^M + c^L)^2 + \frac{1}{2}(\theta - 2c^M + c^H)^2] - \gamma_N + s_N.$$

If both firms hire non-bureaucrats, the (expected) profit for the both firms is

$$E[\pi_i^{NN}] \equiv \frac{1}{9}(\theta - c^M)^2 - \gamma_N + s_N$$

Step 4: A perfect equilibrium is (h_A, h_B) such that no firm has unilateral incentive to deviate to a different hiring decision. Thus, $(h_A, h_B)=(B, B)$ is an equilibrium if $E[\pi_A^{BB}] \geq E[\pi_A^{NB}]$ and $E[\pi_B^{BB}] \geq E[\pi_B^{BN}]$. $(h_A, h_B)=(B, N)$ is an equilibrium if $E[\pi_A^{BN}] \geq E[\pi_A^{NN}]$ and $E[\pi_B^{BN}] \geq E[\pi_B^{BB}]$. $(h_A, h_B)=(N, B)$ is an equilibrium if $E[\pi_A^{NB}] \geq E[\pi_A^{BB}]$ and $E[\pi_B^{NB}] \geq E[\pi_B^{NN}]$. $(h_A, h_B)=(N, N)$ is an equilibrium if $E[\pi_A^{NN}] \geq E[\pi_A^{BN}]$ and $E[\pi_B^{NN}] \geq E[\pi_B^{NB}]$. **QED**

Example

Suppose $\theta=10$, $c^L=0$, $c^M=1$, $c^H=2$, $\gamma^N = s^B = s^N = 0$. Equilibrium here has the following properties: If (i) $\gamma^B=0.2$, both firms hire bureaucrats and have profits of 9.13 each. (ii) $\gamma^B=0.4$, one firm hires a bureaucrat and has a profit of 9.11 and the other firm hires a non-bureaucrat and has a profit of 9.04. (iii) $\gamma^B=1$, both firms hire non-bureaucrats and have profits of 9.00 each.

Appendix D Additional empirical results

I Determinants of CEO appointments

We use a multivariate logistic regression model to assess the statistical and economic significance of CEO and firm characteristics in the appointment of a bureaucrat successor.

Table A1 Determinants of appointing a bureaucrat CEO

This table reports the results of logit regressions of factors in bureaucrat CEO appointments. The dependent variable is a dummy variable which is equal to one if a bureaucrat CEO is appointed, and zero otherwise. Coefficients are changes in the odds ratio of appointing a bureaucrat or a non-bureaucrat CEO. Columns 1 and 2 focus on personal characteristics explanatory variables. A variety of governance and financial variables are included in Columns 3 and 4. The regression contains year and industry fixed effects. Standard errors corrected for heteroskedasticity and clustered at firm level are reported in parentheses. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively. The explanatory variables are comprised of one year-lagged governance and firm characteristics. The definitions of all variables are presented in the Appendix A.

	(1)	(2)	(3)	(4)
Outgoing CEO				
Oversea	0.8726 (0.1767)	0.9058 (0.1805)	0.9776 (0.1983)	0.9764 (0.2022)
Profession	1.2998* (0.1792)	1.3656** (0.2045)	1.3363* (0.2038)	1.3408* (0.2077)
Age	0.9961 (0.0095)	0.9936 (0.0096)	0.9980 (0.0098)	0.9973 (0.0099)
Tenure	1.0164 (0.0302)	1.0291 (0.0318)	1.0242 (0.0320)	1.0251 (0.0325)
Education	0.9360 (0.0700)	0.9152 (0.0700)	0.9181 (0.0713)	0.9293 (0.0732)
Stay	0.7495** (0.1095)	0.8577 (0.1299)	0.8902 (0.1372)	0.8988 (0.1408)
Bureaucrat_dep	2.2382*** (0.4184)	2.2997*** (0.4452)	2.2925*** (0.4583)	2.3514*** (0.4763)
Stay*Bureaucrat_dep	1.1018 (0.2883)	1.0427 (0.2886)	0.9822 (0.2795)	0.9649 (0.2774)
Gender	0.8250 (0.2509)	0.8010 (0.2501)	0.7927 (0.2460)	0.7983 (0.2498)
Froce	1.0317 (0.1315)	0.9784 (0.1296)	0.9627 (0.1322)	0.9561 (0.1328)

	(1)	(2)	(3)	(4)
Incoming CEO				
Oversea		0.7166* (0.1326)	0.7525 (0.1436)	0.7440 (0.1462)
Profession		0.6345*** (0.0907)	0.6470*** (0.0941)	0.6669*** (0.0982)
Age		1.0773*** (0.0109)	1.0793*** (0.0112)	1.0791*** (0.0114)
Education		1.0149 (0.0756)	1.0235 (0.0774)	1.0317 (0.0787)
Outsider		1.7614*** (0.2255)	1.7995*** (0.2357)	1.8192*** (0.2454)
Gender		0.7900 (0.2470)	0.7485 (0.2434)	0.7678 (0.2491)
Industry_exp		0.3272*** (0.0726)	0.3167*** (0.0725)	0.3204*** (0.0746)
Governance Variable				
State			1.2041 (0.1838)	1.2170 (0.1889)
Top1			0.3644** (0.1519)	0.3842** (0.1737)
Independent			1.9533 (1.9702)	1.5572 (1.5960)
Dual			1.1996 (0.2215)	1.2048 (0.2259)
Board_size			0.9785 (0.0264)	0.9805 (0.0272)
Foreign			0.2088** (0.1509)	0.2696* (0.1991)
List_dur			0.9970 (0.0199)	0.9968 (0.0204)
Financial variable				
ROA				3.0662 (3.1999)
Leverage				0.9678 (0.3328)
Tobin's Q				0.9522 (0.0601)
Lnasset				0.9020 (0.0743)
Constant	0.3586 (0.2408)	0.0445*** (0.0372)	0.0519*** (0.0455)	0.4678 (0.8643)
Observations	2,453	2,452	2,387	2,370
Pseudo R2	0.0721	0.1256	0.1324	0.1341

II Changes in corporate financial policies

The next table reports changes in corporate financial policies around CEO succession from year -1 to year $+3$.

Table A2 Corporate financial policies around CEO succession

This table reports mean and median changes in corporate financial policies around CEO succession from year -1 to year $+3$. Three measures are reported. (1), (2) and (3) represent the unadjusted, industry-adjusted and control-group-adjusted policy variables. Two-sample t-tests (Wilcoxon-Mann-Whitney tests) are conducted to see if there is a significant difference between the means (medians) of firms that appoint bureaucrat successors and those that appoint non-bureaucrat successors. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

		All successors		Bureaucrat successors		Non-bureaucrat successors		Difference	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Lnasset	(1)	0.4123	0.3352	0.4308	0.3617	0.4091	0.3318	0.0218	0.0299
	(2)	0.0667	0.0382	0.0447	-0.0252	0.0706	0.0485	-0.0259	-0.0737
	(3)	0.1041	0.0104	0.0833	0.0093	0.1077	0.0111	-0.0244	-0.0018
Capital expenditure	(1)	-0.0062	-0.0034	-0.0059	-0.0025	-0.0063	-0.0036	0.0004	0.0011
	(2)	-0.0065	-0.0031	-0.0048	0.0014	-0.0068	-0.0034	0.0020	0.0048
	(3)	0.0029	0.0043	0.0033	0.0036	0.0029	0.0044	0.0004	-0.0008
Leverage	(1)	0.0445	0.0392	0.0437	0.0371	0.0447	0.0401	-0.0009	-0.0029
	(2)	0.0412	0.0386	0.0328	0.0125	0.0427	0.0452	-0.0099	-0.0326
	(3)	-0.0334	-0.0400	-0.0253	-0.0498	-0.0347	-0.0390	0.0094	-0.0108
Free cash flow	(1)	-0.0101	-0.0031	-0.0324	-0.0075	-0.0062	-0.0023	-0.0261**	-0.0052
	(2)	-0.0064	0.0004	-0.0277	-0.0124	-0.0027	0.0015	-0.0250**	-0.0139*
	(3)	0.0119	0.0149	-0.0112	0.0045	0.0159	0.0154	-0.0272**	-0.0109*

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