Corporate Political Connections and Innovation: An Attention-Based View Perspective

Jyun-Ying Fu
National Chengchi University
Department of Business Administration
trentfu@nccu.edu.tw

Abstract
This study adopts an attention-based view to analyze the role of political connections in corporate innovation. Prior studies have shown that political connections enhance firm performance through access to resources, but less attention has been paid to the costs of maintaining such connections. Drawing upon an attention-based view of firms, this study argues that building political connections divert CEOs’ attention from corporate innovation activities. This work exploits one regulatory change associated with a reduction in political connections in Chinese publicly listed firms in 2013. Using a sample of Chinese listed firms from 2008 to 2016, I employ a propensity score matching and a difference-in-differences research designs and finds that firms have higher innovation outputs subsequent to this regulatory shock (i.e. reduced political connections). This work provides a novel perspective on political connections and innovation.
INTRODUCTION

Innovation has long been viewed as an important driver for firm long-term survival and performance (Porter, 1992). Despite the importance of innovation, firms differ substantively in their incentives to do innovation, and scholars have examined various factors that influence firms’ innovation. Thus far, the innovation literature has primarily paid attention to how different market factors influence innovation (cf. Greve, 2003). While these studies have recognized different market factors, what’s lack in the current literature is how nonmarket factors shape firms’ incentives of innovation.

Indeed, some recent studies have paid attention to how nonmarket factors influence corporate innovation (e.g. Zhou et al, 2017). To further examine the role of nonmarket factors, I investigate how political connections, established by appointing politically connected directors, influence corporate innovation. To theoretically ground my investigation of political connections, I draw upon the attention-based view of the firm (ABV) (Ocasio, 1997; Simon, 1947). In essence, the attention-based view posits “that what decision makers do depends on where they focus their attention” (Barnett, 2008: 606), and the allocation of attention depends on contextual and structural factors (Ocasio 1997). Based on the attention-based view of firms, I argue that, political connections established by appointing politically connected directors not only provide firms access to resources but also direct CEOs’ attention to such connections maintenance. Therefore, it’s likely that political ties hinder CEOs’ allocation of attention to innovation activities.

With the attention-based view, I also identify competitive environment, CEO tenure and non-state ownership as three important factors that regulate CEOs’ allocation of attention. First, competitiveness is relevant as CEOs tend to pay more attention to innovation in a more competitive environment, thus likely reducing CEOs’ attention to relationship maintenance. Second, CEO tenure is also important given that CEOs behave differently during their tenure. More specifically, I expect that short-tenured CEOs allocate more attention to firm innovation after the reduction in political
connections. Thirdly, non-state ownership also shapes managers’ schemas to allocate attention to corporate innovation, where CEOs become more attentive to innovations subsequent to reduced political connections.

I test these theoretical arguments in the context of Chinese publicly listed firms from 2008 to 2016. China provides an ideal context to examine this issue. First, China is characteristics of its prevalent state influence and how to manage relationships with the state is an important issue. Second, there’s one policy regulation that requires the resignation of political connected independent directors in 2013, i.e. Regulation No. 18 in China in 2013. The use of Regulation No. 18 causes an exogenous variation of corporate political connections, which helps provide the casual impact of political connections on innovation. This setting alleviates concerns about endogeneity problems which often plagues empirical corporate governance research (Wintoki et al., 2012). I employ a propensity score matching and a difference-in-differences approach to examine the effect of political connections on innovation and also test the effects of the three moderating variables. My results find that firms have higher innovation outputs subsequent to the issuance of Regulation No. 18 (which reduces corporate political connections). Moreover, this increase in corporate innovation is more pronounced for firms with short-tenured CEOs and non-state owned firms.

This work aims to make several contributions. First, this work provides a theoretical ground of the cost of political connections. Studies in the literature on political connections have primarily relied upon resource dependency theory to argue its effect on corporate outcomes, such as access to resources, information or reduction in environmental uncertainty (Hillman, 2005; Hillman, Withers & Collins, 2009; Pfeffer & Salancik, 1978). However, very few studies have paid attention to its costs (Sun et al., 2016). Based on the attention-based view, I argue that building political connections force CEOs to allocate part of their attention to this political actor, which likely divert CEOs’ attention from long-term value-enhancing activities, such as innovation.
Furthermore, this proposal also contributes to an attention-based view of corporate behavior. While previous research examines how organizational structures channel managers’ attention to different innovation activities (Li et al., 2013), this work contributes to this line of research stream by considering how establishing political connections diverts CEOs’ attention from corporate innovation. Moreover, the attention-based perspective primarily views market factors such as industry competitiveness as a driving force for CEOs’ allocation of attention (cf. Greve, 2008); this work complements prior studies by revealing how non-market factors (i.e. political connections) affect CEOs’ attention. This work extends the attention-based literature by linking how an important non-market factor in emerging economies, i.e. political connections, affects CEOs’ attention to innovation (cf. Kammerlander & Ganter, 2014).

LITERATURE REVIEW

Research on Political Connections

Political connections, defined as personal or organizational linkages between firms and political actors, have received great scholar attention for many years (Peng & Luo, 2000). Corporate political connections usually take a variety forms. The most common form is through the appointment of directors who have worked in government-related agencies (Sun et al., 2016).

Resource dependency theory is the primary theoretical lens employed to examine the role of political connections. Scholars in this camp posit that firms depend on external environments for crucial resources or information and political connections could reduce uncertainty and control access to resources (Hillman, 2005; Hillman, Withers & Collins, 2009; Pfeffer & Salancik, 1978). Numerous empirical studies have provided ample support for these arguments, such as in the case of (un)related diversification (Zhu & Chung, 2014), IPO underpricing (Yang, 2013), access to bank loans (Zhao & Lu, 2016), sales growth (Zheng, Singh, & Mitchell, 2014), and foreign direct investment (Lu, Liu,
Wright, & Filatotchev, 2014). The effectiveness of political connections may vary due to different political regimes (Fisman, 2001; Siegel, 2007) or areas with different legal or political institutions (Amore & Bennedsen, 2013; Choi et al., 2014).

However, research in this stream has paid less attention to the dark side of political connections. Some recent studies, drawing upon the literature on political risk, argue that being politically connected would expose firms to political risks and this negative effect is dependent upon the nature of political connections. Siegel (2007) note that political capital may turn into political liabilities in the face of political regime change in South Korea. Sun et al. (2015) suggest that connections to politicians implicated in scandals exert a negative impact on firm performance. Moreover, from the perspective of agency theory, Sun et al. (2016) indicate that board political capital may instead facilitate block shareholder expropriation as political connected board members prevent controlling shareholders from regulatory sanction. In a study of corporate philanthropy in China, Zhang et al. (2016) find that firms with a certain type of political connections are more likely to donate due to the expected returns from the building of political connections. Marquis & Qian (2013) show that politically connected firms are also more likely to issue CSR reports.

**Research on Attention-based View of the Firm (ABV)**

The ABV has influenced a variety of topics in strategy research, including corporate innovation, growth strategy, merger and acquisitions, technology decisions and internationalization. Building on and extending earlier works (Simon, 1947; March and Simon, 1958; Weick, 1979), the ABV (Ocasio, 1997) views firms as systems of distributed attention and attention is defined as “the noticing, encoding, interpreting, and focusing of time and effort on issues and answers”. The ABV posits that firm behavior is shaped by how managers focus their attention on. In particular, organizational structures channel and distribute the attention of decision-makers who attend to only a limited number of issues and organizational activities.
ABV perspective suggest that social actors’ attention is shaped by structural and contextual factors, which leads to selective attention on particular issues or activities and in turn drives firm behavior. A growing body of studies have provided ample support for the ABV perspective. For example, Williams and Mitchell (2004: 1562) find that organization structure shape information flow within organizations and thereby influences managerial attention to new market opportunities, such that some managers attend to more market opportunities while some don’t. Cho and Hambrick (2006) found that a change from a regulated to a deregulated industry shifts managerial attention from internal orientation to external marketing orientation for managers in the airline industry. In their study of a large healthcare system merger, Yu, Engleman, and Van de Ven (2005) find that the post-merger integration process absorbs significant amounts of managerial attentions, and thus leads to decreased R&D investment. Similarly, Tuggle et al. (2010) find that board of director attend to monitoring when firms have negative deviation from prior performance. Recently, Joseph and Wilson (2017) adopt an ABV perspective to examine how patterns of organization attention shape corporate growth. Overall, these studies support the view that managerial attentions determine the selection of strategies.

While the attention-based view represents an important theoretical lens to look at firm behavior, prior studies tend to examine how market factors influence managerial allocation of attention (cf. Joseph and Wilson, 2017). The role played by nonmarket factors has remained largely unexplored. In is work, I extend the attention-based view by considering political connections and explore how political connections influence managerial attention to innovation activities.

INSTITUTIONAL BACKGROUND

Politically Connected Independent Directors and Regulation No. 18

To improve transparency and corporate governance practice in the Chinese stock market, China implemented its independent director system in 2001 (Jiang, Wan, & Zhao, 2015). According to
related regulatory change, independent directors are tasked with the fiduciary duties of “protect the interest of the whole listed firm and, in particular, the interest of small shareholders” and “carry out their duty independently from the influence of the company’s major shareholders and ultimate controllers.”

In China, it’s common to see that firms appoint former government official as independent directors (i.e. *politically connected independent directors*) with the aim of building connections with the state, and some studies find that a significant proportion of independent directors indeed have former working experiences in government-related agencies (cf. Chizema et al., 2014)

While firms state that politically connected independent directors are qualified for their positions, some media and studies raised concerns about their ethical and legal issues. Specifically, the appointment of those politically connected independent directors may cause concerns of bribing and grafting. This issue becomes more salient after President Xi Jingping took office in 2012. Specifically, President Xi started waging a wide variety of campaigns targeting the abuse of political connections between firms and the state. By the end of 2013, the campaign has investigated and removed thousands of high-ranking government officials, including those national-level leaders.

As part of anti-corruption campaign, the Organization Department of Communist Party of China (CPC) Central Committee issued Regulation No. 18 on Oct. 14 2013: *The Directive on Further Disciplining Party and Government Officials Holding Full-time (Part-time) Positions in Corporations*. This new regulation specifically targets the appointment of those politically connected independent directors serving in Chinese listed firms and further requires those independent directors to resign from their corporate positions. The Organization Department claimed that such new rules will help build “a sound market orders.”
This new regulation has triggered resignation of a number of politically connected independent directors. For example, *Phoenix Weekly* reported that Shuyuan Zhao who was an independent director of Huafang Limited Company (stock code: 600448) resigned on January 29 2014. In the public announcement, firms clearly stated that Regulation No. 18 was the main reason for director resignation. Specifically, in the announcement of Huafang Limited Company, “In order to follow the regulation by The Organization Department of Communist Party of China (CPC) Central Committee’s Regulation No. 18 (The Directive on Further Disciplining Party and Government Officials Holding Full-time (Part-time) Positions in Corporations), Mr. Zhao resigned from his position.” By the end of 2014, nearly 250 listed firms released resignation announcement of politically connected board members. In the later section, I use this event as an exogenous shock to examine the effect of political connections on innovation.

**HYPOTHESES DEVELOPMENT**

**Attention-based view of political connections**

Attention-based view of firms holds that organizational outcomes are the results of how managers allocate and channel their attention to; the allocation of attention is influenced by organizational structures or contextual factors (Ocasio, 1997; Ocasio & Joseph, 2005). Managers’ attention is regulated by their information processing systems and cognitive frames. Furthermore, the attention-based perspective argues that decision makers within organizations have limited attention to multiple goals concurrently due to managerial cognitive or time constraints and tend to attend to more salient issues. Also, managers pay more attention to certain critical events (Hoffman & Occasio 2001). For instance, in the context of corporate innovation, CEOs allocate their attention to more promising R&D projects (Li et al. 2013). Similarly, directors may attend to their monitoring responsibilities when there’s negative firm prior performance, as negative firm performance may trigger negative outcomes (Tuggle et al.,2010). Therefore, social actors are biased to the extent that they attend to certain issues and ignore others.
An ABV perspective postulates that firm resources, rules and social relations are important structural factors that influence what managers attend to, and, in turn, the decisions they make. Political connections represent an important type of social relations between the firm and the state. It’s likely that building political connections via the appointment of politically connected directors channel and distribute CEOs attention, at least part of, to relationship maintenance with the state, and away from corporate innovation activities. I explicated two mechanisms in the following section.

First, by establishing political connections, this changes the structural attention of decision makers within a firm, thus leading decision makers to attend to the needs of those powerful actors. Prior studies suggest that firms are expected to fulfill political or social goals if they build political connections (Marquis and Qian 2014). For example, Marquis and Qian (2014) find that firms are expected to fulfill state goals such as the issuance of CSR reports. Second, such connections also direct CEOs’ attention to political rent-seeking activities, which weakens the incentives of managers to increase corporate competitiveness or performance via innovation. Cai et al. (2011) show that Chinese firms incur extra entertainment and travel costs (ETC) expenditures if they build political connections. Chen et al. (2011) also find that firms seek to invest in political connections rather than capability-building when the government has great control over economic activities. It’s likely that such relationship-building activities disperses corporate limited resources and “crowd out” resources originally allocated for innovation activities. Taken together, it’s expected that reduced political ties direct more managerial attention to innovation. Therefore, I propose:

**Hypothesis 1 (H1):** After a reduction in political connections (i.e. issuance of Regulation No. 18), firms experience an increase in corporate innovation.

While I argue that political connections reduce corporate innovation by diverting CEOs’ attention,
ABV suggests that contextual factors also shape managerial attention. In the following section, I identify market competition, CEO tenure and non-state ownership as three factors that moderate the relationships between political connections and innovation.

The moderating effect of market competition

An ABV perspective suggest that managerial attention is jointly shaped by organizational internal structures and external market environment. Thus, I expect that the level of market competitiveness shapes managerial attention and in turn corporate innovation. In a more competitive environment, prior studies show that corporate innovation is fundamental in firm performance and survival (Damanpour, 1991; Smith, Collins, & Clark, 2005). Firm engage in more innovation activities to maintain competitive advantages. While political connections are likely to divert CEOs’ attention to such relationship maintenance, politically connected firms cannot solely rely on political connections in competitive environments. Specifically, managers in firms with political connections are still under pressure to allocate some resources to build their market capabilities, such as innovation. It’s expected that after the reduction of political connections firms in more competitive environments allocate more attention to innovation. As a result, I hypothesize:

Hypothesis 2 (H2): After a reduction in political connections (i.e. issuance of Regulation No. 18), firms in more competitive environments experience more increase in corporate innovation.

The moderating effect of CEO tenure

Strategy research has long explored the role of CEO tenure in corporate performance and strategies (Hambrick & Mason, 1984). Specifically, the time CEOs stays in their positions impact their cognitive schema and thereby their scope of its information search and processing. A number of studies find that short-tenured CEOs are less likely to commit to the status quo, while long-tenured CEOs have strong adherence to the status quo (Finkelstein & Hambrick, 1990; Hambrick, Geletkanycz, &
Fredrickson, 1993). Major changes are found to occur in the first 3 years of CEO’s assignment (Gabarro, 1987). By contrast, the longer the CEOs stay at office, their “level of experimentation falls” (Miller and Shamsie, 2001). Overall, these studies suggest that CEOs’ tenure is an important driver for firm or actor behavior changes.

In the context of corporate innovation, it’s likely that CEO tenure moderates the relationship between political connections and innovation, such that the negative effect of political connections become weaker. When CEOs are new to their positions, they are more likely to learn or experiment new things, such as launch new products or new strategic directions. Wu, Levitas, and Preim (2005) found that short-tenured CEOs generate more innovation outputs, indicating these short-tenured CEOs are more attentive to new things or alternatives. While political connections absorb part of managerial attention to relationship maintenance, short-tenured CEOs have the tendency to allocate attention towards alternative strategic options, such as innovation. More specifically, even though CEOs need to attend to the needs from political actors, short-tenured CEOs may dampen the diversion effect of political connections. In order words, short-tenured CEOs allocate more attention to innovation after the reduction in political connections. Combining these insights, I expect that

Hypothesis 3(H3): After a reduction in political connections (i.e. issuance of Regulation No. 18), firms with short-tenured CEOs experience more increase in corporate innovation.

The moderating effect of non-state ownership

The ABV perspective suggests that organizational identity (Albert & Whetten, 1985) provides a context to shape what actors allocate their attention to and how do managers react to environmental stimuli (Barnett, 2008; Ocasio, 1997). Prior studies find that non-stated owned firms engage in more innovation activities (cf. Fang et al., 2017). Specifically, managers in non-state owned firms have more incentives to attend to new market or technological opportunities. Although managers generally
allocate their attention to political relationship maintenance, managers in non-state owned firms don’t solely rely on political connections to maintain their competitive advantages and still allocate attention to build their market capabilities via innovation. That is, compared with state owned firms, the diversion effect of political connections is weaker in non-state owned firms. After the issuance of Regulation No. 18, the reduction in political connections is expected to direct more managerial attention to innovation activities in non-state owned firms. Therefore, I propose:

**Hypothesis 4 (H4): After a reduction in political connections (i.e. issuance of Regulation No. 18), non-state owned firms experience more increase in corporate innovation.**

**RESEARCH DESIGN**

**Data and sample**

This paper uses the data of Chinese A-share firms listed on the Shanghai and Shenzhen Stock Exchanges in China from 2008 to 2016. I exclude firms in the financial industries as they have significantly different disclosure rules and accounting standards. I obtain firm-level variables information from the China Stock Market and Accounting Research (CSMAR) database. CSMAR provides comprehensive historical information on the financial statements of 2,542 Chinese listed firms. CSMAR also provides information about independent director background, including age, gender and working experiences. Prior corporate governance studies have also relied on the same source (e.g., Greve & Zhang, 2016). I construct the control group based on a propensity score matching method (1:1 matching) which selects other listed firms without politically connected directors. My matched sample of analysis includes 5,025 firm-year observations, 2,877 of which are treated firm-years and 2,516 of which are control firm-years.

In empirical analysis, I use Regulation No. 18 as a shock to examine the effect of political connections on corporate innovation. Regulation No. 18 provides an ideal context to examine the impact of
political connections on innovation for the following three reasons. First, as firms may strategically choose to hire politically connected directors, a simple panel data analysis may fail to take into account endogeneity problems between political connections and innovation. Second, Regulation No. 18 causes a sudden reduction of political connections as this rule requires a large number of politically connected directors to resign. The use of this event is similar to other prior studies that use directors’ sudden death as a shock to firms. In contrast to directors’ deaths which usually are rare events (e.g., Fisman 2001; Nguyen and Nielsen 2010; Faccio and Parsley 2009), Regulation No. 18 triggered a larger number of resignations of politically connected independent directors and may have better statistical representativeness. Third, this rule affects only a group of firms (i.e. firms with politically connected directors) and this provides advantages for using a difference-in-differences research design to filter out other unobservable factors that likely influence innovation.

Measures

Dependent variable

*Innovation* I use patent data to proxy for corporate innovations. I collect patent data from State Intellectual Property Office (SIPO), the official website that records patent data for Chinese firms. The Chinese patent system grants three types of patents: invention, utility and design patents. Among these types of patents, invention patents are of the highest technological advancement and novelty. SIPO only grants those patents that meet the requirement of “novelty, inventiveness, and practical applicability.” Consistent with prior studies (e.g. Fang et al., 2017), I only use the number of inventive patent applied and eventually granted in a given year. To take into account the skewness of this variable, I take the natural logarithm of one plus the number of inventive patents to construct the dependent variable, *innovation*.

Moderating variables

*Market competition* I measure market competition by the Herfindahl index. I plan to calculate the Herfindahl index at the three-digit industry level for each year by using the sales information for each
firm. The Herfindahl index is calculated by the following formula:

$$HHI_{jt} = \sum_{i=1}^{N_{jt}} s_{ijt}^2$$

where $s_{ijt}^2$ is the market share of firm $i$ in market $j$ in year $t$ and $N_{jt}$ is the number of firms in market $j$ in year $t$. The Herfindahl index ranges from 0 to 1, and a lower value of the Herfindahl index indicates a more competitive market.

CEO tenure is measured as the total number of years that a CEO holds position with a company (Wu, Levitas, & Preim, 2005).

State ownership is a dummy variable that is equal to 1 if the controlling shareholder in a firm is state agencies and is equal to 0 otherwise.

Control variables

I control for the following confounding factors that may affect a firm’s innovation activities. First, $R&D$ is calculated by the ratio of R&D expenses to total sales, which captures a firm’s innovation inputs. Sales growth is growth rate of a firm’s revenues. Liability ratio measures the ratio of total liabilities to total asset. I control for firm size, which is measured by the natural logarithm of total assets. $ROA$ stands for returns on assets, calculated by profits divided by total asset. Market cap is defined as the natural logarithm of market capitalization. I also add firm and year fixed effects.

Statistical analysis

I employ a standard difference-in-differences (DID) approach to examine the effects of political connections on corporate innovation between the treatment group and the control group. The treatment group includes those firms that hire politically connected independent directors at the end
of 2012. A firm is classified as a treated firm if at least one of its independent directors held a position in a political organization, such as local or central government. After I identify the treatment group, I construct the list of control group by a propensity score matching method. Specifically, the control group will be similar to the treatment group except for the fact that there’s no politically connected independent director. I use a one-to-one matching method with a logistic regression and match the control and the treatment groups, based on several firm characteristics, including liability ratio, firm size, ROA, State ownership, market capitalization, and board size. After the construction of the control and treatment group, I employ a DID regression. The DID specification is presented as follows:

\[ y_{it} = \alpha_0 Post + \alpha_1 Treat + \beta Post_{it} \times Treat_{it} + \gamma X_{it-1} + \epsilon_{it} \]

\( y_{it} \) is the dependent variable for firm \( i \) in year \( t \). \( Post_{it} \) is equal to 1 if the year is one year after the resignation of regulatory change, i.e. year 2014, 2015 and 2016; \( Treat_{it} \) stands for the treatment groups, i.e. those firms with politically connected independent at the end of 2012. Therefore, the coefficient \( \beta \) is the difference-in-differences estimate, which stands for the average effect of Regulation No. 18 for the treatment group relative to the control group. I expect this DID estimate to be positive because a reduction in political connections, introduced by the resignation of politically connected independent directors, is expected to enhance corporate innovation. \( X_{it-1} \) are other control variables.

To test the moderating effects, I conduct a split-sample analysis. Specifically, for H2 and H3, I partition the sample based on the mean value of those moderating variables. For H4, I partition the sample based on whether a firm is an SOE or not. The coefficient for the interaction term \( Post_{it} \times Treat_{it} \) is the DID estimate.

RESULTS
Table 1 reports the balancing test for the matched sample. The results show that after the matching process there’s no significant difference between the control and treatment group. Table 2 illustrates the summary statistics for the matched sample.

***** Insert Table 1 about here *****

***** Insert Table 2 about here *****

Table 3 reports empirical results that test all the four hypotheses. H1 posits that political connections reduce corporate innovation\(^1\). The empirical results show that the coefficient for \(post \times treat\) is positive and significant (coefficient= 0.0937, \(p < 0.05\)), indicating that the reduction in political connection increase corporate innovation. This, I find support for H1.

***** Insert Table 3 about here *****

H2 claims that the negative effect of political connection on innovation becomes weaker for firms in more competitive environments. For the subsample of firms in more competitive industries (i.e. low HHI), the coefficient for \(post \times treat\) is not significant (coefficient= 0.0759, \(p > 0.1\)). For the high-HHI sample, the coefficient for \(post \times treat\) is not significant, either (coefficient= 0.0970, \(p > 0.1\)). These results don’t lend support to H2.

For H3, this hypothesis states that the negative effect of political connection on innovation becomes weaker for firms with short-tenured CEOs. I partition the sample based on the mean value of CEO tenure. The coefficient for \(post \times treat\) is significantly positive for firms with short-tenured CEOs (Model 4), but insignificant at conventional levels for firms with long-tenured CEOs (Model 5). The results indicate that after the issuance of Regulation No. 18, firms with short-tenured CEOs experience increases in innovation, while firms with long-tenured CEOs don’t. H3 is therefore supported.

\(^1\) The coefficient for \(treat\) is drooped during estimation, because I added firm fixed effects in the regression.
H4 posits that the negative effect of political connection on innovation becomes weaker for non-state owned firms. The results show that for the subsample of state-owned firms, the coefficient for post x treat is not significant (coefficient= 0.0854, p > 0.1). By contrast, the coefficient for post x treat is significant (coefficient= 0.1093, p < 0.05), suggesting that non-state owned firm enhance corporate innovation more after the issuance of Regulation No. 18. I therefore find support for H4.

Robustness tests

Dynamic Panel data

To check the robustness of my results, I conduct one additional tests. Considering the dynamic nature of innovation, prior studies also suggest that a dynamic panel data model is appropriate in this context (Arellano & Bond, 1991). In this regression, the dependent variable will be innovation and the independent variable is political connections. The use of a dynamic panel data method helps avoid endogeneity associated with unobservable heterogeneity (Arellano & Bond, 1991; Blundell & Bond, 1998). For example, it’s likely that unobservable factors simultaneously influence political connections and innovation. Also, it’s possible that more innovative firms are more likely to establish political connections. This estimation method helps alleviates these concerns.

To implement this method, I construct one variable (i.e. political connections) that measures the level of political connections in a firm. Similar to prior studies (Sun et al., 2016), I measure corporate political connections from the background of directors. I first retrieve C.V. of all board of directors from CSMAR. These C.V.s include these following information: the career path of board of directors, gender and age. Similar to the main analysis, a director is defined as politically connected if he or she is/was former/current local or central government officials.

After identifying whether a director is politically connected or not, I measure political connections by using the ratio of the number of politically connected directors to the total number of directors in
a given firm-year. This variable captures firm-level political connectedness. Then I employ a
dynamic panel data model regression where the dependent variable is innovation and the
independent variable is political connections. I also add other controls in the regression. I found that
the coefficient for political connections is significant and negative\(^2\), indicating that political
connections reduce corporate innovation.

**DISCUSSION**

Taking an attention-based view, this study argues that by building political connections via appointing
former officials as directors, firms are expected to allocate attention to such connections, thus likely
changing the factors that regulate CEOs’ attention (Ocasio, 1997) and diverting CEOs’ attention from
corporate innovation. This relationship is dependent on CEO tenure and non-state ownership.
Specifically, firms with short-tenured CEOs have more innovation outputs subsequent to the
reduction in political connections. Moreover, the reduction in political connections also leads to more
innovation outputs for non-state owned firms. Overall, this study seeks to provide a more nuanced
perspective on political connections by establishing links among political connections, CEO attention
and corporate innovation.

This work makes several contributions. First, this paper contributes to the literature on political
connection by providing a theoretical ground for the costs of political connections. Prior studies have
provided ample evidence about how political connections influence firm performance or firm
behavior, while these effects may depend on the nature of political connections or political institutions
(e.g. Yang, 2013; Zhu & Chung, 2014; Zhao & Lu, 2016; Zheng, Singh, & Mitchell, 2014). This work
adds to this research stream by examining the costs of political connections. The attention-based view
helps explain why political connections exert negative effects in certain circumstances.

\(^2\) Complete results are available upon request.
This paper contributes the literature on the attention-based view of firm behavior. While how economic goals influence attention has received ample scholar attention (cf. Greve, 2008), I complement prior studies by exploring how non-economic factors influence the allocation of managerial attention. One recent study by Kammerlander & Ganter (2014) also identifies how non-economic goals in family business firms influence CEOs’ allocation of attention. In this study, I contribute to this emerging line of literature by exploring how political connections, as one non-economic factor, shape corporate innovation.

This research also intends to offer implications for managers as well as policy makers. I highlight that political connections not only provide resources but may also divert CEOs’ attention to resources allocation, such that CEOs may devote less resources to innovation activities. Firms should take this factor into account when they plan to build connections with politicians. From government policy makers’ perspectives, governments may take into account some nonmarket factors, such as corporate political connections in this case, into account when they plan to design policies to promote corporate innovation.

This work also has some limitations which provide opportunities for future research. This paper uses the context of China to examine the negative effects of political connections on innovation, mainly due to the advantage of using Regulation No. 18 as a quasi-natural experiment setting that teases out the endogeneity problem resulted from corporate political connections and corporate innovation. While these findings are based on Chinese listed firms, these findings are expected to provide some insights into how nonmarket factors influence innovation in other countries.

CONCLUSION

Using data on Chinese listed firms and a regulatory change in 2013, this study examines the effects of political connections on innovation. The empirical results show that a reduction in political
connection directs managerial attention to innovation activities, and this relationship is stronger for firms with short-tenured CEOs and non-stated owned firms. These findings provide insights into the role of political connections in transition economies.
REFERENCE


Table 1. Comparison between treated firms and control firms (balancing test)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>Min</th>
<th>Max</th>
<th>Innovation</th>
<th>Treat</th>
<th>R&amp;D</th>
<th>Sales growth</th>
<th>Liability ratio</th>
<th>Firm size</th>
<th>ROA</th>
<th>SOE</th>
<th>Market cap.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>t</td>
<td>p &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treat</td>
<td>Control</td>
<td>Bias(%)</td>
<td>t</td>
<td>p &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td>0.03306</td>
<td>0.03432</td>
<td>-2.6</td>
<td>-0.35</td>
<td>0.725</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales growth</td>
<td>1.0061</td>
<td>313.59</td>
<td>-13.2</td>
<td>-1.01</td>
<td>0.314</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liability ratio</td>
<td>0.39998</td>
<td>0.43685</td>
<td>-8.2</td>
<td>-1.11</td>
<td>0.268</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>21.497</td>
<td>21.494</td>
<td>0.2</td>
<td>0.03</td>
<td>0.973</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.05331</td>
<td>0.04827</td>
<td>0.7</td>
<td>0.93</td>
<td>0.352</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOE</td>
<td>0.35714</td>
<td>0.3727</td>
<td>-3.3</td>
<td>-0.49</td>
<td>0.622</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market cap.</td>
<td>0.86596</td>
<td>0.91992</td>
<td>-5.3</td>
<td>1.04</td>
<td>0.297</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>Min</th>
<th>Max</th>
<th>Innovation</th>
<th>Treat</th>
<th>R&amp;D</th>
<th>Sales growth</th>
<th>Liability ratio</th>
<th>Firm size</th>
<th>ROA</th>
<th>SOE</th>
<th>Market cap.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>t</td>
<td>p &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>t</td>
<td>p &gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
<td>0.604</td>
<td>0.996</td>
<td>0</td>
<td>6.673</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td>0.45</td>
<td>0.498</td>
<td>0</td>
<td>1</td>
<td>-0.022</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales growth</td>
<td>22.775</td>
<td>1727.6</td>
<td>-1</td>
<td>1.60E+01</td>
<td>-0.008</td>
<td>0.014</td>
<td>-0.007</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liability ratio</td>
<td>0.796</td>
<td>29.423</td>
<td>0</td>
<td>2292.513</td>
<td>-0.008</td>
<td>-0.012</td>
<td>-0.01</td>
<td>0.002</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>21.523</td>
<td>1.13</td>
<td>13.37</td>
<td>26.166</td>
<td>0.181</td>
<td>0.024</td>
<td>-0.11</td>
<td>-0.058</td>
<td>-0.093</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.037</td>
<td>0.628</td>
<td>-48.31</td>
<td>1.993</td>
<td>0.023</td>
<td>0.013</td>
<td>0.011</td>
<td>-0.03</td>
<td>-0.989</td>
<td>0.106</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOE</td>
<td>0.407</td>
<td>0.491</td>
<td>0</td>
<td>1</td>
<td>-0.037</td>
<td>0.02</td>
<td>-0.214</td>
<td>-0.011</td>
<td>-0.009</td>
<td>0.26</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Market cap.</td>
<td>0.802</td>
<td>0.795</td>
<td>0.015</td>
<td>15.473</td>
<td>0.038</td>
<td>0.044</td>
<td>-0.172</td>
<td>-0.014</td>
<td>-0.011</td>
<td>0.497</td>
<td>0</td>
<td>0.251</td>
<td>1</td>
</tr>
<tr>
<td>Dependent variable</td>
<td>Innovation</td>
<td>Innovation</td>
<td>Innovation</td>
<td>Innovation</td>
<td>Innovation</td>
<td>Innovation</td>
<td>Innovation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Full sample</td>
<td>Low HHI</td>
<td>High HHI</td>
<td>Short- Tenured</td>
<td>Long- Tenured</td>
<td>SOEs</td>
<td>Non-SOE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>-0.2577***</td>
<td>-0.2976***</td>
<td>-0.1659***</td>
<td>-0.1720***</td>
<td>-0.3185***</td>
<td>-0.1264**</td>
<td>-0.3746***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-5.68)</td>
<td>(-5.02)</td>
<td>(-2.18)</td>
<td>(-2.98)</td>
<td>(-3.18)</td>
<td>(-2.17)</td>
<td>(-5.02)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat x Post</td>
<td><strong>0.0937</strong></td>
<td>0.0759</td>
<td>0.0970</td>
<td><strong>0.1326</strong></td>
<td>0.0428</td>
<td>0.0854</td>
<td><strong>0.1093</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.44)</td>
<td>(1.53)</td>
<td>(1.51)</td>
<td>(2.60)</td>
<td>(0.57)</td>
<td>(1.59)</td>
<td>(2.02)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td>0.5623</td>
<td>0.4529</td>
<td>1.5936</td>
<td>0.0718</td>
<td>-0.8940</td>
<td>0.2502</td>
<td>0.4185</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.52)</td>
<td>(1.10)</td>
<td>(1.52)</td>
<td>(0.18)</td>
<td>(-0.74)</td>
<td>(0.29)</td>
<td>(0.96)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales growth</td>
<td>0.0000</td>
<td>-0.0000</td>
<td>0.0000</td>
<td>0.0006</td>
<td>0.0000</td>
<td>-0.0004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.92)</td>
<td>(-0.02)</td>
<td>(1.00)</td>
<td>(0.76)</td>
<td>(0.46)</td>
<td>(0.98)</td>
<td>(-0.25)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liability ratio</td>
<td>0.0067**</td>
<td>0.0086**</td>
<td>-0.0721</td>
<td>0.0048</td>
<td>-0.1066</td>
<td>-0.0427</td>
<td>0.0080*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.17)</td>
<td>(2.17)</td>
<td>(-0.52)</td>
<td>(1.36)</td>
<td>(-1.04)</td>
<td>(-0.52)</td>
<td>(1.73)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.0316</td>
<td>0.0327</td>
<td>0.0296</td>
<td>0.0471</td>
<td>-0.0345</td>
<td>0.0494</td>
<td>0.0536</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.15)</td>
<td>(0.91)</td>
<td>(0.57)</td>
<td>(1.34)</td>
<td>(-0.56)</td>
<td>(1.38)</td>
<td>(1.17)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.3101**</td>
<td>0.3967**</td>
<td>0.1919</td>
<td>0.2173</td>
<td>0.3177</td>
<td>0.2289</td>
<td>0.3609*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.12)</td>
<td>(2.09)</td>
<td>(0.65)</td>
<td>(1.30)</td>
<td>(0.93)</td>
<td>(1.07)</td>
<td>(1.65)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOE</td>
<td>0.2283***</td>
<td>0.2120**</td>
<td>0.3321**</td>
<td>0.0645</td>
<td>0.6135***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.10)</td>
<td>(2.25)</td>
<td>(2.54)</td>
<td>(0.69)</td>
<td>(3.69)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market cap.</td>
<td>0.0127</td>
<td>0.0325</td>
<td>-0.0320</td>
<td>-0.0027</td>
<td>0.0333</td>
<td>0.0016</td>
<td>0.0132</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.59)</td>
<td>(1.13)</td>
<td>(-0.89)</td>
<td>(-0.10)</td>
<td>(0.80)</td>
<td>(0.07)</td>
<td>(0.28)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.1324</td>
<td>-0.2544</td>
<td>-0.5600</td>
<td>-0.3383</td>
<td>1.0107</td>
<td>-0.2565</td>
<td>-0.4277</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.19)</td>
<td>(-0.33)</td>
<td>(-0.47)</td>
<td>(-0.38)</td>
<td>(0.75)</td>
<td>(-0.30)</td>
<td>(-0.35)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>5025</td>
<td>3314</td>
<td>1711</td>
<td>3429</td>
<td>1596</td>
<td>2118</td>
<td>2907</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R-square</td>
<td>-0.1026</td>
<td>-0.1091</td>
<td>-0.1779</td>
<td>-0.2261</td>
<td>-0.3675</td>
<td>-0.0787</td>
<td>-0.1327</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0.10, **p<0.05, ***p<0.01