Political connections and corporate investments: Evidence from the recent anti-corruption campaign in China

Xiaofei Pan, Gary Gang Tian[1]

School of Accounting, Economics and Finance, University of Wollongong, Australia

Abstract

Taking advantage of the corruption scandals, particular the recent anti-corruption campaign initiated by Xi Jinping in China, we construct a natural experiment and identify the ouster of corrupt politicians and connected firms through bribery and personal relationships. Our empirical tests reveal that corporate investment expenditures of these firms decline significantly after the ouster of the politicians, especially for non-SOEs relative to SOEs. Further analysis shows that this change in investment expenditures results in improved investment efficiency for SOEs, while reduces investment efficiency for non-SOEs. Additional analysis also shows that the increase in investment efficiency in SOEs is associated with rectified firm performance, positive stock price effects, reduced perks and stronger pay-performance relationship, while non-SOEs do not exhibit a significant change. Overall findings support our main argument that political ties obtained from bribing politicians facilitates rent seeking from government, which is detrimental for SOE value because SOE managers have extracted more private benefits due to less monitoring by government owners and, while the political capital can bring favourable treatments and add value for non-SOEs. These results are consistent with the notion that corruption is a double-edged sword and can either sand or grease the wheel.

Key words: Corruption, rent seeking, investment decisions, political capital

JEL: G31, G34, P26

[1] Gary Tian is corresponding author, his email is gtian@uowmail.edu.au. Xiaofei Pan's email address is xpan@uow.edu.au.

1. Introduction

A growing literature documents that political capital provides valuable resources for firms in terms of easy access to external finance at a lower cost (Leuz and Oberholzer-Gee, 2006; Claessens et al., 2008; Houston et al., 2014; Piotroski and Zhang, 2014), which adds/increases firm value/performance (Goldman et al., 2009; Wu et al., 2012). Political connection may also indicate heavy government intervention and inherent risks which in turn will increase the cost of borrowing (Bliss and Gul, 2012) and reduce firm performance (Fan et al., 2007; Faccio, 2010). Meanwhile, another strand of literature shows that the termination of political ties result in significant declines in external finance access and firm value (Fisman, 2001; Fan et al., 2008; Hung et al., 2014). However, little is known about how sensitive the corporate investment policy is to the termination of political ties, as corporate investment is also an important channel through which political capital matters firm performance. Thus, this paper aims to fill this gap by investigating the response of corporate investment policy to changes in political ties.

To facilitate our investigation, we take advantage of on-going corruption scandals and recent anti-corruption campaign initiated by President Xi Jinping in China to construct a natural experiment which signals the termination of political ties and can alleviate endogeneity issue to some extent. The recent anti-corruption campaign in China has attracted extensive attentions from the media and raised some controversial topics. On one hand, over the past few decades, corruption has seriously been embedded in China and China ranked 80 out of 177 countries on the Corruption Perception Index in 2013. President Xi also warned that: "Corruption could kill the Party and ruin the country if it were to become increasingly severe." (People's Daily, 2012). On the other hand, the traditional business practices in China, such as bribery and giving gifts, may grease the wheel of Chinese economic and social progress (Cohen, 2015). It has also been documented on firm level that corruption can be used to exchange for lower government expropriation and better government protection and services (Cai et al., 2011; Chen et al., 2013). Our investigation thus attempts to shed some light on this issue.

The Chinese market is also a convenient and excellent setting as follow. First, Chinese economy is dominated by the government who decides the allocation of resources. Coupled with its feature of relationship prevalence and weak governance, corruption is prevailing for forming direct political connections between the government and business. The investigation of the value of political capital generated from bribing politicians will have a general implication for other economies. Second, the co-existence of both state owned enterprises

(SOEs) and non-SOEs provides another unique institutional environment to examine the influence of corruption on corporate investment decisions. In particular, the real owner of SOEs is the government and government officials are only the agents of the government principal. In this sense, SOE managers face less monitoring from controlling shareholders and corruption may exacerbate principal agency problem and create potential collusion between government officers and SOE managers for them to extract their private benefits rather than maximizing value for the ultimate government owner. However for non-SOEs, the ultimate property rights are usually a family or individual whose objective is to maximize firm value, thus they are likely to be involved in corruption on the condition that it is beneficial to the firms.

In this study, we focus on corruption through which firms are connected with the government. In an environment where government keeps the absolute control over key resources resulting in availability of huge rents, firms/individuals may have strong incentives to bribe government officers to establish a close relationship with government in exchange of creation and allocation of rents and good government service. In addition, cultivating and maintaining good relationships with the government through corruption is also helpful to buy the protection from the government and reduce government expropriation (Cai et al., 2011; Chen et al., 2011b). We identify corporate investment decisions as an important channel through which political capital matters firm performance. Specifically, firm investment decisions can directly and significantly affect firm performance, because firm performance responds positively to better investment decisions, and benefits obtained from investments may enhance firm profitability (Fama and French, 1998; Chen et al., 2009).

Examining the influence of political capital on corporate investment decisions in this study is also one way to gauge the economic implication of corruption. Corruption is observed to be a pervasive phenomenon around the world which has attracted considerable attentions from academics and practitioners (Shleifer and Vishny, 1993; Beck et al., 2006; Houston et al., 2011). The common wisdom stresses that corruption is a main obstacle to economic and social development, which will *sand the wheel* of economic growth (Shleifer and Vishny, 1993; Mauro, 1995; Mo, 2001; Gaviria, 2002; Meon and Sekkat, 2005; Asiedu and Freeman, 2009). Though some relevant studies also document a negative effect of corruption on growth/performance, they provide evidence that corruption is less detrimental in environments with poor governance quality or ineffective institutions (Aidt et al., 2008; Meon and Weill, 2010; Cai et al., 2011), which is consistent with the *grease the wheel* view. Recent investigations provide further evidence in favour of corruption suggesting corruption

can be beneficial for economic growth and firm bank finance access (Wang and You, 2012; Chen et al., 2013).

Consistent with our predictions, our empirical results show that corporate investment expenditures made by event firms (those connected with corrupt government officers through bribery or personal connection) decreased more significantly relative to other firms (non-event firms) following the ousters of corrupt government officers, which is more pronounced for non-SOEs. As we expected that more private benefits are extracted by managers through more investment activities in SOEs relative to those in non-SOEs, the decline in investment expenditures, however, will impose different implications of investment efficiency for SOEs and non-SOEs. In particular, we find that following the ouster of corrupt government officers, event SOEs' corporate investment efficiency is recovered and improved relative to that of non-event SOEs, while event non-SOEs' investment efficiency is deteriorated significantly more than that of non-event non-SOEs.

As more efficient investment is expected to result in better firm performance, we further examine the change of firm performance to provide some complementary evidence to our main findings. Our further analysis show that firm performance increases significantly for event SOEs and reduce significantly for event non-SOEs after the corruption events, relative to their non-event counterparties respectively. We also provide evidence that cross-sectional variation in stock market responses at the announcement of the corruption events is positive for event SOEs and negative for event non-SOEs. After controlling for other factors as well as industry and year fixed effect, we still find a strong link between stock market reactions and ouster of corrupt officers, suggesting that political connection established by bribing politicians is detrimental for SOEs while beneficial for non-SOEs. In relation to agency problems, we also document that after the corrupt scandals, perks consumed by managers become lower and managerial pay-performance relationship becomes stronger which are more significant for SOEs than non-SOEs. In addition, we observe that the change in corporate investment decisions, firm performance, perks and pay-performance relationship become more significant after we take into account of the recent anti-corruption campaign initiated by President Xi Jinping in China.

Our results are robust for alternative measurements of our key variables. However, some caution is needed when review our results. One potential concern is that corporate investment decision change could be only reflected over longer horizon. Because of the data availability, we are unable to collect corporate investment information over long horizon for particular

events (those occurred after 2013). Nevertheless, this paper has already shown that the influence of political capital is robust.

Our study directly contributes and adds fresh evidence to the literature of political connections in several ways. First, from empirical perspective, we improve the traditional measurements of political connections used by most existing studies, which define political connections as having executives with previous working experience in governments. Our novel data of firms paying bribery to government officers is more objective to identify whether there exist a connection between firms and politicians and whether this connection is exploited to extract rents, instead of simply having an indication of its presence measured as executives used to be working at governments as used in existing literature. Moreover, we have detailed information about the ouster of government officers which enables us to identify the causal effect of close connections with governments within a framework of this excellent natural experiment. Second, the economic implication of political connections has been examined extensively, albeit with mixed evidence. In particular, political connection can increase firm value/performance (Claessens et al., 2008; Goldman et al., 2009; Wu et al., 2012) through easy access to external finance at a lower cost (Leuz and Oberholzer-Gee, 2006; Cleassens et al., 2008; Li et al., 2008; Houston et al., 2014; Piotroski and Zhang, 2014), while it has also been documented to be associated with lower performance (Fan et al., 2007; Faccio, 2010) and higher interest rate (Bliss and Gul, 2012). Our study proposes that corporate investment is the channel through which political capital can affect firm performance, which depends heavily on ultimate owner type and potential costs occurred through rent seeking.

This study also contributes to the literature of corruption and rent seeking. Our investigation complements the notion that corruption can both sand the wheel and grease the wheel in emerging markets (Cai et al., 2011). In particular, the private return to bribing government officers is consumed by SOE managers for their personal objectives which incurs substantial costs and reduce investment efficiency as well as firm performance in SOEs, while non-SOEs will incorporate these private returns for shareholders which will improve investment efficiency and firm performance. Our findings support both "grease the wheel" and "sand the wheel" hypotheses, which depend on the type of ultimate owner. Our findings are also consistent with the broad economic literature regarding the role of political rent seeking played in explaining firm behaviours and growth (Burkart et al., 2003; Morck et al., 2005). Moreover, despite the importance of corruption effect at the firm level reported by

several international surveys[2], most of extant studies typically take on the perspective of country level data analysis (Mauro, 2005; Meon and Sekkat, 2005). We emphasize our work by exploiting firm-level data, which clearly adds useful evidence to the literature and helps the academics to better assess the effect of corruption on firm investment policies.

Our findings suggest the rent-seeking through corruption has an important effect on corporate investment decisions, which adds additional evidence to the literature of investments. Our results also corroborate the findings of some existing studies. For example, Chen et al. (2011b) report that SOEs usually exhibit lower investment efficiency than that of non-SOEs, and SOEs with government appointed chairman or CEO would further reduce their investment efficiency. Zheng and Zhu (2013) also find similar results that political connection reduces investment efficiency for SOEs.

The remainder of this paper proceeds as follows. Section 2 describes the corruption event and anti-corruption campaign initiated by President Xi and the economic environment surrounding the corruption events. Section 3 discusses causal effects of political connection identification, elaborates the construction of our sample firms as well as control firms and assembles of empirical data, and introduces our empirical models. Section 4 presents the results of our analysis. Section 5 concludes.

2. Institutional background and hypothesis development

2.1 Corruption and anti-corruption campaign in China

Corruption is acknowledged to be an international phenomenon, especially in developing and emerging economies with underdeveloped financial systems, weak legal protection of investors and severe government intervention. Shleifer and Vishny (1993) argue that the structure of government institutions and the political process are very important determinants of the level of corruption. In particular, weak governments that do not effectively control their agencies experience very high corruption levels. International evidence confirms that political decentralization could impede coordination and exacerbate incentives for officials at different levels to 'overgraze' the common bribe base (Fan et al., 2009), and state ownership of media is associated with high levels of bank corruption (Houston et al., 2011). In China, despite more than three decades of economic reforms and fiscal decentralization, both central and local governments still exercise absolute control over the institutional and financial systems, and corruption acts as the proverbial grease for the bureaucratic wheels of an otherwise unmotivated banking system (Chen et al., 2013). Among the corruption cases we

[2] For example, the World Business Environment Survey (WBES) conducted by World Bank.

identified in this study (discuss later in Section 3), a close connection has been established through corruption for facilitating firms' accessing to better investment opportunities. For example, Mr. Liu Zhuozhi, the former vice secretary of Neimenggu province, was arrested on the 15th December 2010. During his incumbent period, he accepted more than 8 million RMB briberies and in exchange included corrupt firms to be in the list of qualified bidders and even facilitated these firms to be the winner for some merger and acquisition projects as well as a set of subsequent local projects. In addition, Mr Huang Yao, the former President of CPPCC of Guizhou province, was arrested on the 22nd February 2010. Before the ouster, he has token more than 9 million RMB in bribes in exchange for the awarding of a set of projects to the bribing firms.

According to a Transparency International survey in 2003, China's Corruption Perception Index ranked in the lower half, with a score of 3.5 (on a scale of 1 to 10, with lower scores indicating greater public perceptions of corruption); while in 2013, this index (now calculated on a scale of 1 to 100) increased to 40, it was still in the lower half. Moreover, China ranks 80 out of 177 countries on the Corruption Perception Index of Transparency International. La Porta et al. (2004) also report that China is among the worst countries in terms of political freedom and the protection of property rights.

As corruption is expected to be the obstacle to the economy growth, anti-corruption regulations have been put forward in order to restore the economy growth and correct the consequence of corruption, which has always been the theme while the corruption could not be effectively wiped out completely. Specifically, based on the official records of the Central Commission for Discipline Inspection of the Communist Party of China, over the past three decades by the end of 2011, more than 4.2 million party members were punished by Communist Party law, among them 465 were vice minister or above level officials. Shortly after the conclusion of the 18th National Congress of the Communist Party of China on the 14th November 2012 when Xi took office formally, the boldest and most serious anti-corruption campaign was initiated which has brought down a large number of Communist Party officials. By the end of 2013, there are more than 182,000 party officials at various levels have been investigated or arrested, including 43 vice minister or above level officials.

2.2 Hypothesis development

In this section, we build up our theoretical foundation with respect to the channels through which political connections established by bribing politicians. In particular, we focus on corporate investment activity as a candidate. Chinese economy is a hybrid of central planning and market-based activities where the government controls the key resources which

are essential for corporate sector. In this sense, political forces and politicians explicitly and implicitly shape the incentives and decisions of economic entities, by directly controlling the activity of SOEs and indirectly controlling the behaviour of non-SOEs through soft channels (such as regulation, license, and social and political networks) (Piotroski and Zhang, 2014). Thus, in order to be favoured preferentially by the government and gain comparative advantage, firms have strong incentives to stay closely with the government through bribing politicians in exchange for the creation and allocation of rents (Lien, 1990; Ngo, 2008; Fan et al., 2008). Though the corruption may raise operational costs and thereby deters investment (Shleifer and Vishny, 1993; Meon and Sekkat, 2005), this negative effect of corruption can be offset in situations where corruption can "grease the wheel" of business and create opportunities for private illicit gains to firms, such as paying bribery for contracts (Asiedu and Freeman, 2009; Cai et al., 2011; Chen et al., 2013). In particular when government is the contractor, a corrupt firm may bribe to be included in the list of qualified bidders and even to win the contracts. This suggests that all else equal, firms that benefit from corruption may expand their activities by increasing investments.

Moreover, standard model of investment with financing frictions has also proposed a straightforward relationship between close connections with governments and corporate investment. Existing theory predicts that corporate investment will be hampered due to the lack of sufficient financing which would be particularly severe for financially constrained firms (Duchin et al., 2010). Nevertheless, political connections are effective to help firms to overcome the disadvantages of these financing frictions, and are significantly associated with more domestic financing or higher leverage level (Leuz and Oberholzer-Gee, 2006; Claessens et al., 2008; Li et al., 2008; Faccio, 2010; Piotroski and Zhang, 2014). Thus, close connections with the government is able to encourage firms to invest more into building their empires due to less financial constraint.

If the market expects that bribery leads to benefits for individual event firms with respect to investment activities because of more financing and contracts available, the comparative advantage in entering more investment activities for event firms would disappear after the termination of firm's political connections resulted from the arrestment of corrupt bureaucrats. Moreover, the influence of the political connection termination may be different between SOEs and non-SOEs. In particular for SOEs, they are naturally connected with government through their government ownership dominance, and are more likely to be still favoured by the government in terms of financing and investment (Brandt and Li, 2003) even after the ouster of the corrupt politicians. In this case, bribery payment by SOEs to bureaucrats does

not provide additional benefits due to the dilution of government ownership effect, thus the termination of political connection is less likely to deteriorate corporate investment significantly for SOEs. However for non-SOEs, they have strong incentives to cultivate and maintain close connections with the government which is helpful to overcome the institutional failure and ideological discrimination against private ownership (Li et al., 2008). Thus, the ouster of the connected bureaucrats will remove the valuable politically related capital from non-SOEs, and we conjecture that the corporate investment will decline significantly for bribing non-SOEs since the arrestment of corrupt bureaucrats. In summary, we construct the following hypotheses:

H1: Event firms experience significant decline in investment after the ouster of corrupt government officers in non-SOEs but not in SOEs.

Though both SOEs and non-SOEs may reduce their respective investment expenditures since the termination of political connections, a natural question needs to be answered is that how firm investment efficiency changes since the terminations of political connections and how this change varies between SOEs and non-SOEs. In SOEs, the true owner is the government who is not a real person and the government bureaucrats control and manage these SOEs on behalf of the government without any residual claim rights, this unclear classification of ultimate property rights and agency relationship place less monitoring on SOE managers and facilitate them to pursue private benefits (such as political promotion, perks and inflated compensation, finding jobs for their relatives or taking briberies through obtained more investment projects). If SOE managers have interaction with the government bureaucrats through bribery or personal relationship, there is a potential for collusion between government bureaucrats and SOE managers which further amplifies SOE managers' incentives for self-dealing behaviours with less adequate monitoring from controlling shareholders. Moreover, in exchange of these self-dealing behaviours, SOE managers also need to satisfy government officials and help accomplish social or political objectives which are not necessarily in the best interest of minority shareholders but are preferred by government officials. These causes then suggest that the excessive investment activities in SOEs are sub-optimal with low efficiency and may not provide any additional benefits to shareholders. In addition, soft budgetary lending resulted directly from political connections may further exacerbate inefficient investment activities, which in turn encourage these SOEs to invest more for personal objectives, rather than the profitability of investment opportunities (Zheng and Zhu, 2013). Once the potential collusion or the political

connections is broken due to the ouster of connected government officers, the distorted investment efficiency will be rectified which will improve the investment efficiency.

On the other hand, different from that of SOEs, the dominating objective of non-SOEs is to maximize shareholder value, and we argue that non-SOEs are more likely to be involved in maintaining political connections only if those connections bring economic benefits including profitable investment opportunities. This is particularly important in China where key investment projects are still regulated and controlled by the government, and non-SOEs are more likely to bribe government officials to cultivate connections with the government to seek better investment projects or to expedite the approval process. The termination of political connections eliminates the advantage of financing and investment, which will reduce the investment efficiency for non-SOEs. Therefore, we construct our following hypothesis:

H2: After the arrest of connected government officers, the investment becomes more efficient for SOE event firms, and less efficient for non-SOEs event firms

We extend our previous hypotheses by focusing on the recent anti-corruption campaign initiated by President Xi Jinping in China. Since the end of 2012 after the 18th National Congress of the Communist Party, President Xi took over the office formally and initiated the boldest and the most serious anti-corruption campaign to fight against the corruption activities embedded, aiming to restore the popular confidence in the government and sustain the regime. Since this anti-corruption campaign, more government officials involved in misconduct have been arrested or under investigation and this campaign has placed substantial pressure and constraints on incumbent officials' behaviours. In this sense, the vigorous enforcement of the anti-corruption campaign would reinforce the influence of the termination of political ties, and provides an even stronger experiment which allows us to further identify the causal effect of political power on corporate investment decisions as it was largely unanticipated by the market. Thus, we formulate our following hypothesis:

H3: The changes in investment and investment efficiency for event firms after the arrest of corrupt bureaucrats are more significant since Xi's anti-corruption campaign.

3. Identification, sample and methodology

3.1 Identification of political connection influence

The endogeneity issue of political connections constructed from bribing politicians is the main concern for empirical study which is typical for cross-sectional studies. The ideal test would be applying a natural experiment which allows us to avoid endogeneity issue as well as unobserved confounding factors. To facilitate our empirical analysis, we collect a sample of corruption cases involving high-level (provincial and above) government officers in China

because these corruption enforcements are exogenous to the firms and less likely to be anticipated by the market which may well allow the identification of the causal effect of political connections. In particular, we compare the investment and investment efficiency of SOE bribing and non-SOE bribing firms before and after the onset of the corrupt bureaucrat arrestment.

We also consider the effects of regional corruption variations. China's reform process shows significant characteristics of an uneven distribution of institutional development across different provinces (Chen et al., 2006; Firth et al., 2012), as well as variations of corruption. As government officials have more significant inclination towards bribing firms within the regions with severe corruption, we expect the influence of political connection on corporate investment decisions to be stronger in the regions with weak institutional environment including weak legal enforcement.

Finally, we complete the implications of our study by further examining the market reaction to firms' investment activities and firm performance before and after the ouster of corrupt bureaucrats. Our arguments predict that corruption creates private benefits which are deprived by SOE managers and deteriorates SOE firm performance while adds substantial value to non-SOEs. In this sense, market investors would react positively towards the ouster of politicians for SOEs while negatively for non-SOEs. Such additional evidence will constitute a salient and strong support to our study.

3.2 Sample of high-level corruption cases

To construct a natural experiment, we assemble a set of corruption cases from the beginning of 2003 to the third quarter of 2014 which involves high-level government officers. In particular, we focus on provincial or above level government officers because of the following reasons. First, high-level cases usually have larger and substantial impacts on corporate sector and regional economy than general corruption scandals. Second, these high-level corruptions usually attract larger public attention so that the information disclosure about these cases is better. Moreover, our high-level case identification is also consistent with existing studies in China who also focus on the provincial or above level cases (Li and Zhou, 2005; Fan et al., 2008; Piotroski and Zhang, 2014). Third, these high-level corruption events can mitigate the potential endogeneity concern that corporate investment decisions may cause corruption enforcement. As argued by Fan et al. (2008), these high-level corruption cases are typically political and non-systematic, the ouster of corrupt bureaucrats at high-levels is less likely to be resulted from their facilitating investment activities to bribing firms. Data on these corruption cases are hand-collected by searching information published by the Central

Commission for Discipline Inspection of the Communist Party of China (CCDI) and supplemented by Baidu (www.baidu.com) and Google (www.google.com) web searches.

Table 1 below presents the distribution of the 112 high-level corruption cases, by section and by year, which occurred during our sample period in China. These corruption cases are not concentrated in time up to 2012, with each calendar year being associated with at least 5 corruption events. Years 2013 and 2014 are associated with a higher number of corruption events which corresponds to anti-corruption policy enforced by the National Congress of the Chinese Communist Party (from the 8th to 14th November 2012) indicating Xi's new anti-corruption is a good natural experiment for examining the effect of political connections obtained from bribing politicians on corporate investment decisions. In addition, corruption events are not strictly concentrated in sections. In particular, central government and affiliated state entities have experienced 23 corruption events which accounts for 20.53% of total events over our sample period. Four and Eight corruption events come from Banks and SOEs affiliated with the central government, respectively. The most common scenarios involve the high-level corruption are officers from the provincial governments (77 out of 112).

Table 1.
Distribution of provincial-level or above corruption cases by section and by year.

This table presents the distribution of corruption cases in China by section and year over the sample period 2003-2013. The Central refers to the departments of central government; Banks include to the People's Bank of China, big four banks and three policy banks; SOEs include all SOEs affiliated with central government; Provincial officers include (Vice) Secretary, (Vice) Governor, (Vice) Chairman of both provincial NPC and CPPCC.

	Central	Banks	SOEs	Provincial	Total
2003	1	1	0	5	7
2004	2	1	0	6	9
2005	0	1	1	7	9
2006	2	0	0	4	6
2007	0	0	1	5	6
2008	1	0	0	4	5
2009	4	1	0	4	9
2010	1	0	2	3	6
2011	3	0	1	2	6
2012	1	0	0	4	5
2013	5	0	1	12	18
2014 (by September)	3	0	2	21	26
Total	23	4	8	77	112

3.3 Sample of bribing firms and connected firms (event firms)

To facilitate empirical analysis about how political connections influence investment decisions at the firm level, we identify a set of firms that were involved in the corruption cases (bribing firms) or connected with the corrupt bureaucrats through either family members or friendship (connected firms). To do so, we search through the abovementioned

information published by the CCDI, and Baidu and Google. In particular, a bribing firm is identified if any of these information sources indicates that the firm's chairman, CEO or the controlling owner has bribed the corrupt bureaucrats. A connected firm is identified if any of these information sources indicates that firm's chairman, CEO, controlling owner or director sitting on board are the same family or friends of corrupt bureaucrats, or have previous job affiliation with the corrupt bureaucrat. In summary, we identify 112 bribing firms and 87 connected firms over our sample period, including both unlisted firms and firms listed on Shanghai, Shenzhen or Hongkong stock exchanges. Due to the data availability, we exclude 18 firms listed on Hongkong stock exchange and 67 unlisted firms, and we obtain 62 bribing firms and 52 connected firms around the time of the ouster of corrupt officers. For ease of discussion, we term both bribing firms and connected firms as event firms.

Our identification of firm political connections through bribery is advantageous over prior studies (Faccio, 2006, 2010; Fan et al., 2007; Li et al., 2008). In particular, prior studies treat firms as politically connected if at least one of the top executives or largest shareholders was former or is current officer of the government. Our data of bribing firms is more explicit and direct to imply the interaction between firms and government officers and measure the intensity of a connection than other measurements typically used in prior studies which simply indicate the presence of political connections.

3.4 Sample construction for empirical analysis

We employ the propensity score matching method to construct our empirical sample which includes both treat firms (bribing firms and connected firms) and control firms (non-bribing and non-connected firms). For each treat firm (either bribing firm or connected firm), a potential match firm is any firm not identified as bribing firm or connected firm from the same province, the same industry, the same board (main board or small and medium board) with the same type of ultimate owner (either SOE or non-SOE). From the set of potential matches, we select the one with total asset value closest to that of the treat firm at each quarter end. If no match is found, we release the same industry constraint and repeat the procedure. Finally, we collect 110 treat firms (62 bribing firms and 48 connected firms, and 52 SOEs and 58 non-SOEs) and 110 match firms.

To construct the sample for empirical analysis, we collect quarter financial data from the third year before to the third year after the corruption event for both treat firms and control firms. For firms with less than three years of data either before or after the corruption event, the available quarter data is taken in a variable. In particular, all quarter observations used in our empirical analysis is obtained from the China Stock Market and Accounting Research

(CSMAR) database which includes 5082 firm-quarter observations. In consistent with prior studies, we exclude 224 firm-quarter observations from financial industries, 123 firm-quarter observations flagged with ST or *ST and 213 firm-quarter observations with missing information, and finally we obtain 4522 firm-quarter observations for following empirical analysis. Our access to the quarter observations is perhaps one advantage which allows us to identify the detailed change in corporate investment decisions. To remove the influence of outliers, we winsorize the top and bottom 1% of all continuous variables for our empirical analysis.

3.5 Methodology

Generally, a difference-in-difference strategy is applied for empirical analysis. To conduct multivariate analysis about the relationship between corruption and corporate investment, we begin with the standard investment regression developed by Fazzari et al. (1988) and used by following studies (Aivazian et al., 2005; Firth et al., 2008, 2012). Specifically, the model is expressed as follow:

$$\begin{aligned} Investment_{it} = {} & \alpha_0 + \alpha_1 Corrupt_{it} + \alpha_2 Post_{it} + \alpha_3 Corrupt_{it} * Post_{it} + \alpha_4 Leverage_{it-1} \\ & + \alpha_5 Q_{it-1} + \alpha_6 Cashflow_{it} + \alpha_7 Size_{it} + \alpha_8 Sale_{it-1} + \alpha_9 Tangibility \\ & + Industry + Quarter + \varepsilon_{it} \end{aligned} \quad (1)$$

where *Investment* is firm's investment expenditures. We follow Firth et al. (2008) to measure investment expenditures as the ratio of net capital expenditure to total assets. Alternative measure, the ratio of cash payments for fixed assets, intangible assets, and other long-term assets less cash receipts from selling these assets to total assets (Chen et al., 2011b; Xu et al., 2013), is considered for the robustness tests. *Corrupt* is a dummy variable equal to 1 for bribing firms and connected firms and 0 for other firms. *Post* is a dummy variable equal to 1 for the period after the corrupt bureaucrats were arrested and 0 for the period before. The interaction term *Corrupt*Post* is added to capture the post-event changes in the investment activities of event firms relative to control firms. *Leverage* is the ratio of firm total debt to total assets. *Q* is Tobin's Q, calculated as the ratio of firm market value to replacement value. *Cashflow* is the ratio of firm's operating cash flows to total assets. *Size* is the log of firm's total assets. *Sale* is the ratio of net sales to total assets. *Tangibility* is the ratio of tangible assets to firm total assets. Industry and quarter fixed effects are also included.

We are also interested in investigating the change of investment decisions around the corruption events between SOEs and non-SOEs. Thus, we estimate the following equation:

$$Investment_{it} = \alpha_0 + \alpha_1 NonSOE_{it} + \alpha_2 Post_{it} + \alpha_3 NonSOE_{it} * Post_{it} + \alpha_4 Leverage_{it-1} + \alpha_5 Q_{it-1} + \alpha_6 Cashflow_{it} + \alpha_7 Size_{it} + \alpha_8 Sale_{it-1} + \alpha_9 Tangibility + Industry + Quarter + \varepsilon_{it} \quad (2)$$

where *NonSOE* is a dummy variable equal to 1 for non-SOEs and 0 for SOEs. All the other variables are defined the same as those in equation (1).

To examine corporate investment efficiency, we follow the argument by Bushman et al. (2011) that efficient investment is reflected by a close relationship between investment growth and changes in investment opportunities (marginal Q). This method has also been applied by other studies (Zheng and Zhu, 2013). In particular, the equation is expressed as follow:

$$Ln(I_{it} / I_{it-1}) = \alpha_0 + \alpha_1 Corrupt_{it} + \alpha_2 Post_{it} + \alpha_3 RET_{it-1} + \alpha_4 Corrupt_{it} * RET_{it} + \alpha_5 Post_{it} * RET_{it} + \alpha_6 Corrupt_{it} * Post_{it} + \alpha_7 Corrupt_{it} * Post_{it} * RET_{it} + \alpha_8 Leverage_{it-1} + \alpha_9 Q_{it-1} + \alpha_{10} Cashflow_{it} + \alpha_{11} Size_{it} + \alpha_{12} Sale_{it-1} + \alpha_{13} Tangibility_{it} + Industry + Quarter + \varepsilon_{it} \quad (3)$$

where *RET* measures the change in investment opportunities (marginal Q), which equals the log of 1 plus lagged industry stock returns. In particular, the industry stock returns are measured as the average holding period stock return for all sample firms in a specific industry. All the other variables are defined the same as those in equation (1). In consistent with the extant literature, we use the one year lag of leverage level, Tobin's Q value and sales level in the regression. Table 2 summarizes the definitions of all variables used in this study for both univariate and multivariate analysis.

Table 2
Variables and definitions
This table lists variable symbols and corresponding definition.

Variable	Definitions
Investment (I)	(Capital expenditure-depreciation)/Total assets
$Ln(I_{it}/I_{it-1})$	Natural log of the growth of investment expenditure in current quarter
RET	Natural log of 1 plus industry stock return
Corrupt	A dummy variable equal to 1 for event firms and 0 for control firms
Post	A dummy variable equal to 1 for post-event period and 0 otherwise
Leverage	Total debt/Total assets
Cashflow	(Net income + depreciation)/Total assets
Q	Tobin's Q, measured as Market value/Replacement value
Size	Natural log of total assets
Sale	Sales/Total assets
Tangibility	Tangible assets/Total assets
NonSOE	A dummy variable equal to 1 for non-SOEs and 0 for SOEs
Campaign	A dummy variable equal to 1 for observations falling after the 18th Congress conference and 0 otherwise

4. Empirical results

4.1 Summary statistics and univariate tests

Table 3 presents the summary statistics for investment expenditures, investment growth, change in investment opportunity (RET), as well as other variables used in our study. The average corporate investment expenditure level is 30.83% which is quite similar to that reported by Firth et al. (2008), and the average quarterly investment growth rate is 5.22%. We also observe that the average change in investment opportunity is 9.85%. These are similar to those reported by Zheng and Zhu (2013). In our sample, there are 53% of firms are non-SOEs. We also present the average leverage ratio as 56.75%, and Tobin's Q as 2.48. The mean (median) free cash flow ratio and sales ratio are 8.25% (8.18%) and 41.36% (24.02%), which is similar to the results reported by Pindado et al. (2011).

Table 3
Summary statistics

This table presents summary statistics of all variables used in our study. Definitions of these variables are the same as in Table 2.

	Mean	Median	Lower quartile	Higher quartile
Investment (I)	30.83%	13.66%	2.47%	42.56%
$Ln(I_{it}/I_{it-1})$	5.22%	3.25%	-13.68%	66.65%
RET	9.85%	5.75%	1.81%	25.39%
NonSOE	0.53	1	0	1
Leverage	56.75%	52.18%	34.58%	70.36%
Cashflow	8.25%	8.18%	-23.69%	45.26%
Q	2.48	1.36	1.08	2.00
Size	21.68	21.52	20.49	22.51
Sale	41.36%	24.02%	10.98%	47.68%
Tangibility	23.22%	18.72%	7.20%	35.13%
ROA	1.38%	1.17%	0.01%	3.39%

To provide some empirical evidence to support our hypotheses, we conduct univariate tests by comparing the average of corporate investment expenditures between event firms and non-event firms for full sample, SOE sample as well as non-SOE sample in Table 4. In particular for the event firms in Panel A, the mean values of average investment are 34.31% and 24.82% before and after the ouster of corrupt politicians, and the difference is 9.49% which is significant at the 1% level (t-value is 4.30). For the non-event firms, the mean values of investment are 31.69% and 24.22%, and the difference is 7.47% significant at the 10% level (t-value is 1.71). In the right bottom cell, we report the difference between the changes in investment expenditures for event firms and non-event firms. We observe that the difference is 2.02% which is significant at the 1% level (t-value is 2.70). These results suggest that the investment expenditures have been reduced significantly after the arrest of corrupt bureaucrats, which is more pronounced for event firms. In Panel B and C, we repeat our comparison to check the changes in investment expenditures for both SOE and non-SOE samples. In consistent with the evidence for the full sample, the average changes in investment expenditures are significantly higher for event firms for both SOE and non-SOE

samples. However, the reduction in the investment expenditures after the arrest of corrupt bureaucrats between event firms and non-event firms is significant in non-SOEs at 1% level but not in SOEs. Overall, the results from Table 4 lend support to our hypotheses that after the arrest of corrupt bureaucrats, investment expenditures decline more for event firms, which is significant for non-SOE event firms rather than SOE event firms. These results indicate that political connections are effective in facilitating corporate investment, and the termination of connections with the government will adversely affect corporate investment.

Table 4
Univariate tests

This table reports the mean values of corporate investment expenditures for the sample of event firms and the non-event firms before and after the corruption event. Event firms include those firms identified as having bribed corrupt government officers and those firms identified as having connection with the corrupt government officers. ** and *** indicate significance at the 5% and 1% levels, respectively.

	Before the ouster	After the ouster	Difference test (t-value)
Panel A: Full sample			
Event firms	34.31%	24.82%	9.49%***(4.30)
Non-event firms	31.69%	24.22%	7.47%*(1.71)
Difference-in-difference test (t-value)			2.02%**(2.70)
Panel B: SOE sample			
Event firms	33.78%	28.65%	5.13%**(2.42)
Non-event firms	28.75%	26.72%	2.03%*(1.73)
Difference-in-difference test (t-value)			3.10%(1.61)
Panel C: Non-SOE sample			
Event firms	35.12%	20.93%	14.19%***(4.68)
Non-event firms	32.63%	29.78%	2.85%(1.43)
Difference-in-difference test (t-value)			11.24%***(3.91)

4.2 Corruption, ultimate owner type and investment expenditures

In this section, we perform regression analysis to examine whether corporate investment decisions change after the corruption event, controlling for other factors that are known to affect corporate expenditures. Specifically, we estimate our equation (1) and report the results in Table 5 below.

As shown in Table 5, the first column presents the results for the full sample, and columns 2 and 3 present the results for both SOE and non-SOE sub-samples. Across three specifications, we observe that the estimated coefficients on *Corrupt* are all positive and only marginally significant for non-SOE sample, indicating that the average investment expenditures are higher for event firms than non-event firms while the difference is only significant for non-SOEs. We also find that the estimated coefficients on *Post* are all negative and statistically significant at the either 1% or 10% levels. This result suggests that the average investment expenditures decline significantly since the termination of political

connections with the government, which is less significant for SOEs. We are particularly interested in the coefficients of the interaction terms. In the first column with the full sample, the estimated coefficient is -0.05 significant at the 5% level (t-value is -2.37), indicating that the average investment expenditures decline significantly for event firms since the termination of the political capital. When we turn to sub-sample estimations, we observe that the significant coefficient holds for non-SOEs while insignificant for SOEs. This result is consistent with our hypothesis that non-SOE event firms experience significant decline of investment expenditures compared with non-SOE non-event firms, while the decline in investment expenditures for SOE event firms are insignificantly different from that for SOE non-event firms. This also confirms our argument that SOEs are treated preferentially by the government in terms of financing and investment while the success of non-SOEs relies largely on their interaction with the government, so that the decline in investment is not expected to be significant for SOEs relative to non-SOEs since the political capital terminates.

Table 5

Regression results of political capital effect on corporate investment expenditures around corruption events: Event firms vs. non-event firms

This table presents the regression results of comparing the political capital influence on corporate investment expenditures between event firms and non-event firms. Quarter observations for the event firms and control firms from three years before to three years after the event of corruption are applied in the regressions. The dependent variable is corporate investment, defined as the ratio of net capital expenditures to total assets. Corrupt is a dummy variable, equal to 1 for firms bribing government officers or connected with the corrupt government officers and 0 otherwise. Post is a dummy variable, equal to 1 for observations of post-event period and 0 otherwise. Leverage is the ratio of total debt to total assets. Q is the ratio of firm market value to replacement value. Cashflow is the ratio of operating cash flows to total assets. Size is the log of firm total assets. Sale is the ratio of total sales to total assets. Tangibility is the ratio of tangible assets to total assets.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Dependent variable is corporate investment expenditures			
	Full sample	SOE sample	Non-SOE sample
Corrupt	0.04(1.23)	0.01(0.30)	0.09*(1.71)
Post	-0.09***(-3.97)	-0.03*(-1.72)	-0.17***(-4.75)
Corrupt*Post	-0.05**(-2.37)	-0.03(-1.06)	-0.19***(-3.24)
Leverage	-0.24***(-8.78)	-0.22***(-5.48)	-0.28***(-7.49)
Q	0.06***(5.38)	0.04***(3.47)	0.07***(4.23)
Cashflow	0.77***(3.41)	1.23***(8.84)	0.58*(1.89)
Size	0.02***(2.93)	0.02***(4.55)	0.02**(2.53)
Sale	0.28***(6.07)	0.27***(9.99)	0.30***(4.08)
Tangibility	0.18***(10.47)	0.09***(4.41)	0.18***(8.22)
Constant	0.14(1.30)	-0.08(-0.82)	0.11(0.38)
Quarter fixed effects	Included	Included	Included
Industry fixed effects	Included	Included	Included
Adjusted R square	0.48	0.23	0.53
Observations	4522	2128	2394

Among the control variables, we observe consistent signs of all control variables with previous studies (Firth et al., 2008, 2012; Chen et al., 2011b). In particular, leverage is negatively and significantly related with corporate investment, which is consistent with the

debt overhang/debt pre-commitment problems (Myers, 1977; Stulz, 1990). Positive coefficient on Tobin's Q, suggesting that corporate investment depends largely on firm investment opportunities. We also observe that firm's free cash flow and gross profits are both positively and significantly related with investment, indicating that more cash available encourages firm investment activities. Furthermore, both firm total assets and tangible assets are significantly associated with investment expenditures, indicating larger size firms invest more.

In Table 6, we report the results by estimating our equation (2) by comparing the change of investment decisions for event firms around the corruption events between SOEs and non-SOEs. We apply the similar structure in Table 5 and report the estimation results for the full sample in column 1, and event firms and non-event firms in columns 2 and 3, respectively. Across three specifications, the estimated coefficients on *NonSOE* are all negative and insignificant. In relation to the variable *Post*, we observe that the coefficients are negative and statistically significant for the full sample as well as the event firm sample while insignificant for non-event firm sample. These results show that the average investment expenditures are decreasing significantly for firms with close connections with the government since the termination of political capital, which is also consistent with the view that political connections benefit firms in terms of investment (Firth et al., 2008; Chen et al., 2011b).

Table 6

Regression results of political capital effect on corporate investment expenditures around corruption events: SOEs vs. non-SOEs

This table presents the regression results of comparing the political capital influence on corporate investment expenditures between SOEs and non-SOEs. Quarter observations for the event firms and control firms from three years before to three years after the event of corruption are applied in the regressions. The dependent variable is corporate investment, defined as the ratio of net capital expenditures to total assets. NonSOE is a dummy variable, equal to 1 for non-SOEs and 0 for SOEs. Post is a dummy variable, equal to 1 for observations of post-event period and 0 otherwise. Leverage is the ratio of total debt to total assets. Q is the ratio of firm market value to replacement value. Cashflow is the ratio of operating cash flows to total assets. Size is the log of firm total assets. Sale is the ratio of total sales to total assets. Tangibility is the ratio of tangible assets to total assets.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Dependent variable is corporate investment expenditures			
	Full sample	Event firm sample	Non-event firm sample
NonSOE	0.10(1.46)	0.08*(1.69)	0.15(1.10)
Post	-0.09**(-3.76)	-0.02***(-2.58)	-0.17(-1.01)
NonSOE*Post	0.03(0.98)	-0.09**(-2.07)	0.17***(4.03)
Leverage	-0.25***(-8.93)	-0.23***(-7.15)	-0.32***(-6.15)
Q	0.06***(5.31)	0.03(2.00)	0.08***(5.56)
Cashflow	0.75***(3.25)	0.75***(2.06)	0.89***(3.33)
Size	0.02***(5.06)	0.04***(6.09)	0.02***(2.44)
Sale	0.29***(6.28)	0.24**(2.88)	0.33***(6.16)
Tangibility	0.18***(10.32)	0.18***(5.53)	0.18***(9.12)
Constant	-0.03***(-0.30)	-0.49***(-3.05)	0.49***(3.32)
Quarter fixed effects	Included	Included	Included
Industry fixed effects	Included	Included	Included

Adjusted R square	0.48	0.42	0.55
Observations	4522	2261	2261

We then are more concerned about the estimation of interaction terms. In particular for the full sample in column 1, the coefficient on *NonSOE*Post* is 0.03 which is insignificant (t-value is 0.98). Some interesting evidence evolves when we turn to the sub-sample estimations for both event firms and non-event firms. For example, in column 2 for the event firm sample, the estimated coefficient on *NonSOE*Post* is -0.09 significant at the 5% level (t-value is -2.07), indicating that investment expenditures reduce more for non-SOE event firms relative to SOE event firms. However in column 3 for the non-event firms, we observe a positive and significant coefficient on *NonSOE*Post* (coefficient is 0.17 and t-value is 4.03), suggesting that for non-event firms located in the same province, the decline of investment expenditures for non-SOEs are significantly lower than that for SOEs after the ouster of corrupt bureaucrats. We argue that though non-event SOEs are not directly related with corrupt bureaucrats, their investment expenditures somehow reduced by the political ouster shock due to their government ownership compared with non-event non-SOEs. These results again allow us to clearly identify the direct causal effect of connection with government officers on firm investment decisions. In particular, this connection is significantly beneficial to local non-SOEs which is consistent with the argument of some existing studies (Wu et al., 2012). The overall results are consistent with our main hypothesis 1.

4.3 Corruption, ultimate owner type and investment efficiency

The corporate investment expenditures have been declined significantly as the political capital was removed due to the ouster of connected bureaucrats, a related question would be how corporate investment efficiency responds to these corruption events. As a natural extension, we examine the change of investment efficiency in this section to further complete our investigation. In particular, we estimate our equation (3) and report the results in Table 7.

We estimate for the full sample in column 1 and for both SOE and non-SOE samples in columns 2 and 3, respectively. The estimated coefficients on *Corrupt*, *Post* and *Corrupt*Post* are generally similar to those reported in Table 5. Across three specifications, we are more concerned about the interaction terms of *RET* with *Corrupt* and/or *Post*. For the full sample in column 1, we observe that the estimated coefficient on *Corrupt*RET* is significantly negative, indicating that on average event firms usually have lower investment efficiency relative to non-event firms. This is supportive to our expectation that corruption may sand the wheel of

overall economy and reduce the efficiency. Both *Post*RET* and *Corrupt*Post*RET* show insignificant coefficients.

More interesting, SOEs and non-SOEs show substantial differences with respect to investment efficiencies. In particular for SOEs, we find that event SOEs show lower investment efficiency, reflected by the negative coefficient on *Corrupt*RET* (which is -0.02 and the t-value is -2.16). We further observe that both *Post*RET* and *Corrupt*Post*RET* show positive and significant coefficients, suggesting that investment efficiency has been improved after the corruption events for SOEs, especially for the event SOEs. For non-SOEs sample estimation, the coefficient of *Corrupt*RET* is positive and significant at the 10% level (t-value is 1.82), indicating that the event firms show stronger sensitivity of investment growth to the change in investment opportunities than that of non-event non-SOEs. We further observe that the coefficients of both *Post*RET* and *Corrupt*Post*RET* are negative and statistically significant (t-values are -1.94 and -2.76, respectively), indicating that after the corruption events the investment efficiency has been reduced which is more pronounced for event firms. These results support our hypothesis 2 that the investment efficiency can be improved for SOE event firms while reduced for non-SOE event firms after the ouster of corrupt officers. The explanation is that since the corruption events, the potential collusion between SOE managers and connected government officers is broken up, so that SOE managers' self-serving incentives (to extract private benefits, such as perks, through investing more but less efficiently) will be restrained to some extent. However for non-SOEs, the termination of political capital implies that less financing or investment projects are available, thus investment efficiency would be reduced. In other words, the corruption is more detrimental in SOEs (sand the wheel) so that the investment efficiency may recover after the corruption events, while the corruption could be beneficial for non-SOEs (grease the wheel). Our results also corroborate the findings of some existing studies (Chen et al., 2011b; Zheng and Zhu, 2013).

Table 7

Regression results of corruptions on corporate investment efficiency

This table presents the regression results on the effect of the corruptions on corporate investment efficiency. Quarter observations for the event firms and control firms from three years before to three years after the event of corruption are applied in the regressions. The dependent variable is corporate investment growth, defined as the change in investment expenditures. Corrupt is a dummy variable, equal to 1 for firms bribing government officers or connected with the corrupt government officers and 0 otherwise. Post is a dummy variable, equal to 1 for observations of post-event period and 0 otherwise. RET is the change in investment opportunities, measured as the log of 1 plus industry stock returns. Leverage is the ratio of total debt to total assets. Q is the ratio of firm market value to replacement value. Cashflow is the ratio of operating cash flows to total assets. Size is the log of firm total assets. Sale is the ratio of total sales to total assets. Tangibility is the ratio of tangible assets to total assets.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Dependent variable is the investment growth			
	Full sample	SOE sample	Non-SOE sample
Corrupt	0.08(0.73)	0.13(0.77)	0.10*(1.76)
Post	-0.20**(-2.13)	-0.18(-1.27)	-0.15**(-2.19)
Corrupt*Post	-0.04**(-2.33)	-0.02(-1.08)	-0.05**(-2.33)
Corrupt*RET	-0.02**(-2.32)	-0.02**(-2.16)	0.07*(1.82)
Post*RET	-0.19(-0.13)	0.22**(2.53)	-0.12*(-1.94)
Corrupt*Post*RET	-0.01(-0.11)	0.06**(2.05)	-0.08***(-2.76)
RET	0.23***(3.76)	0.25***(2.90)	0.16**(2.02)
Leverage	-0.22***(-8.15)	-0.24***(-6.71)	-0.20***(-5.45)
Q	0.02***(7.67)	0.02***(5.95)	0.02***(4.73)
Cashflow	0.78***(3.47)	0.56*(1.86)	1.26***(8.93)
Size	0.01***(3.49)	0.02***(3.12)	0.02***(3.98)
Sale	0.28***(6.28)	0.31***(4.27)	0.28***(10.18)
Tangibility	0.18***(10.24)	0.17***(8.01)	0.08***(4.09)
Constant	-0.11(-0.86)	-0.14(-0.44)	-0.23*(-1.86)
Quarter fixed effects	Included	Included	Included
Industry fixed effects	Included	Included	Included
Adjusted R square	0.48	0.53	0.24
Observations	4522	2128	2394

4.4 Recent anti-corruption campaign influence on investment decisions

Though the anti-corruption is an on-going activity, the most recent anti-corruption campaign initiated since the conclusion of 18th Congress Conference at the end of 2012 was the boldest and most serious. Thus, we conjecture that the change of corporate investment decision would be more significant for bribing firms that are connected with corrupt officers who were stepped down since the initiation of the recent anti-corruption campaign. Consistent with the official report by the CCDI, the former vice party secretary of Sichuan Province, Mr. Li Chuncheng, was identified as the first high-level corrupt officer after the recent anti-corruption campaign since the conclusion of the 18th Congress Conference.

Empirically, as we have proved that event firms experience significant changes in investment decisions (both investment expenditures and investment efficiency) relative to non-event firms, thus we focus on bribing firms sample only in this section. Our focus will be the difference in the change of corporate investment decisions between those firms connected with corrupt officers before and after the recent anti-corruption campaign. We are also concerned about the effect of anti-corruption on the change in firm performance and market reactions. Empirically, we re-estimate our previous regressions for event firm sample only by replacing *Corrupt* with *Campaign* variable, which is defined as a dummy variable equal to 1 for post Xi's anti-corruption period and 0 before, and report the results in Table 8. An interaction term between *Post* and *Campaign* is also included to test the difference of investment decision change before and after the anti-corruption campaign.

Panel A presents the results of investment expenditure regression. Consistent with our results reported in Table 5 and 6, we observe that the average investment expenditures is decreasing more significant for non-SOEs (column 3), reflected by the negative coefficient on *Post* for non-SOE sample which is statistically significant at the 1% level (t-value is -3.05). Our concern is the coefficients on interaction terms, which are negative across all specifications. This indicates that since the ouster of corrupt officers, event firms experience significant decline in investment expenditures especially after the anti-corruption campaign. This phenomenon is more pronounced for non-SOEs, which is consistent with our hypothesis. Panel B presents the results of investment efficiency regression. As can be seen from column 1 Panel B, the average investment efficiency is recovered, reflected by the positive and statistically significant coefficient on *Campaign*Post*RET* (coefficient is 0.06 and t-value is 2.05). This is consistent with our broad expectation that the influence of the recent anti-corruption is more effective to bring back the overall efficiency. The positive coefficient on this interaction term holds for SOEs (column 2) while becomes negative for non-SOEs (column 3) provide some further supportive evidence of the more effective influence of anti-corruption campaign. The signs of these two coefficients for both SOEs and non-SOEs are also consistent with those reported in Table 7, supporting both hypotheses of sand the wheel and grease the wheel the role corruption has played in SOEs and non-SOEs. These results are consistent with our predictions that the boldest and most serious anti-corruption campaign has imposed more effective influence on firms' investment decisions

Table 8

Regression results of corruption effect on corporate investment decisions and performance around anti-corruption campaign for event firm sample

This table presents the regression results of comparing the corruption influence on corporate investment decisions and performance before and after the anti-corruption campaign. Quarter observations for the event firms from three years before to three years after the event of corruption are applied in the regressions. Definitions of all variables are the same as those in previous tables.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

	Full sample	SOE sample	Non-SOE sample
Panel A: Corporate investment expenditure regression (Dependent variable is investment expenditure)			
Campaign	-0.05**(-2.40)	-0.03(-1.05)	-0.14**(-2.04)
Campaign*Post	-0.10**(-2.22)	-0.05(-1.37)	-0.12***(-2.57)
Post	-0.08***(-4.47)	-0.07*(-1.78)	-0.09***(-3.05)
Control variables in each regression include firm size, leverage, tangible assets, sales, free cash flow, Tobin's Q, and industry and quarter fixed effects			
Adjusted R square	0.48	0.23	0.53
Observations	2261	1064	1197
Panel B: Corporate investment efficiency regression (Dependent variable is investment growth)			
Campaign	-0.03**(-2.14)	-0.05***(-3.66)	-0.16***(-2.63)
Campaign*RET	-0.04(-0.33)	0.03***(3.97)	-0.05**(-2.07)
Campaign*Post*RET	0.06**(2.05)	0.26***(3.06)	-0.05**(-2.31)
RET	0.16***(5.77)	0.14***(3.66)	0.16***(4.20)
Control variables in each regression include firm size, leverage, tangible assets, sales, free cash flow, Tobin's Q,			

and industry and quarter fixed effects. Other interaction terms between each pair of our interest variables are also included in each regression			
Adjusted R square	0.48	0.24	0.53
Observations	2261	1064	1197

4.5 Additional evidence

4.5.1 Corruption and firm performance

Firms' investment decisions can significantly influence firm performance, because firm performance responds positively to better investment, and gains from investment enhance firm profitability (Chen et al., 2009). To complement our main argument, we, in this section, examine whether the change in investment decision is associated with the change in firm performance. We use the pre-event performance as a benchmark to evaluate firm's post-event performance and the change of firm performance before and after the corruption events. Empirically, we apply the return on assets (ROA) as the proxy for performance, and we regress ROA against variables of our interest and a set of control variables and report the results in Table 9.

As shown in the table, we observe that there are significant variations of firm performance between SOEs and non-SOEs, and before and after the corruption events. As can be seen, the estimated coefficient on *Corrupt* is negative and significant at the 5% level for the full sample and SOE sample, indicating that corruption incurs potential costs which will reduce firm performance, while this effect becomes positive for non-SOE sample though insignificant. In relation to the *Post*, we find that they are negatively related with firm performance, suggesting that firm performance is reducing after the corruption events. The interaction term is our main concern. In particular for the full sample in column 1, we find that interaction term is positive and statistically significant at the 10% level, indicating that the average decline in firm performance is lower for event firms relative to non-event firms. When we split our total sample into both SOEs and non-SOEs, we find some further supportive evidence. For SOE sample, the change in firm performance for event firms after the ouster of corrupt officer is positive (-0.05+0.10=0.05), indicating that corruption would reduce firm performance for SOEs. For non-SOE sample, the interaction term *Corrupt*Post* shows negative and statistically significant coefficient (t-value is -2.57), indicating that after the corruption events firm performance of non-SOE event firms experiences a significant decline, relative to other non-event non-SOEs. The overall results are consistent with our main argument and provide supportive evidence to both hypotheses of sand the wheel in SOEs and grease the wheel in non-SOEs.

Table 9

Regression results of corruptions on firm performance

This table presents the regression results on the effect of the corruptions on firm performance. Quarter observations for the event firms and control firms from three years before to three years after the event of corruption are applied in the regressions. The dependent variable is return on assets, defined as the ratio of net income to total assets. Corrupt is a dummy variable, equal to 1 for firms bribing government officers or connected with the corrupt government officers and 0 otherwise. Post is a dummy variable, equal to 1 for observations of post-event period and 0 otherwise. All the other variables are defined the same as those in previous tables.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Dependent variable is return on assets (ROA)			
	Full sample	SOE sample	Non-SOE sample
Corrupt	-0.06**(-2.65)	-0.06**(-2.01)	0.02(0.44)
Post	-0.07***(-2.64)	-0.05***(-1.97)	-0.08(-1.44)
Corrupt*Post	0.03*(1.87)	0.10**(2.22)	-0.02***(-2.57)
Control variables in each regression include firm size, leverage, tangible assets, sales, free cash flow, Tobin's Q, and industry and quarter fixed effects			
Adjusted R square	0.22	0.22	0.28
Observations	4522	2128	2394

4.5.2 Corruption and cumulative abnormal returns

In this section, we examine how the investors react to the announcements of corruption events for event firms and non-event firms. This examination adds additional evidence to identify the effect of corruption in both SOEs and non-SOEs. In particular, the announcement effect is measured by the market-adjusted cumulative abnormal returns (CARs) around the corruption event announcements using the market-adjusted excess return model. We choose a three-day event window (i.e., -1, +1), and 230 days as the estimation window (i.e., -240, -10). The event day is defined as the first day when the corruption scandal was identified and informed to the public. For the regression analysis, we regress CARs against our key variables and control variables. In consistent with the method used by Claessens et al. (2008), the values of firm level control variables are the average over our sample period.

As shown in Table 10, the coefficients on *Corrupt* is significantly negative for the full sample (column 1), indicating that once corrupt officers were step down, market value of connected firms would be negatively affected. The estimated coefficient on *Corrupt* for non-SOEs are also negative and statistically significant at the 1% level (t-value is -5.63), which is consistent with our common sense. However, some interesting results evolve when we turn to SOE samples. In particular, the coefficient on *Corrupt* is positive and statistically significant at the 5% level (t-value is 2.16), indicating that investors feel optimistic about the termination of political capital in SOEs. Though the general results are a bit surprise at least for SOEs, they are broadly consistent with our predictions that political capital obtained from corruption is detrimental for SOEs while beneficial for non-SOEs.

Table 10
Regression results of corruptions on market reactions (CARs)

This table presents the regression results on the effect of the corruptions on CARs. The dependent variable is the three-day CARs around corruption event announcements. Corrupt is a dummy variable, equal to 1 for firms bribing government officers or connected with the corrupt government officers and 0 otherwise. All the other variables are defined the same as those in previous tables.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Dependent variable is the CARs (-1, +1) around corruption event announcement			
	Full sample	SOE sample	Non-SOE sample
Corrupt	-0.10**(-2.49)	0.03**(2.16)	-0.22***(-5.63)
Control variables in each regression include return on sales, firm size, tangible assets, leverage, sales level, free cash flow, Tobin's Q, industry and quarter fixed effects			
Adjusted R square	0.09	0.07	0.14
Observations	220	104	116

4.5.3 Corruption and perks

We have argued that in SOEs, the incentives for pursuing private benefits motivate potential collusion between corrupt government officials and SOE managers which will ultimately reduce the investment efficiency. Furthermore, the private benefits extracted by SOE managers are likely to be in the form of perks (Adithipyangkul et al., 2011; Gul et al., 2011), as their compensations are capped according to the government policy (Hu et al., 2013). Consistent with our previous results, we conjecture that the amount of perks consumed by SOE managers declined significantly since the ouster of corrupt officials. In this section, we attempt to provide some direct evidence to verify our argument.

We follow Gul et al. (2011) to construct the amount of perk consumptions. The perk data in this study is hand-collected from a particular item recorded in the note of statement in firms' annual reports called "Other Cash Payment for the Expenses Related to Operating Activities". Under this section, firms voluntarily disclose perk data from which six expense items are identified to consist of perk consumption, namely traveling expenses, business entertainment expenses, overseas training expenses, board meeting expenses, company car expenses and meeting expenses. Then, our perk variable is the sum of these six items scaled by firm sales. Due to the data availability, only annual perks are collected for empirical analysis.

Table 11 shows the regression results. In column 1 for the full sample, we observe that the estimated coefficient of *Post* is negative and statistically significant (t-value is -3.98), indicating that the amount of perks consumed has declined significantly after the corruption scandals. When we turn to both SOE and non-SOE sub-samples, we find that this negative coefficient is still significant for SOEs while become insignificant for non-SOEs which is consistent with our conjecture. We then observe that the estimated coefficient of

*Corrupt*Post* is negative and statistically significant for SOEs (coefficient is -1.60 and t-value is -2.15), indicating that potential private benefits consumed by managers decreased significantly after the ouster of corrupt officials. The effect of the ouster of corrupt officials on perks is only significant for SOEs, indicating that the anti-corruption is effective to curb SOE manager self-dealing behaviours. Overall, these results provide some direct evidence that in SOEs, perks are actually the form of private benefits extracted by SOE managers which motivate SOEs to boost investment activities with low efficiency. Once the ouster of corrupt officials occurs, investment efficiency will rectify due to constrained self-dealing behaviours of SOE managers and less perks available. While in non-SOEs, there is no significant change in perks as managerial self-dealing behaviour is monitored by controlling shareholders, thus the benefits obtained through political capital matter more for investment efficiency as well as firm performance.

Table 11

Regression results of corruptions on perks

This table presents the regression results on the effect of the corruptions on perks. The dependent variable is the ratio of perks to sales. Corrupt is a dummy variable, equal to 1 for firms bribing government officers or connected with the corrupt government officers and 0 otherwise. Post is a dummy variable, equal to 1 for observations of post-event period and 0 otherwise. All the other variables are defined the same as those in previous tables.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Dependent variable is the ratio of perks to sales level			
	Full sample	SOE sample	Non-SOE sample
Corrupt	0.63(1.00)	2.14(1.16)	0.14(0.18)
Post	-2.65***(-3.98)	-3.42***(-3.41)	-2.27(-1.53)
Corrupt*Post	-1.04(-1.12)	-1.60**(-2.15)	1.25(1.02)
Control variables in each regression include return on assets, firm size, tangible assets, leverage, Tobin's Q, industry and year fixed effects			
Adjusted R square	0.11	0.10	0.18
Observations	1046	545	501

4.5.4 Corruption and pay-performance relationship

As we have previously argued, the political connections established through bribery or personal relationship will exacerbate the agency problems in SOEs, which will result in less efficient investment activities. In this section, we try to provide additional empirical evidence to show that agency problem has been mitigated since the political connection terminates in SOEs. We focus on the relationship between managerial compensation and firm performance as the proxy for the severity of agency problem, because severe agency conflicts between managers and shareholders is resulted from less monitoring by shareholders so that managers' compensation may be less likely to be closely linked to firm performance. Empirically, we

regress the average compensation of the top three paid executives against firm performance and a set of control variables consistent with prior studies (Firth et al., 2006).

Table 12 reports the regression results, and our main focus is the interaction terms of ROA with other variables. In column 1, the estimated coefficient on *Corrupt*Post*ROA* is positive indicating that managerial pay-performance relationship becomes stronger since the corruption scandals, though the result is insignificant. Moreover, we find that this result becomes significant for SOEs (column 2), suggesting that once the political connections between SOE managers and bureaucrats terminate, the SOE managers may face more monitoring from the government officials and the agency conflicts between managers and shareholders becomes weaker which will enhance the link between managerial compensation and firm performance. In relation to ROA, we find that the estimated coefficients are positive and significant, which is consistent with the previous studies (Firth et al., 2006). As for non-SOEs, we find no evidence that the pay-performance relationship has been changed significantly since the termination of political connections. The proposed explanation for this insignificant change is that termination of political connection may only mitigate the agency problem between managers and shareholders, as the agency conflict between controlling shareholders and minority shareholders is more important in non-SOEs, the disciplinary power from controlling shareholders may not necessarily change so that political connection's influence is insignificant.

Table 12

Regression results of corruptions on managerial pay-performance relationship

This table presents the regression results on the effect of the corruptions on managerial pay-performance relationship. The dependent variable is average compensation of top three paid executives. Corrupt is a dummy variable, equal to 1 for firms bribing government officers or connected with the corrupt government officers and 0 otherwise. Post is a dummy variable, equal to 1 for observations of post-event period and 0 otherwise. All the other variables are defined the same as those in previous tables.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Dependent variable is CEO turnover			
	Full sample	SOE sample	Non-SOE sample
Corrupt	-0.65(-1.02)	-1.91*(-1.85)	0.28(0.33)
Post	-2.50***(-3.75)	-2.89***(-2.68)	-2.18**(-2.39)
Corrupt*Post	1.07(1.16)	1.54(1.08)	1.01(0.81)
Corrupt*ROA	0.97(0.43)	0.45(0.05)	-0.93(-0.32)
Post*ROA	1.18(1.04)	3.37(0.37)	1.39(0.42)
Corrupt*Post*ROA	2.41(0.85)	3.44**(2.37)	2.33(0.53)
ROA	0.15**(2.16)	5.03***(2.57)	0.06**(2.42)
Control variables in each regression include firm size, tangible assets, leverage, Tobin's Q, board size, proportion of independent directors, industry and year fixed effects			
Pseudo R square	0.15	0.13	0.16
Observations	1046	545	501

4.5.5 Additional evidence from recent anti-corruption campaign

In section 4.4, we have documented that the change in investment and investment efficiency before and after the ouster of corrupt official is more significant since the initiation of the anti-corruption campaign in China. In the previous analysis in section 4.5 so far, we have also provided additional evidence that the ouster of corrupt official also result in a significant change in firm performance, perks and pay-performance relationship, we are thus more interested in examining whether these changes are more pronounced during the recent anticorruption campaign period. In this sub-section, we conduct similar investigation as those in Table 8 to examine the difference before and after the initiation of the anti-corruption campaign by focusing on event firm sample.

Table 13 shows the regression results, and each panel represents each dependent variable of our interests, and the main concern is the interaction term of *Campaign* with other variables between SOEs and non-SOEs. In Panel A, we find that the estimated coefficient of *Campaign*Post* is significantly positive for SOEs (column 2) and significantly negative for non-SOEs (column 3). These results suggest that firm performance, measured by *ROA*, increases for SOEs and decreases for non-SOEs after the corruption cases, and the magnitude of these changes is more amplified since the initiation of the anti-corruption campaign. The results in Panel B indicate that for the post-anticorruption period, investors feel more optimistic towards the termination of political connection in SOEs, while more pessimistic in non-SOEs. Panel C and Panel D deal with the change in agency problem embedded. In particular, Panel C shows that the amount of perks consumed by managers have been reduced more since the initiation of anti-corruption campaign in SOEs (reflected by the significantly negative coefficient of *Campaign*Post* in column 2), and Panel D indicates that pay-performance relationship becomes stronger for the post-anticorruption period in SOEs (reflected by the significant positive coefficient of *Campaign*Post* ROA* in column 2). Overall, the results from Table 13 reflect that the recent anti-corruption campaign initiated by President Xi has placed more substantial constraint on SOE managers' self-serving behaviours and to some extent recovered the operation efficiency of SOEs, which may be helpful to the whole Chinese economy and social activities.

Table 13.

Regression results of corruption effect on performance, perks and pay-performance relationship around anti-corruption campaign for event firm sample

This table presents the regression results of comparing the corruption influence on performance, perks and pay-performance relationship before and after the anti-corruption campaign. Quarter observations for the event firms from three years before to three years after the event of corruption are applied in Panel A. Cross-sectional observations are applied for CAR regression (Panel B). Yearly data is applied for both Panel C and Panel D. Definitions of all variables are the same as those in previous tables.

T-statistics are in parentheses, computed using the White (1980) heteroscedasticity robust standard error, clustered by the firm. *, **and *** indicate significance at the 10%, 5% and 1% levels, respectively.

	Full sample	SOE sample	Non-SOE sample
Panel A: Firm performance regression (Dependent variable is ROA)			
Campaign	0.04**(1.98)	0.06***(2.63)	-0.01(-1.26)
Campaign*Post	-0.01(-0.15)	0.05**(2.24)	-0.02**(-2.45)
Post	-0.01*(-1.80)	0.01(1.11)	-0.01**(-2.22)
Control variables in each regression include firm size, leverage, tangible assets, sales, free cash flow, Tobin's Q, and industry and quarter fixed effects			
Adjusted R square	0.20	0.22	0.28
Observations	2261	1064	1197
Panel B: Market reaction regression (Dependent variable is CARs)			
Campaign	-0.01(-0.37)	0.04**(2.13)	-0.05***(-2.78)
Control variables in each regression include firm size, leverage, tangible assets, sales, free cash flow, Tobin's Q, and industry fixed effects			
Adjusted R square	0.15	0.13	0.15
Observations	110	52	58
Panel C: Perks regression (Dependent variable is ratio of perks to sales)			
Campaign	-0.09(-0.78)	-0.07(-0.86)	-0.17(-0.83)
Campaign*Post	-0.71**(-2.18)	-0.50**(-2.49)	0.71(1.36)
Post	-0.09(-0.53)	-0.12(-1.14)	0.34(1.05)
Control variables in each regression include return on assets, firm size, tangible assets, leverage, Tobin's Q, industry and year fixed effects			
Adjusted R square	0.12	0.16	0.13
Observations	523	272	251
Panel D: Pay-performance regression (Dependent variable is the log of top three paid executives)			
Campaign	-0.07(-0.84)	-0.08(-1.09)	0.03(0.01)
Campaign*ROA	0.10(0.10)	0.37*(1.68)	-0.02(-0.51)
Campaign*Post*ROA	0.07(1.42)	0.15***(3.04)	0.06(1.17)
ROA	0.57**(2.21)	0.13**(2.16)	0.66***(2.67)
Control variables in each regression include firm size, tangible assets, leverage, Tobin's Q, board size, proportion of independent directors, industry and year fixed effects			
Adjusted R square	0.17	0.19	0.26
Observations	523	272	251

5. Conclusion

Political capital and its economic implication have attracted much attention worldwide. In this study, we take advantage of the corruption scandals and recent anti-corruption campaign initiated by President Xi in China to examine how political capital established through corruption shapes corporate investment decisions. In a departure to most existing cross-sectional studies, our study applies this event study method which allows us to avoid endogeneity issue and clearly identify the causal effect of political capital on firm investment behaviours. Our sample includes all listed firms connected with high-level corrupt government bureaucrats through corruption and their matching firms in China. We find that corporate investment expenditures decrease significantly which is more pronounced for event non-SOEs following the arrest of the corrupt bureaucrat with whom the firms had connections. The decline in investment expenditure is mainly due to the termination of political capital obtained from corruption.

We also examine whether the change in corporate investment expenditure is associated with investment efficiency change. Consistent with our predictions, we find that investment

efficiency, reflected by the sensitivity of investment growth with change in investment opportunity, is increased for event SOEs and reduced for event non-SOEs, relative to their non-event counterparties. By taking the consideration of China's recent anti-corruption campaign, we find that the abovementioned change in corporate investment expenditure becomes more pronounced since the recent anti-corruption campaign. Our additional analysis confirms the role of corruption. In particular, we find that the firm performance has recovered for event SOEs and deteriorated for event non-SOEs. Consistently, market investors respond positively towards the corruption cases for event SOEs while negatively for event non-SOEs. We also document that perks have been reduced significantly and executive pay-performance relationship becomes stronger since the ouster of corrupt official and the magnitude of these changes are more amplified after the initiation of anti-corruption campaign, which is a particular case for SOEs relative to non-SOEs.

Overall, we argue that political capital obtained through corruption may sand the wheel of growth due to the fact that corruption may create potential collusion between SOE managers and government officers to extract private benefits for both of them, while corruption can also be beneficial for non-SOEs which is used as "grease money" in exchange of government protection and good government service. Our results are broadly consistent with the view that corruption is a double-edge sword, which can either sand the wheel or grease the wheel, depending on the ownership structure. Additionally, our results also help policy makers to gauge the importance of building legal system to fight corruption, and our evidence from China also prove useful example for other emerging markets with similar institutional environments.

Reference

Aidt, T., Dutta, J., Sena, V., 2008. Governance regimes, corruption and growth: Theory and evidence. Journal of Comparative Economics 36, 195-220.

Asiedu, E., Freeman, J., 2009. The effect of corruption on investment growth: Evidence from firms in Latin American, Sub-Saharan Africa, and Transition Countries. Review of Development Economics 13(2), 200-214.

Beck, T., Demirguc-Kunt, A., Levine, R., 2006. Bank supervision and corruption in lending. Journal of Monetary Economics 53, 2131–2163

Bliss, M., Gul, F., 2012. Political connection and cost of debt: Some Malaysian evidence. Journal of Banking and Finance 36, 1520-1527.

Boubakri, N., Cosset, J., Saffar, W., 2012. The impact of political connections on firms' operating performance and financing decisions. Journal of Financial Research 35(3), 397-423.

Bushman, M. R., Piotroski, J. D., Smith, A. J., 2011. Capital allocation and timely accounting recognition of economic losses. Journal of Business Finance Accounting 38(1), 1-33.

Brandt, L., Li, H., 2003. Bank discrimination in transition economies: ideology, information, or incentives? Journal of Comparative Economics 31, 387-413.

Cai, H., Fang, H., Xu, L., 2011. Eat, drink, firms, government: an investigation of corruption from the entertainment and travel costs of Chinese firms. Journal of Law and Economics 54(1), 55-78.

Chen, G., Firth, M., Gao, D.N., Rui, O.M., 2006. Ownership structure, corporate governance, and fraud: Evidence from China. Journal of Corporate Finance 12 (3), 424-448.

Chen, G., Firth, M., Xu, L., 2009. Does the type of ownership control matter? Evidence from China's listed companies. Journal of Banking and Finance 33, 171–181.

Chen, C., Li, Z., Su, X., Sun, Z., 2011a. Rent-seeking incentives, corporate political connections, and the control structure of private firms: Chinese evidence. Journal of Corporate Finance 17(2), 229-243.

Chen, S., Sun, Z., Tang, S., Wu, D., 2011b. Government intervention and investment efficiency: Evidence from China. Journal of Corporate Finance 17, 259-271.

Chen, Y., Liu, M., Su, L., 2013. Greasing the wheels of bank lending: Evidence from private firms in China. Journal of Banking and Finance 37 (7), 2533-2545.

Claessens, S., Feijen, E., Laeven, L., 2008. Political connections and preferential access to finance: The role of campaign contributions. Journal of Financial Economics 88, 554-580.

Cohen, J., 2015. Xi's crackdown on corruption has hit the obvious targets. The Financial Times. Access via: http://www.ft.com/intl/cms/s/0/32b90fd8-8129-11e4-b956-00144feabdc0.html#axzz3PzJ50vPd

Cull, R., Xu, L., 2003. Who gets credit? The behaviour of bureaucrats and state banks in allocating credit to Chinese state-owned enterprises. Journal of Development Economics 71, 533–559.

Duchin, R., Ozbas, O., Sensoy, B., 2010. Costly external finance, corporate investment, and the subprime mortgage credit crisis. Journal of Financial Economics 97, 418-435.

Faccio, M., 2010. Differences between politically connected and nonconnected firms: A cross-country analysis. Financial Management 39(3), 905-928.

Faccio, M., Masulis, R. W., McConnell, J. J., 2006. Political connections and corporate bailouts. Journal of Finance 61(6): 2597–2635.

Fan, J., Wong, T. J., Zhang, T., 2007. Politically connected CEOs, corporate governance, and post-IPO performance of China's newly partially privatized firms. Journal of Financial Economics, 84(2), 330–357.

Fan, J., Rui, O., Zhao, M., 2008. Public governance and corporate finance: Evidence from corruption cases. Journal of Comparative Economics 36, 343-364.

Fan, C. S., Lin, C., Treisman, D., 2009. Political decentralization and corruption: Evidence from around the world. Journal of Public Economics 93, 14-34.

Fazzari, S.M., Hubbard, R.G., Petersen, B.C., 1988. Financial constraints and corporate investment. Brookings Paper. Economic Act 1, 141–206.

Firth, M., Fung, P., Rui, O., 2006. Corporate performance and CEO compensation in China. Journal of Corporate Finance 12, 693-714.

Firth, M., Lin, C., Liu, P.,Wong, S.M.L., 2009. Inside the black box: bank credit allocation in China's private sector. Journal of Banking and Finance 33, 1144–1155.

Firth, M., Lin, C., Wong, S. M. L., 2008. Leverage and investment under a state-owned bank lending environment: Evidence from China. Journal of Corporate Finance 14, 642-653.

Firth, M., Malatesta, P. H., Xin, Q., Xu, L., 2012. Corporate investment, government control, and financing channels: Evidence from China's listed companies. Journal of Corporate Finance 18, 433-450.

Fisman, R., 2001. Estimating the value of political connections. American Economic Review 91(4): 1095–1102.

Gaviria, A., 2002. Assessing the effects of corruption and crime on firm performance: evidence from Latin America. Emerging Markets Review 3, 245-268.

Goldman, E., Rocholl, J., So, J., 2009. Do politically connected boards affect firm value? Review of Financial Studies 22(6), 2231-2360.

Houston, J. F., Lin, C., Ma, Y., 2011. Media ownership, concentration and corruption in bank lending. Journal of Financial Economics 100, 326-350.

Houston, J., Jiang, L., Lin, C., Ma, Y., 2014. Political connections and the cost of bank loans. Journal of Accounting Research 52(1), 193-243.

Hu, F., Pan, X., Tian, G., 2013. Does CEO pay dispersion matter in an emerging market? Evidence from China's listed firms. Pacific-Basin Finance Journal 24, 235-255.

Hung, M., Wong, T.J., Zhang, F., 2014. The value of political ties versus market credibility: Evidence from corporate scandals in China. Working paper.

La Porta, R., Lopez-de-Silanes, F., Pop-Eleches, C., Shleifer, A., 2004. Judicial checks and balances. Journal of Political Economy 112, 445–470.

Lien, D.H.D., 1990. Corruption and allocation efficiency. Journal of Development Economics 33, 153-164.

Leuz, C., Oberholzer-Gee, F., 2006. Political relationships, global financing, and corporate transparency: Evidence from Indonesia. Journal of Financial Economics 81(2), 411-439.

Li, H. B., Meng, L. S., Wang, Q., Zhou L. A., 2008. Political connections, financing and firm performance: Evidence from Chinese private firms. Journal of Development Economics 87(2): 283–299.

Kato, T., Long, C., 2006. Executive turnover and firm performance in China. American Economic Review 96(2), 363-367.

Meon, P.G., Sekkat, K., 2005. Does corruption grease or sand the wheels of growth? Public Choince122(1-2), 69-97.

Myers, S., 1977. Determinants of corporate borrowing. Journal of Financial Economics 5, 147–175.

Ngo, T., Rent-seeking and economic governance in the structural nexus of corruption in China. Crime, Law and Social Change 49, 27-44

Pan, X., Tian, G., 2014. Does banks' dual holding affect bank lending and firms' investment decisions? Evidence from China. Journal of Banking and Finance, forthcoming.

People's Daily, 17 November 2012. Access viahttp://news.xinhuanet.com/2012-11/19/c_123967017.htm

Piotroski, J., Zhang, T., 2014. Politicians and the IPO decision: The impact of impending political promotions on IPO activity in China. Journal of Financial Economics 111, 111-136.

Pindado, J., Requejo, I., Torre, C., 2011. Family control and investment-cash flow sensitivity: Empirical evidence from the Euro zone. Journal of Corporate Finance 17, 1389–1409.

Shleifer, A., Vishny, R. W., 1993. Corruption. The Quarterly Journal of Economics 108(3), 599-617.

Stulz, R.M., 1990. Managerial discretion and optimal financing policies. Journal of Financial Economics 26, 3–27.

Wu, W., Wu, C., Rui, M., 2012. Ownership and the value of political connections: Evidence from China. European Financial Management 18(4), 695-729.

Xu, N., Xu, X., Yuan, Q., 2013. Political connections, financing friction, and corporate investment: Evidence from Chinese listed family firms. European Financial Management 19(4), 675-702.

White, H., 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. Econometrica 48 (4), 817–838.